LAZZEN



Low-Voltage Products Selection Guide

PRODUCT PROFILE

LAZZEN
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About LAZZEN

Founded in 1999, Lazzen is a leading technology company in the industry, dedicated to excellence in low-voltage electrical solutions and co-creating a smart, zero-carbon electrical ecosystem. Through advanced technologies in intelligent distribution, smart home, and new energy area , Lazzen provides innovative and leading solutions for clients in sectors such as new energy, industry, building, power, communication control etc.

Lazzen went public on the Shenzhen Stock Exchange in 2014(stock code 002706.SZ.). Lazzen consistently invests over 6% annually in R&D, driving continuous innovation in products and solutions to help clients gain competitive advantages. The company has received numerous honors and qualifications, including National High-Tech Enterprise, National Enterprise Technology Center, National Science and Technology Progress Award, National Intellectual Property Advantage Enterprise, Accredited CNAS and US Testing Center, and National Green Factory.

Currently, Lazzen service network covers over 200 cities in China and more than 30 countries overseas, providing convenient and efficient services to clients worldwide. The brand slogan "LAZZEN powering the world" has earned widespread trust and praise from customers.

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NDW3AGZ DC Switch Disconnector

- Quick Selection
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- Quick Selection
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- Quick Selection
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- Quick Selection
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- Quick Selection
- Main Performance Parameters
- Accessories Selection

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- Quick Selection
- Main Performance Parameters
- Accessories Selection

4. Final Power Distribution Breaker

► **NDB1 Series Miniature circuit breakers（Thermal-Magnetic）**

IEC 60898-1 standards

- NDB1-32
- NDB1-40
- NDB1-63
- NDB1-125

IEC 60947-2 standards

- NDB1T-63

NDB1L Series Residual Current Circuit Breaker with Overload

Compact type

- NDB1L(G)-32
- NDB1LE-32
- NDB1LE(G)-40
- NDB1LE-63X(G)

Assembly type

- NDB1LE-63
- NDB1LE-63B
- NDB1LE-100

NDB1/ NDB1L Accessories

- OF1,SD1,SDD1
- MX+OF1,GQ1A
- FF1,FS1

► **NDB2 Series Miniature Circuit Breakers**

IEC 60947-2 /UL 1077 standards

- NDB2-40
- NDB2-63
- NDB2-63H

IEC 60947-2 /UL 1077 standards

- NDB2T-63
- NDB2N-125
- NDB2Z-63
- NDB2NZ-80H(DC1000V)

UL489 standards

- NDB2T-63/L

NDB2L Series Residual Current Device

Compact type

- NDB2LE-32
- NDB2LE-40
- NDB2LM-40

Assembly type

- NDB2LE-63
- NDB2TLE-63
- NDB2LM-63
- NDL2M-100 (RCCB)

NDB2 /NDB2L Accessories

- OF2, SD2, SDD2, MX+OF2
- Tm2, Tm2GQ, NGQ2(A)
- JS1-11Y, B2-63

► **NDB3/NDB5 Series Circuit Breakers（Hydraulic Magnetic）**

- NDB3-30
- NDB3-50
- NDB3-100
- NDB5 (13.mm)

► **NDB6A Series Circuit Breakerss(1U Breaker)**

- NDB6A-63H
- NDB6A-125H
- NDB6AZ-63H (DC)
- NDB6AZ-125H (DC)
- NDB6AZ-200H (DC)

► **Surge Protection Device (SPD)**

- NDU1-I Surge Protection Device
- NDU1 AC Surge Protection Device
- NDU1Z DC Surge Protection Device

5. Switch Disconnector

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- Quick Selection
- Main Performance Parameters
- Accessories Selection

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- Quick SelectionS
- Main Performance Parameters
- Accessories Selection

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- NDG3A Quick Selection
- Main Performance Parameters

NDG3AZ DC Switch Disconnector

- NDG3AZ Quick Selection
- Main Performance Parameters

NDG3A/NDG3AZ Accessories Selection

► **NDG3V Series Switch Disconnector**

- Quick Selection
- Main Performance Parameters
- Accessories Selection

► **NDG3VH Series Switch Disconnector**

- Quick Selection
- Main Performance Parameters
- Accessories Selection

6. Automatic Transfer Switch(Dual-power)

► **NDQ1 Dual-power Automatic Transfer Switch(CB class)**

- Quick Selection
- Main Parameters
- Controller Functions

NDQ2A Automatic Transfer Switch (PC class)

- Quick Selection
- Main Parameters
- Controller Functions

► **NDQ3H -800 Automatic Transfer Switch**

- Quick Selection
- Main Parameters
- Controller Functions

NDQ3H-4000 Automatic Transfer Switch

- Quick Selection
- Main Parameters
- Controller Functions

NDQ3HP Bypass Isolation Automatic Transfer Switch

- Quick Selection
- Main Parameters
- NDQ3HP Controller

► **NDQ5-4000 Automatic Transfer Switch**

- Quick Selection
- Main Parameters
- Controller

► **NDQ5W Automatic Transfer Switch**

- NDQ5W Quick Selection
- NDQ5W Controller

7. Motor Control and Protection Products

► **AC Contactor**

NDC1(Z)-09~2650 AC Contactor

- Quick Selection
- Main Performance Parameters

NDC1N-09~800 Reversible AC Contactor

- Quick Selection
- Main Performance Parameters

NDC1T Dust-proof AC Contactor

- Quick Selection

NDC2R-80~750 AC Contactor

- Quick Selection
- Main Performance Parameters

NDC2J Modular Contactors

- Quick Selection
- Main Performance Parameters

NDC3-09~95 AC Contactor

- Quick Selection
- Main Performance Parameters

NDC5K AC Vacuum Contactor

- Quick Selection
- Main Performance Parameters

NDK1 Capacitor Duty Contactor

- Quick Selection
- Main Performance Parameters

NDJ1(Z) Contactor Relay -

- Quick Selection
- Main Performance Parameter

NDJ3(ZE) Contactor Relay

- Quick Selection
- Main Performance Parameters
- Control Circuit Characteristics

Accessories

- List for AC Contactor Accessories
- NF1-3 Auxiliary Contact Block
- NS1 Delay Auxiliary Contact Block
- F2 Auxiliary Contact Block
- NG1 Coil Surge
- NDC3 Coil Surge

► **Relay**

NDR1E Electronic Overload Relay for NDC1

- Quick Selection
- Main Performance Parameters
- A1/R1 Independent Mounting Base

NDR2 Thermal Overload Relay for NDC1

- Quick Selection
- Main Performance Parameters
- NA2 Independent Mounting Base

NDR3E Electronic Overload Relay for NDC3

- Quick Selection
- Main Performance Parameters

NDJG3 Hybrid Relay

- Quick Selection
- Main Performance Parameters

► **Motor Starter**

NDCQ1 Star-delta Starter

- Quick Selection
- Main Performance Parameters

NDD1 Motor Protection Circuit Breaker

- Quick Selection
- Main Performance Parameters
- Accessories Selection

NDKB1 Control and Protective Switching Device -

- Quick Selection
- Main Performance Parameters

NDKB3 Control and Protective Switching Device

- Quick Selection
- Main Performance Parameters

► **Changeover Switch**

NDY1 Changeover Switch

- Quick Selection
- Main Performance Parameters

8. DC Contactor Products

► **NDZ3 DC Contactor**

- Quick Selection
- Main Performance Parameters

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- Quick Selection
- Main Performance Parameters

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- Quick Selection
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- Quick Selection
- Main Performance Parameters

► **NDZ3T DC Contactor**

- Quick Selection
- Main Performance Parameters

► **NDZ3AT DC Contactor**

- Quick Selection
- Main Performance Parameters

NDZ3AT-D version DC Contactor

- Quick Selection
- Main Performance Parameters

NDZ3AT-G version DC Contactor

- Quick Selection
- Main Performance Parameters

NDZ3AT-H version DC Contactor

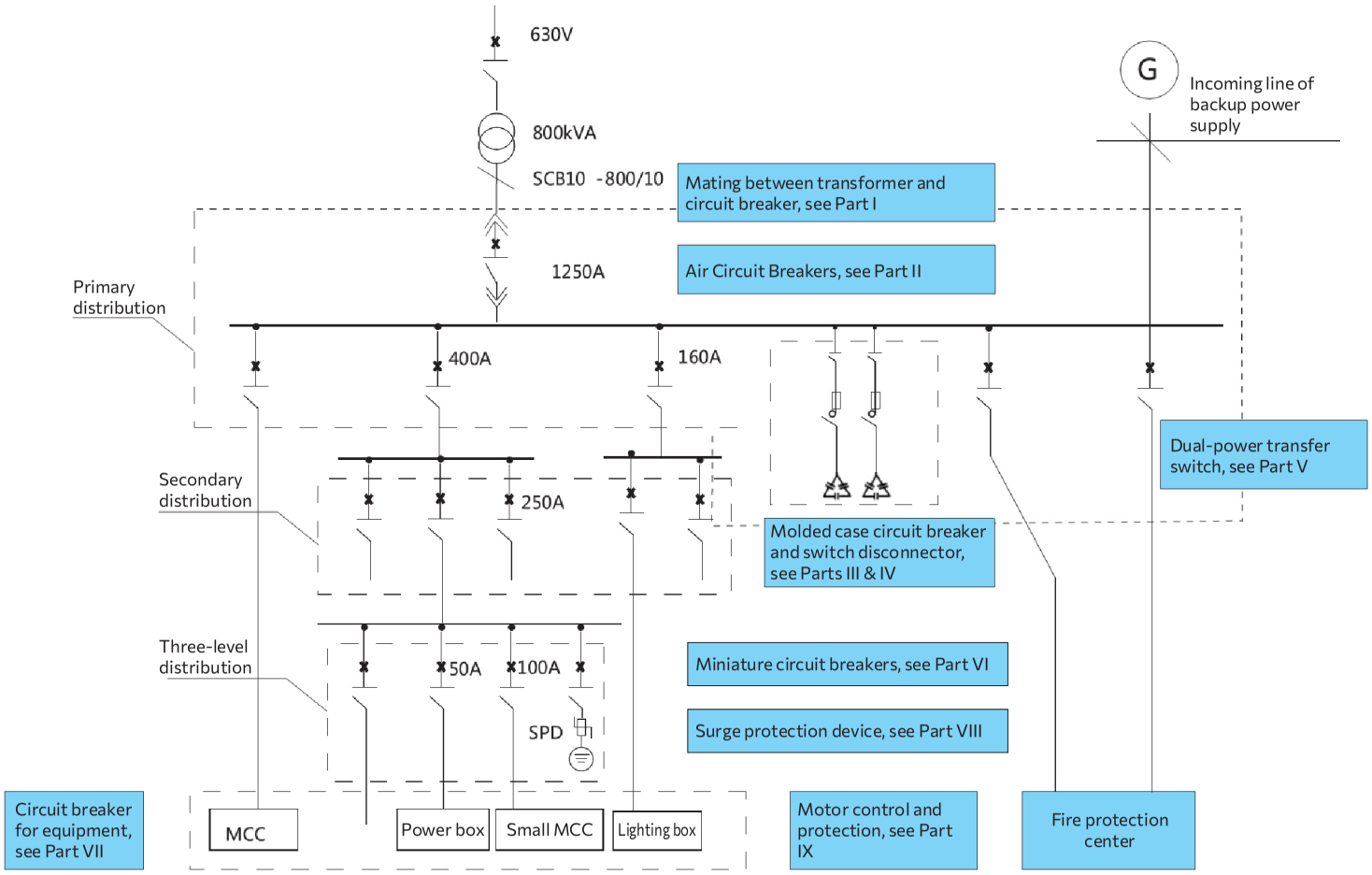
- Quick Selection
- Main Performance Parameters

NDZ3AT-R version DC Contactor

- Quick Selection
- Main Performance Parameters

9. Product Certification List

Low-voltage power distribution system instance



Charter 1
Coordination Table

Mate Reference for Transformers Running in Parallel and Low-voltage Circuit Breakers

Transformer capacity, quantity of transformers running in parallel, NxkVA	Rated current of each transformer, In(A)	Impedance voltage of transformer, Ucc(%)	Short-circuit current through each transformer (kA)	Min breaking capacity of total outgoing circuit breaker (kA)	Model of total outgoing circuit breaker	Short-circuit current at branch outgoing line (kA)	Model of branch outgoing circuit breaker				
							≤100A	160A	250A	400A	630A
1 x 50	70	4	2	2	NDM2-125L/NDM3-100C	2	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C			
2 x 50	70	4	2	2	NDM2-125L/NDM3-100C	4	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C			
3 x 50	70	4	2	4	NDM2-125L/NDM3-100C	6	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C		
1 x 100	141	4	4	4	NDM2-250L/NDM3-250C	4	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C			
2 x 100	141	4	4	4	NDM2-250L/NDM3-250C	8	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C		
3 x 100	141	4	4	8	NDM2-250L/NDM3-250C	12	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	
1 x 160	255	4	6	6	NDM2-250L/NDM3-250C	6	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C		
2 x 160	255	4	6	6	NDM2-250L/NDM3-250C	12	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	
3 x 160	255	4	6	12	NDM2-250L/NDM3-250C	18	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
1 x 250	352	4	9	9	NDM2-400L/NDM3-400L	9	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	
2 x 250	352	4	9	9	NDM2-400L/NDM3-400L	18	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
3 x 250	352	4	9	18	NDM2-400L/NDM3-400L	27	NDM2-125L/NDM3-100C	NDM2-250M/NDM3-160C	NDM2-250M/NDM3-250L	NDM2-400L/NDM3-400L	NDM2-630L/NDM3-630C
1x400	563	4	14	14	NDW1A-1600(C) 630A/NDW2-1600(C) 630A/NDM2-630L/ NDM3-630L	14	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
2 x 400	563	4	14	14	NDW1A-1600(C) 630A/NDW2-1600(C) 630A/NDM2-630L/ NDM3-630L	28	NDM2-125M/NDM3-100C	NDM2-250M/NDM3-160L	NDM2-250M/NDM3-250L	NDM2-400L/NDM3-400L	NDM2-630L/NDM3-630C
3 x 400	563	4	14	28	NDW1A-1600(C) 630A/NDW2-1600(C) 630A/NDM2-630L/ NDM3-630L	42	NDM2-125H/NDM3-125M	NDM2-250H/NDM3-160M	NDM2-250M/NDM3-250M	NDM2-400M/NDM3-400L	NDM2-630L/NDM3-630L
1 x 630	887	4	22	22	NDW1A-2000(C) 1000A/NDW2-2000(C) 1000A/NDW3-2500S 1000A(C) /NDM3EX-1600 1000A	22	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
2 x 630	887	4	22	22	NDW1A-2000(C) 1000A/NDW2-2000(C) 1000A/NDW3-2500S 1000A(C)/NDM3EX-1600 1000A	44	NDM2-125H/NDM3-125M	NDM2-250M/NDM3-160M	NDM2-250H/NDM3-250M	NDM2-400M/NDM3-400M	NDM2-630M/NDM3-630M
3 x 630	887	4	22	44	NDW1A-2000(C) 1000A/NDW2-2000(C) 1000A/NDW3-2500S 1000A(C)/NDM3EX-1600 1000A	66	NDM3-125H/NDM5-160L	NDM2-250H/NDM3-250H	NDM3-250H	NDM2-400H/NDM3-400H	NDM2-630H/NDM3-630H
1 x 800	1127	6	19	19	NDW1A-2000(C) 1250A/NDW2-2000(C) 1250A/NDW3-2500S 1250A(C)/NDM3EX-1600 1250A	19	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
2 x 800	1127	6	19	19	NDW1A-2000(C) 1250A/NDW2-2000(C) 1250A/NDW3-2500S 1250A(C)/NDM3EX-1600 1250A	38	NDM2-125M/NDM3-125M	NDM2-250M/NDM3-160M	NDM2-250M/NDM3-250M	NDM2-400L/NDM3-400L	NDM2-630L/NDM3-630L
3 x 800	1127	6	19	38	NDW1A-2000(C) 1250A/NDW2-2000(C) 1250A/NDW3-2500S 1250A(C) /NDM3EX-1600 1250A	57	NDM2-125H/NDM3-125H	NDM2-250H/NDM3-250H	NDM2-250H/NDM3-250H	NDM2-400H/NDM3-400H	NDM2-630H/NDM3-630H

Mate Reference for Transformers Running in Parallel and Low-voltage Circuit Breakers

Transformer capacity, quantity of transformers in parallel, NxkVA	Rated current of each transformer, In (A)	Impedance voltage of transformer, Ucc (%)	Short-circuit current through each transformer (kA)	Min breaking capacity of total outgoing circuit breaker (kA)	Model of total outgoing circuit breaker	Short-circuit current at branch outgoing line (kA)	Model of branch outgoing circuit breaker				
							≤100A	160A	250A	400A	630A
1 x 1000	1408	6	23	23	NDW1A-2000(C) 1600A/NDW2-2000(C) 1600A/NDW3-2500S 1600A(C)	23	NDM2-125L/NDM3-100C	NDM2-250L/NDM3-160C	NDM2-250L/NDM3-250C	NDM2-400L/NDM3-400C	NDM2-630L/NDM3-630C
2 x 1000	1408	6	23	23	NDW1A-2000(C) 1600A/NDW2-2000(C) 1600A/NDW3-2500S 1600A(C)	46	NDM2-125H/NDM3-125M	NDM2-250M/NDM3-160M	NDM2-250H/NDM3-250M	NDM2-400M/NDM3-400L	NDM2-630M/NDM3-630L
3 x 1000	1408	6	23	46	NDW1A-2000(C) 1600A/NDW2-2000(C) 1600A/NDW3-2500S 1600A(C)	69	NDM3-125H/NDM5-160L	NDM2-250H/NDM3-250H	NDM3-250H	NDM2-400H/NDM3-400M	NDM2-630H/NDM3-630H
1 x 1250	1760	6	29	29	NDW1A-2000(C) 2000A/NDW2-2000(C) 2000A/NDW3-2500S 2000A(C)	29	NDM2-125M/NDM3-100C	NDM2-250L/NDM3-250C	NDM2-250M/NDM3-250L	NDM2-400M/NDM3-400L	NDM2-630M/NDM3-630L
2 x 1250	1760	6	29	29	NDW1A-2000(C) 2000A/NDW2-2000(C) 2000A/NDW3-2500S 2000A(C)	58	NDM2-125H/NDM3-125H	NDM2-250H/NDM3-250H	NDM2-250H/NDM3-250H	NDM2-400H/NDM3-400M	NDM2-630H/NDM3-630H
3 x 1250	1760	6	29	58	NDW1A-2000(C) 2000A/NDW2-2000(C) 2000A/NDW3-2500H 2000A(C)	87	NDM5-160M	NDM5-160M	NDM5-250M	NDM5-400M	NDM5-630M
1 x 1600	2253	6	38	38	NDW1A-3200(C) 2500A/NDW2-3200(C) 2500A/NDW3-2500S 2500A(C)	38	NDM2-125M/NDM3-125M	NDM2-250M/NDM3-160L	NDM2-250M/NDM3-250M	NDM2-400M/NDM3-400L	NDM2-630M/NDM3-630L
2 x 1600	2253	6	38	38	NDW1A-3200(C) 2500A/NDW2-3200(C) 2500A/NDW3-2500S 2500A(C)	76	NDM5-160M	NDM5-160M	NDM5-250M	NDM5-400M	NDM5-630M
3 x 1600	2253	6	38	76	NDW1A-3200(C) 2500A/NDW2-3200(C) 2500A/NDW3-2500H 2500A(C)	114	NDM5-160H	NDM5-160H	NDM5-250H	NDM5-400H	NDM5-630H
1 x 2000	2816	6	47	47	NDW1A-3200(C) 3200A/NDW2-3200(C) 3200A/NDW3-4000S 3200A(C)	47	NDM2-125H/NDM3-125M	NDM2-250M/NDM3-160M	NDM2-250H/NDM3-250M	NDM2-400M/NDM3-400L	NDM2-630M/NDM3-630L
2 x 2000	2816	6	47	47	NDW1A-3200(C) 3200A/NDW2-3200(C) 3200A/NDW3-4000S 3200A(C)	94	NDM5-160M	NDM5-160M	NDM5-250M	NDM5-400M	NDM5-630M
3 x 2000	2816	6	47	94	NDW1A-6300(C) 4000A/NDW2-6300(C) 4000A/NDW3-6300H 4000A(C)	141	NDM5-160H	NDM5-160H	NDM5-250H	NDM5-400H	NDM5-630H
1 x 2500	3521	6	59	59	NDW1A-6300(C) 4000A/NDW2-6300(C)	59	NDM2-125H/NDM3-125H	NDM2-250H/NDM3-250H	NDM2-250H/NDM3-250H	NDM2-400H/NDM3-400H	NDM2-630H/NDM3-630H
2 x 2500	3521	6	59	59	4000A/NDW3-4000S 4000A(C)	118	NDM5-160H	NDM5-160H	NDM5-250H	NDM5-400H	NDM5-630H
1 x 3150	4436	6	74	74	NDW1A-6300(C) 5000A/NDW2-6300(C)	74	NDM5-160M	NDM5-160M	NDM5-250M	NDM5-40M	NDM5-630M
2 x31 50	4436	6	74	74	5000A/NDW3-6300S 5000A(C)	148	NDM5-160H	NDM5-160H	NDM5-250H	NDM5-400H	NDM5-630H

Mating between NDB1/NDB2 Circuit Breaker and Contactor & Thermal Relay

Motor (380V)		Protective circuit breaker		Contactor	Thermal overload relay		
Control power (kW)	Rated current (A)	Model	Breaking capacity (kA)	Model	Electronic	Bimetallic	Current setting range (A)
0.06	0.22	NDB1-63/NDB2-63 D 3P 1A	6.0/10	NDC1-09	NDR1E-3812 or NDR1E-3812	NDR2-38 02	0.16~0.25
0.09	0.35	NDB1-63/NDB2-63 D 3P 1A	6.0/10	NDC1-09	NDR1E-3813 or NDR1E-3813	NDR2-38 03	0.25~0.40
0.12	0.42	NDB1-63/NDB2-63 D 3P 1A	6.0/10	NDC1-09	NDR1E-3814 or NDR1E-3814	NDR2-38 04	0.40~0.63
0.18	0.7	NDB1-63/NDB2-63 D 3P 1A	6.0/10	NDC1-09	NDR1E-3815 or NDR1E-3815	NDR2-38 05	0.63~0.1
0.37	1.2	NDB1-63/NDB2-63 D 3P 2A	6.0/10	NDC1-09	NDR1E-3816 or NDR1E-3816	NDR2-38 06	1~1.6
0.55	1.6	NDB1-63/NDB2-63 D 3P 4A	6.0/10	NDC1-09	NDR1E-3816 or NDR1E-3816	NDR2-38 06	1~1.6
0.75	2	NDB1-63/NDB2-63 D 3P 4A	6.0/10	NDC1-09	NDR1E-3817 or NDR1E-3817	NDR2-38 07	1.6~2.5
1.1	2.8	NDB1-63/NDB2-63 D 3P 4A	6.0/10	NDC1-09	NDR1E-3818 or NDR1E-3818	NDR2-38 08	2.5~4
1.5	3.7	NDB1-63/NDB2-63 D 3P 6A	6.0/10	NDC1-09	NDR1E-3818 or NDR1E-3818	NDR2-38 08	2.5~4
2.2	5.3	NDB1-63/NDB2-63 D 3P 10A	6.0/10	NDC1-18	NDR1E-3821 or NDR1E-3821	NDR2-38 10	4~6
3	7	NDB1-63/NDB2-63 D 3P 12A	6.0/10	NDC1-18	NDR1E-3822 or NDR1E-3822	NDR2-38 12	5.5~8
4	9	NDB1-63/NDB2-63 D 3P 16A	6.0/10	NDC1-25	NDR1E-3823 or NDR1E-3823	NDR2-38 14	7~10
5.5	12	NDB1-63/NDB2-63 D 3P 20A	6.0/10	NDC1-25	NDR1E-3824 or NDR1E-3824	NDR2-38 16	9~13
7.5	16	NDB1-63/NDB2-63 D 3P 25A	6.0/10	NDC1-32	NDR1E-3825 or NDR1E-3825	NDR2-38 21	12~18
9	18.1	NDB1-63/NDB2-63 D 3P 25A	6.0/10	NDC1-32	NDR1E-3826 or NDR1E-3826	NDR2-38 22	17~25
11	23	NDB1-63/NDB2-63 D 3P 32A	6.0/10	NDC1-38	NDR1E-3826 or NDR1E-3826	NDR2-38 22	17~25
15	30	NDB1-63/NDB2-63 D 3P 40A	6.0/10	NDC1-50	NDR1E-9531 or NDR1E-3831	NDR2-38 53	23~32

Motor Starting Scheme
Type Selection for Direct-on-Line under Conventional Load - 400/415V, 50/60HZ with Motor Starter for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Model of motor starter in schematic component list	Current setting range (A)	Qty.	Contactor model	Qty.
0.06	0.22	NDD1-32A02	0.16~0.25	1	NDC1-09	1
0.09	0.34	NDD1-32A03	0.25~0.40	1	NDC1-09	1
0.12	0.44	NDD1-32A04	0.40~0.63	1	NDC1-09	1
0.18	0.72	NDD1-32A05	0.63~1	1	NDC1-09	1
0.25	0.83	NDD1-32A05	0.63~1	1	NDC1-09	1
0.37	1.1	NDD1-32A06	1~1.6	1	NDC1-09	1
0.55	1.5	NDD1-32A06	1~1.6	1	NDC1-09	1
0.75	1.9	NDD1-32A07	1.6~2.5	1	NDC1-09	1
1.1	2.7	NDD1-32A08	2.5~4	1	NDC1-12	1
1.5	3.6	NDD1-32A08	2.5~4	1	NDC1-18	1
2.2	4.9	NDD1-32A10	4~6.3	1	NDC1-25	1
3	6.5	NDD1-32A14	6~10	1	NDC1-32	1
4	9	NDD1-32A14	6~10	1	NDC1-32	1
5.5	12	NDD1-32A16	9~14	1	NDC1-38	1
7.5	18	NDD1-32A21	17~23	1	NDC1-38	1
9	18.3	NDD1-32A21	17~23	1	NDC1-40	1
11	25	NDD1-32A32	24~32	1	NDC1-40	1
15	32	NDD1-80A40	25~40	1	NDC1-40	1
18.5	38	NDD1-80A40	25~40	1	NDC1-50	1
22	50	NDD1-80A63	40~63	1	NDC1-65	1
30	65	NDD1-80A80	56~80	1	NDC1-80	1
37	80	NDD1-80A80	56~80	1	NDC1-95	1

Motor Starting Scheme

Optional Configuration for Direct-on-Line under Heavy Load - 400/415V, 50/60HZ with Circuit Breaker and Electronic Overload Relay for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Model of protective circuit breaker in schematic component list	Qty.	Contactor model	Qty.	Electronic overload relay model
0.12	0.3	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 03
0.18	0.5	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 04
0.25	0.7	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 05
0.37	1.1	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 06
0.55	1.5	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 06
0.75	2	NDM3-63M/3200 10A	1	NDC1-0910	1	NDR2-38 07
1.1	2.7	NDM3-63M/3200 16A	1	NDC1-3210	1	NDR2-38 08
1.5	3.7	NDM3-63M/3200 16A	1	NDC1-3210	1	NDR2-38 08
2.2	5	NDM3-63M/3200 16A	1	NDC1-3210	1	NDR2-38 10
3	6.8	NDM3-63M/3200 16A	1	NDC1-4011	1	NDR2-38 12
4	8.8	NDM3-63M/32002 16A	1	NDC1-4011	1	NDR2-38 14
5.5	11.6	NDM3-63M/32002 20A	1	NDC1-4011	1	NDR2-38 16
7.5	15.4	NDM3-63M/32002 25A	1	NDC1-4011	1	NDR2-38 21
11	22.6	NDM3-63M/32002 32A	1	NDC1-4011	1	NDR2-38 22
15	30.3	NDM3-63M/32002 50A	1	NDC1-8011	1	NDR2-38 22
18.5	35.9	NDM3-63M/32002 50A	1	NDC1-8011	1	NDR2-38 35
22	42.5	NDM3-63M/32002 63A	1	NDC1-8011	1	NDR2-95 55
30	56.9	NDM3-125M/32002 80A	1	NDC1-8011	1	NDR2-95 57
37	69.8	NDM3-125M/32002 100A	1	NDC1-8011	1	NDR2-95 59
45	84.2	NDM3-125M/32002 125A	1	NDC1-115+NF1-22	1	
55	102.7	NDM3-250M/32002 160A	1	NDC1-150+NF1-22	1	
75	140.1	NDM3-250M/32002 180A	1	NDC1-185+NF1-22	1	
90	167	NDM3-250M/32002 225A	1	NDC1-185+NF1-22	1	
110	203	NDM3-400M/32002 250A	1	NDC1-225+NF1-22	1	
132	242.3	NDM3-400M/32002 350A	1	NDC1-265+NF1-22	1	
160	292.1	NDM3-400M/32002 350A	1	NDC1-330+NF1-22	1	
185	337.8	NDM3-630M/32002 500A	1	NDC1-500+NF1-22	1	
200	365.2	NDM3-630M/32002 500A	1	NDC1-500+NF1-22	1	

Note: 1. Matching between transformer capacity and key technical indicators of molded case circuit breaker (standard cabinet): 500, 630≤St≤1000kVA, Ics≥36kA, 800≤St≤1600kVA, Ics≥50kA, St≥2000kVA, Ics≥70kA;

2. For NDM2, refer to the protection type and current of NDM3 for selection;

3. For NDR1E thermal relay, refer to the motor parameters and the current range of NDR2 for selection;

Motor Starting Scheme
Optional Configuration for Direct-on-Line under Conventional Load - 380/415V, 50/60HZ with Circuit Breaker and Thermal Overload Relay for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Model of protective circuit breaker in schematic component list	Qty.	Contactor model	Qty.	Thermal relay model	Qty.
0.37	1.1	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 06	1
0.55	1.5	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 06	1
0.75	1.8	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 07	1
1.1	2.6	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 08	1
1.5	3.4	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 08	1
2.2	4.8	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 10	1
3	6.5	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 12	1
4	8.2	NDM2-63(L/M)32002	1	NDC1-09	1	NDR2-38 14	1
5.5	11	NDM2-63(L/M)32002	1	NDC1-12	1	NDR2-38 16	1
7.5	14	NDM2-63(L/M)32002	1	NDC1-18	1	NDR2-38 21	1
10	19	NDM2-63(L/M)32002	1	NDC1-25	1	NDR2-38 22	1
11	21	NDM2-63(L/M)32002	1	NDC1-25	1	NDR2-38 22	1
15	28	NDM2-63(L/M)32002	1	NDC1-32	1	NDR2-38 35	1
18.5	34	NDM2-63(L/M)32002	1	NDC1-40	1	NDR2-95 55	1
22	40	NDM2-63(L/M)32002	1	NDC1-40	1	NDR2-95 57	1
30	55	NDM2-63(L/M)32002	1	NDC1-65	1	NDR2-95 59	1
37	66	NDM2-125(C/L/M/H)32002	1	NDC1-80	1	NDR2-95 63	1
45	80	NDM2-125(C/L/M/H)32002	1	NDC1-80	1	NDR2-95 65	1
55	100	NDM2-125(C/L/M/H)32002	1	NDC2-115	1	NDR2-140 65	1
75	135	NDM2-250(C/L/M/H)32002	1	NDC2-150	1	NDR2-140 69	1
90	160	NDM2-250(C/L/M/H)32002	1	NDC1-175	1		
110	200	NDM2-250(C/L/M/H)32002	1	NDC1-225	1		
132	230	NDM2-400(C/L/M/H)32002	1	NDC1-265	1		
160	270	NDM2-400(C/L/M/H)32002	1	NDC1-330	1		
300	500	NDM2-800(M/H)32002	1	NDC1-630	1		
315	560	NDM2-800(M/H)32002	1	NDC1-630	1		

Motor Starting Scheme

Optional Configuration for Direct-on-Line - 380/415V, 50/60HZ with Motor Starter for Protection Fire Pump User: with Molded Case Circuit Breaker and Thermal Overload Relay for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Model of protective circuit breaker in schematic component list	Qty.	Contactor model	Qty.	Thermal overload relay model	Qty.
5.5	11.8	NDM3-125M/32002 63A	1	NDC1-2510	1	NDR2-3816	1
7.5	15.9	NDM3-125M/32002 63A	1	NDC1-3210	1	NDR2-3821	1
11	22.7	NDM3-125M/32002 63A	1	NDC1-4011	1	NDR2-3822	1
15	29.9	NDM3-125M/32002 63A	1	NDC1-5011	1	NDR2-3832	1
18.5	37.1	NDM3-125M/32002 63A	1	NDC1-5011	1	NDR2-3835	1
22	44.5	NDM3-125M 32002 100A	1	NDC1-6511	1	NDR2-9557	1
30	58.8	NDM3-125M 32002 100A	1	NDC1-8011	1	NDR2-9559	1
37	71.3	NDM3-125M 32002 100A	1	NDC1-115+NF1-22	1	NDR2-9561	1
45	87.4	NDM3-250M 32002 160A	1	NDC1-115+NF1-22	1	NDR2-9565	1
55	105	NDM3-250M 32002 160A	1	NDC1-185+NF1-22	1	NDR2-9567	1
75	142	NDM3-250M 32002 250A	1	NDC1-185+NF1-22	1	NDR2-9569	1
90	167	NDM3-250M 32002 250A	1	NDC1-265+NF1-22	1		
110	203	NDM3-400L 32002 315A	1	NDC1-265+NF1-22	1		
132	232	NDM2-250(C/L/M/H)32002	1	NDC1-265	1		
160	282	NDM2-400(C/L/M/H)32002	1	NDC1-330	1		
200	349	NDM2-630(C/L/M/H)32002	1	NDC1-400	1		
250	430	NDM2-630(C/L/M/H)32002	1	NDC1-500	1		
290	520	NDM2-800(M/H)/32002	1	NDC1-630	1		
315	545	NDM2-800(M/H)/32002	1	NDC1-630	1		1
355	610	NDM2-800(M/H)/32002	1	NDC1-630	1		

Note: 1. Matching between transformer capacity and key technical indicators of molded case circuit breaker (standard cabinet): 500, 630≤St≤1000kVA, Ics≥36kA, 800≤St≤1600kVA, Ics≥50kA, St≥2000kVA, Ics≥70kA;

2. For NDM2, refer to the protection type and current of NDM3 for selection;

3. For NDR1E thermal relay, refer to the motor parameters and the current range of NDR2 for selection;

Motor Starting Scheme
Optional Configuration for Direct-on-Line - 380/415V, 50/60HZ with Motor Starter for Protection
Fire Pump User: with Molded Case Circuit Breaker and Electronic Overload Relay for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Schematic component list of protective circuit breaker model	Qty.	Contactor model	Qty.	Thermal overload relay model	Qty.
5.5	11.8	NDM3-125M/32002 63A	1	NDC1-2510	1	NDR1E-3824 or NDR1E-3824	1
7.5	15.9	NDM3-125M/32002 63A	1	NDC1-3210	1	NDR1E-3826 or NDR1E-3826	1
11	22.7	NDM3-125M/32002 63A	1	NDC1-4011	1	NDR1E-3827 or NDR1E-3827	1
15	29.9	NDM3-125M/32002 63A	1	NDC1-5011	1	NDR1E-3828 or NDR1E-3828	1
18.5	37.1	NDM3-125M/32002 63A	1	NDC1-5011	1	NDR1E-9532 or NDR1E-9532	1
22	44.5	NDM3-125M 32002 100A	1	NDC1-6511	1	NDR1E-9534 or NDR1E-9534	1
30	58.8	NDM3-125M 32002 100A	1	NDC1-8011	1	NDR1E-9535 or NDR1E-9535	1
37	71.3	NDM3-125M 32002 100A	1	NDC1-115+NF1-22	1	NDR1E-9536 or NDR1E-9536	1
45	87.4	NDM3-250M 32002 160A	1	NDC1-115+NF1-22	1		
55	105	NDM3-250M 32002 160A	1	NDC1-185+NF1-22	1		
75	142	NDM3-250M 32002 250A	1	NDC1-185+NF1-22	1		
90	167	NDM3-250M 32002 250A	1	NDC1-265+NF1-22	1		
110	203	NDM3-400L 32002 315A	1	NDC1-265+NF1-22	1		
160	282	NDM2-400(C/L/M/H)32002	1	NDC1-400	1		
200	349	NDM2-630(C/L/M/H)32002	1	NDC1-400	1		
250	430	NDM2-630(C/L/M/H)32002	1	NDC1-500	1		
290	520	NDM2-800H/32002	1	NDC1-630	1		
315	545	NDM2-800H/32002	1	NDC1-630	1		
355	610	NDM2-800H/32002	1	NDC1-780	1		

Note: 1. Matching between transformer capacity and key technical indicators of molded case circuit breaker (standard cabinet): 500, 630≤St≤1000kVA, Ics≥36kA, 800≤St≤1600kVA, Ics≥50kA, St≥2000kVA, Ics≥70kA;

2. For NDM2, refer to the protection type and current of NDM3 for selection;

3. For NDR1E thermal relay, refer to the motor parameters and the current range of NDR2 for selection;

Motor Starting Scheme
Type Selection for Reversible Start - 400/415V, 50/60HZ
Reversible Start Scheme: with Motor Starter for Protection

Rated power of motor (AC-3, 400V), kW	Rated current (A)	Schematic component list of motor starter model	Current setting range	Qty.	Contactor model	Qty.
0.06	0.22	NDD1-32A02	0.16~0.25	1	NDC1N-09	1
0.09	0.34	NDD1-32A03	0.25~0.4	1	NDC1N-09	1
0.12	0.44	NDD1-32A04	0.4~0.63	1	NDC1N-09	1
0.18	0.72	NDD1-32A05	0.63~1	1	NDC1N-09	1
0.25	0.83	NDD1-32A05	0.63~1	1	NDC1N-09	1
0.37	1.1	NDD1-32A06	1~1.6	1	NDC1N-09	1
0.55	1.5	NDD1-32A06	1~1.6	1	NDC1N-09	1
0.75	1.9	NDD1-32A07	1.6~2.5	1	NDC1N-09	1
1.1	2.7	NDD1-32A08	2.5~4	1	NDC1N-12	1
1.5	3.6	NDD1-32A08	2.5~4	1	NDC1N-18	1
2.2	4.9	NDD1-32A10	4~6.3	1	NDC1N-25	1
3	6.5	NDD1-32A14	6~10	1	NDC1N-32	1
4	9	NDD1-32A14	6~10	1	NDC1N-32	1
5.5	12	NDD1-32A16	9~14	1	NDC1N-38	1
7.5	18	NDD1-32A21	17~23	1	NDC1N-38	1
9	18.3	NDD1-32A21	17~23	1	NDC1N-40	1
11	25	NDD1-32A32	24~40	1	NDC1N-40	1
15	32	NDD1-80A40	25~40	1	NDC1N-40	1
18.5	38	NDD1-80A40	25~40	1	NDC1N-50	1
22	50	NDD1-80A63	40~63	1	NDC1N-65	1
30	65	NDD1-80A80	46~80	1	NDC1N-80	1
37	80	NDD1-80A80	56~80	1	NDC1N-95	1

Type Selection of Star-delta Starter

Contactor (NDC1-09~95)							
Max start frequency: 30 times/hour, max start time: 30 sec.							
Motor AC3 type 50Hz	Three-phase motor	Direct connection	Contactor delta connection	Contactor star connection	Contactor	Overload relay	
			KM2	KM3	KM1（3）		
P	In	IrD	Model	Model	Model	Model	Setting range
kw	A	A					A
1.5	3.5	2	NDC1-09	NDC1-09	NDC1-09	NDR1E-3817/NDR2-38 07	1.6~2.5
2.2	5	3	NDC1-09	NDC1-09	NDC1-09	NDR1E-3818/NDR2-38 08	2.5~4
3	6.6	4	NDC1-09	NDC1-09	NDC1-09	NDR1E-3821/NDR2-38 10	4~6
4	8.5	5	NDC1-09	NDC1-09	NDC1-09	NDR1E-3822/NDR2-38 12	5.5~8
5.5	11.5	6	NDC1-09	NDC1-09	NDC1-09	NDR1E-3822/NDR2-38 12	5.5~8
7.5	15.5	9	NDC1-12	NDC1-12	NDC1-09	NDR1E-3823/NDR2-38 14	7~10
9	18.5	11	NDC1-18	NDC1-18	NDC1-09	NDR1E-3824/NDR2-38 16	9~13
11	22	13	NDC1-18	NDC1-18	NDC1-09	NDR1E-3824/NDR2-38 16	9~13
15	30	16	NDC1-25	NDC1-25	NDC1-12	NDR1E-3825/NDR2-38 21	12~18
18.5	37	22	NDC1-25	NDC1-25	NDC1-18	NDR1E-3826/NDR2-38 22	17~25
22	44	26	NDC1-32	NDC1-32	NDC1-18	NDR1E-3827/NDR2-38 32	23~32
30	60	35	NDC1-38	NDC1-38	NDC1-25	NDR1E-3828/NDR2-38 35	30~40
37	72	40	NDC1-50	NDC1-50	NDC1-40	NDR1E-9533/NDR2-95 57	37~50
45	85	47	NDC1-65	NDC1-65	NDC1-40	NDR1E-3833/NDR2-95 57	37~50
55	105	58	NDC1-65	NDC1-65	NDC1-40	NDR1E-3835/NDR2-95 61	55~70
75	138	78	NDC1-95	NDC1-95	NDC1-50	NDR1E-9536/NDR2-95 63	63~80
90	170	99	NDC2-115	NDC2-115	NDC2-115	NDR2-140 65	80~104
110	205	118	NDC2-150	NDC2-150	NDC2-115	NDR2-140 67	95~120

Charter 2
Air Circuit Breakers



NDW1A Series Air Circuit Breakers

NDW1A Series Product Feature

- Complete frame sizes: 1600/2000/3200/4000/6300
- High performance: 6300 frame N-phase supports 100% full current
- Long lifes: NDW1A-2000 frame achieves an electrical lifes of 20,000 cycles
- High breaking capacity: 2000 frame (Icu = Ics = 80kA), 3200/4000 frames (Icu = Ics = 100kA)
- Comprehensive functionality: Controller supports remote reset function; all frames are equipped with a ready-to-close function
- Optional dust cover for secondary circuits (prevents dust from falling onto secondary terminals and causing insulation issues)
- Certification：CCC, CE, TUV

NDW1A Quick Selection Table

NDW	1A	—	16	C	/	16	/	4	/	KM1	H	/	D1	F1	B1	/	Q1	1	A4	BX	/	G	/	J1	GD
1	2		3	4		5		6		7	8		9	10	11		12	13	14	15		16		17	18

1-2: Product series code

NDW	Product code: Air Circuit Breaker
1A	Design number: 1A: Advance code

3: Frame

16	1600
20	2000
32	3200
40	4000
63	6300

4:Installation type

empty	Fixed type
C	Drawout-type

5:Rated current:

1600F		2000F		3200F		4000F		6300F	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
02	200A	04	400A	20	2000A	20	2000A	40	4000A
04	400A	06	630A	25	2500A	25	2500A	50	5000A
06	630A	08	800A	29	2900A	32	3200A	63	6300A
08	800A	10	1000A	32	3200A	36	3600A		
10	1000A	12	1250A			40	4000A		
12	1250A	16	1600A						

6: Poles

3	3 poles
4	4 poles
5	3P+N(3P+N with external N-phase transformer)

7:Controller Display type and Rated voltage(select one only):

Nixie tube display		Screen display:	
Code	Description	Code	Description
KM1	AC380/400V	KY1	AC380/400V
KM2	AC220/230V	KY2	AC220/230V
KM3	DC220V	KY3	DC220V
KM4	DC110V	KY4	DC110V
KM5	AC24V/DC24V	KY5	AC24V/DC24V

8:Controller option function(empty if the no need optional function)

Protection type		Communication		Signal unit		Remote reset function		N-phase (CT addition)	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
empty	conventional type	H	Modbus	S1	4DO	Z1	AC380/400V	E*	current leakage
V	voltage measurement	MP	Profibus-DP	S2	3DO, 1DI	Z2	AC220/230V	T*	differential type
P	harmonic measurement	MD	Devicenet	S3	2DO, 2DI	Z3	DC220V	W*	ground type
						Z4	DC110V	more information in note a	
						Z5	DC24V		

9:Motor Operating Mechanism:

Code	Description
D1	AC380/400V
D2	AC220V/230V
D3	DC220V
D4	DC110V
D5	DC24V

10:Shunt release:

Code	Description
F1	AC380/400V
F2	AC220V/230V
F3	DC220V
F4	DC110V
F5	DC24V
F6	AC220V/230V(hold type)

11:Closed electromagnet:

Code	Description
B1	AC380/400V
B2	AC220/230V
B3	DC220V
B4	DC110V
B5	DC24V

12:Under-voltage release / No-voltage release

Under-voltage release		No-voltage release:	
Code	Description	Code	Description
Q1	AC380/400V	S1	AC380V/AC400V
Q2	AC220/230V	S2	AC220V/AC230V
Q3	DC220V		
Q4	DC110V		
Q5	DC24V		

13:Delay time for Under-voltage release or No-voltage release

Under-voltage release		No-voltage release:		
Code	Description	Code	Description	Remark
0	instantaneous	0-10	0-10s delay adjustable (step size 1s)	Frame 1600A or 6300A
1	1s delay	1	1s delay	Frame: 2000/3200/4000A
3	3s delay	3	3s delay	
5	5s delay	5	5s delay	

14:Auxiliary contacts (more information in note c*)

1600AF		2000-6300AF	
Code	Description	Code	Description
A4	4 open/closed contacts	A4	4 open/closed contacts
A6	6 open/closed contacts	A6	6 open/closed contacts
A44	4 open contacts +4 closed contacts	A44	4 open contacts +4 closed contacts
		A66	6 open contacts +6 closed contacts

15:Inside accessories (more information in note d*)

Code	Description
empty	no accessories
BX	contact for signalling closing
JS	operation counter
CM1	right side of the door interlock
CM2	left side of the door interlock

16:Outside accessories (more information in note c*)

Code	Description		
empty	no accessories		
M	door frame	S	safety locks
G	phase barrier	P2	voltage module
F	Dust cover	L	Connection bolt
R	NWDF1-RM relay	Z	Manual

17:Wiring method

Code	Description	Code	Description
empty	horizontal wiring	J5	mixed wiring (upper vertical and lower horizontal)
J1	horizontal extended wiring	J6	mixed extended wiring (upper vertical and lower horizontal)
J2	L wiring	J7	mixed extended wiring (upper horizontal and lower vertical)
J3	vertical wiring	J8	mixed extended wiring (upper vertical and lower horizontal)
J4	vertical extended wiring	more information in note b	

18:Product Use type

Code	Description	Code	Description	Code	Description
empty	general type	GD	plateau, low temperature	TH	thermal humidity

Note a: 3P+N grounding mode (external N-phase transformer optional):
T - differential type (omitted by default) W - ground current type
N1 - external N-phase transformer (62*21), applicable to shell frame 1600
N2 - external N-phase transformer (102*32.5), applicable to shell frames 1600, 2000
N3 - external N-phase transformer (122*52), applicable to shell frames 2000, 3200, 4000, 6300
N4 - external N-phase transformer (262*102), applicable to shell frames 3200, 4000, 6300
NR1 - external flexible transformer (280 mm), applicable to 200A-800A
NR2 - external flexible transformer (370 mm), applicable to 1000A-2000A
NR3 - external flexible transformer (450 mm), applicable to 1000A-6300A
Protection form of current leakage: E-type (including external current leakage transformer)
Contact wear equivalent, operation times query (NWK21/NWK31 optional): J

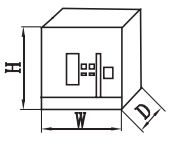
Note : 1. This shall be omitted if the controller has no optional function.
2. V and P are only applicable to the main circuit with the rated voltage of 500V and below, and P is optional for NWK22 and 32 only.
3. NWK21/31 controller has S1-4DO only.

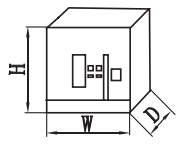
Note b: NDW1A-6300 with the rated current of 6,300A only has two wiring modes: vertical wiring and vertical extended wiring.

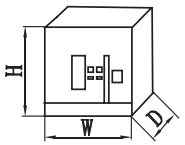
Interlocking Accessory Model Explanation and Encoding Rules

SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks, and consult our company for other special interlocks. 2. Shell frame NDW1A-1600 can be interlocked with others.
SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening), SR12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening), SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	1. Choose one of five key locks; 2. Shell frame NDW1A-1600 does not support the interlocking mode with two for closing and one for opening; 3. Shell frame NDW1A-1600 cannot be interlocked with others; 4. Fixed-type shell frame NDW1A-1600 has no such accessory;
ATS-R/S/F power automatic switching device (R: auto switch and auto recover; S: auto switch and non-auto recover; F: Mains - generator)	Mechanical interlock under standard configuration, type to be defined by the user. This accessory is not available for 1600 fixed type products.

NDW1A Main Performance Parameters

Air Circuit Breaker Model			NDW1A-1600		
Rated current, In (A)			200, 400, 630	800, 1000	1250, 1600
N-pole rated current			100%In		
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V/415V, AC440V, AC660V/690V		
Rated frequency, f			50/60Hz		
Rated insulation voltage, Ui			1000V		
Rated impulse withstand voltage, Uimp			12kV		
Number of poles			3, 4		
Full break time			≤30ms		
Closing time			≤70ms		
Rated limit short-circuit breaking capacity, Icu (effective value)		AC415V	65kA		
		AC690V	42kA		
Rated operating short-circuit breaking capacity, Ics (effective value)		AC415V	55kA		
		AC690V	35kA		
Rated short-circuit making capacity, Icm (peak value)		AC415V	143kA		
		AC690V	88kA		
Rated short-time withstand current, Icw (effective value) 1s		AC415V	42kA		
		AC690V	35kA		
Operating performance (number of times)	Electrical life	AC415V	10000	9000	8000
		AC690V	10000	10000 (800A) 6000 (1000A)	4000
		Operating frequency	20 times/hour		
	Mechanical life	Maintenance-free	15000		
		With maintenance	30000		
		Operating frequency	60 times/hour		
Installation mode			Fixed type, drawout type		
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal)		
Overall dimensions: W×D×H 		Fixed type 3P	260mm×205.5mm×319.5mm		
		Fixed type 4P	330mm×205.5mm×319.5mm		
		Drawout type 3P	268mm×303.5mm×352mm		
		Drawout type 4P	338.5mm×303.5mm×352mm		
Weight		Fixed type 3P	20kg		21kg
		Fixed type 4P	24kg		26kg
		Drawout type 3P	40 kg		42 kg
		Drawout type 4P	50kg		52 kg

Air Circuit Breaker Model			NDW1A-2000			NDW1A-3200	
Rated current, In (A)			400, 630, 800	1000, 1250, 1600	2000	2000, 2500	2900, 3200
N-pole rated current			100%In				
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V/AC415V, AC660/690V			AC400V/415V, 690V	
Rated frequency, f			50/60Hz				
Rated insulation voltage, Ui			1250V			1000V	
Rated impulse withstand voltage, Uimp			12kV				
Number of Poles			34				
Full break time			≤30ms				
Closing time			≤70ms				
Rated limit short-circuit breaking capacity, Icu (effective value)		AC415V	80kA			100kA	
		AC690V	65kA			75kA	
Rated operating short-circuit breaking capacity, Ics (effective value)		AC415V	80kA			85kA	
		AC690V	65kA			65kA	
Rated short-circuit making capacity, Icm (peak value)		AC415V	176 kA			220kA	
		AC690V	143 kA			176kA	
Rated short-time withstand current, Icw (effective value) 1s		AC415V	60kA			85kA	
		AC690V	40kA			55kA	
Operating performance (number of times)	Electrical life	AC415V	15000	14000	10000	15000	12500 (2900A) 10000 (3200A)
		AC690V	15000	15000 (1000-1250A) 7000 (1600A)	5000	15000 (2000A) 9000 (2500A)	5000
		Operating frequency	20 times/hour			20 times/hour	
	Mechanical life	Maintenance-free	15000			15000	
		With maintenance	30000			20000	
		Operating frequency	60 times/hour			60 times/hour	
Installation mode			Fixed type, drawout type				
Wiring method of the main circuit		Fixed type	Horizontal wiring, horizontal extended wiring, L-wiring			Horizontal wiring, horizontal extended wiring	
		Drawout type	Horizontal wiring, horizontal extended wiring, vertical wiring, L-wiring			Horizontal wiring, horizontal extended wiring, vertical wiring	
Overall dimensions: W×D×H 		Fixed type 3P	362mm×331mm×397mm			422mm×302mm×397mm	
		Fixed type 4P	457mm×331mm×397mm			537mm×302mm×397mm	
		Drawout type 3P	375mm×398mm×432mm			435mm×398mm×432mm	
		Drawout type 4P	470mm×398mm×432mm			550mm×398mm×432mm	
Weight		Fixed type 3P	39kg	40kg	41kg	46kg	56kg
		Fixed type 4P	48kg	49kg	50kg	58kg	68kg
		Drawout type 3P	68kg	70kg	71kg	92kg	96kg
		Drawout type 4P	86kg	88kg	91kg	108kg	118kg

Air Circuit Breaker Model			NDW1A-4000		NDW1A-6300	
Rated current, In (A)			2000, 2500	3200, 3600, 4000	4000, 5000	6300
N-pole rated current			100%In		100%In	
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V, AC415V, AC400V/480V, AC660V/AC690V		AC220/230/240V, AC380/400/415V, AC440/480V, AC660/690V	
Rated frequency, f			50/60Hz		50/60Hz	
Rated insulation voltage, Ui			1000V		1000V	
Rated impulse withstand voltage, Uimp			12kV		12kV	
Number of poles			3, 4		3, 4	
Full break time			≤ 30ms		≤ 30ms	
Closing time			≤ 70ms		≤ 70ms	
Rated limit short-circuit breaking capacity, Icu (effective value)		AC415V	100kA		120kA	
		AC690V	80kA		85kA	
Rated operating short-circuit breaking capacity, Ics (effective value)		AC415V	85kA		100kA	
		AC690V	70kA		75kA	
Rated short-circuit making capacity, Icm (peak value)		AC415V	220kA		264kA	
		AC690V	176kA		187kA	
Rated short-time withstand current, Icw (effective value) 1s		AC415V	85kA		100kA	
		AC690V	70kA		75kA	
Operating performance (number of times)	Electrical life	AC415V	6000 (2000A-3600A)	6000 (4000A)	1000	
		AC690V	4500 (2000A-3600A)	3000 (4000A)	800	
		Operating frequency	20 times/hour		10 times/hour	
	Mechanical life	Maintenance-free	12500 (3P), 6500 (4P)		5000	
		With maintenance	25000 (3P), 15000 (4P)		10000	
		Operating frequency	60 times/hour		20 times/hour	
Installation mode			Fixed type, drawout type		Fixed type, drawout type	
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring		Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal), mixed extended wiring (upper horizontal and lower vertical), mixed extended wiring (upper vertical and lower horizontal)	
Overall dimensions: W×D×H 		Fixed type 3P	428mm×300mm×393.5mm		803mm×302.5mm×392mm	
		Fixed type 4P	543mm×300mm×393.5mm		1033mm×302.5mm×392mm	
		Drawout type 3P	435mm×403mm×432mm (2000A~2500A)	435mm×397.5mm×432mm (3200A~4000A)	809mm×401.5mm×475mm	
		Drawout type 4P	550mm×403mm×432mm (2000A~2500A)	550mm×397.5mm×432mm (3200A~4000A)	1039mm×401.5mm×475mm	
Weight		Fixed type 3P	59kg	60kg	125 kg	127kg
		Fixed type 4P	70kg	71.5kg	167 kg	170kg
		Drawout type 3P	97kg	103kg	193 kg	195kg
		Drawout type 4P	114kg	120kg	257 kg	260kg

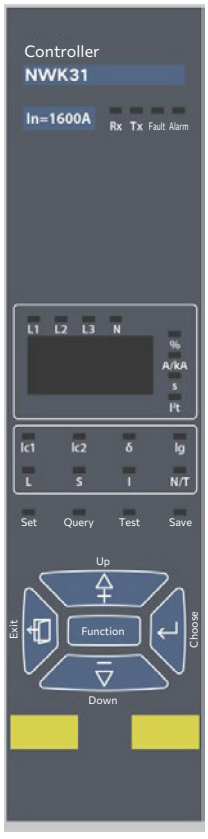
Note 1: full break time: refers to the time interval from the moment the circuit breaker is opened to the end of the arcing time.
Note 2: closing time: refers to the time interval from the moment the circuit breaker is closed to the moment when the contacts of all poles come into contact.

NDW1A Intelligent Air Circuit Breaker Controller Functions

Controller

Controller is one of the main components of the circuit breaker, which can provide the function of protecting the overload, short circuit, grounding, current unbalance, over-voltage, under-voltage, voltage unbalance, over-frequency, under-frequency, reverse power and other failures, and realize reasonable operation of the power grid through the load monitoring, required value protection, regional interlocking and other functions. Controller has the function of measuring the current, voltage, power, frequency, electric energy, required value, harmonic and other power grid parameters; and the function of recording the fault, alarm, operation, maximum historical current, contact wear and other operating maintenance parameters. When the power network is carrying on communication network, the controller can realize the remote metering, remote signalling, remote control and remote regulation at the remote terminal of the electric power automation network.

Type of Controller

Controller type	KM	KM/V	KY, KY/V, KY/P
Model	NWK21 / NWK31	NWK21(V) / NWK31(V)	NWK22 / NWK32 NWK22(V) / NWK32(V) NWK22(P) / NWK32(P)
NDW1A-1600/2000/3200/6300 Controller diagram			

Note: NDW1A-1600 controller models are NWK31/NWK32

Controller Functions

Functional Items	NWK21 NWK31	NWK21/V NWK31/V	NWK22 NWK32	NWK22/V NWK32/V	NWK22/P NWK32/P
Display Interface					
Digital tube numbers and symbols display	√	√	–	–	–
ICD panel Chinese, symbols and graphics display	–	–	√	√	√
Protection Functions					
Overload long-time delay protection	√	√	√	√	√
Overload thermal memory	√	√	√	√	√
Overload pre-alarm/alarm output	√/▲	√/▲	√/▲	√/▲	√/▲
Short circuit short-time delay protection	√	√	√	√	√
Short-time delay thermal memory	√	√	√	√	√
Short circuit instantaneous protection	√	√	√	√	√
Ground protection (T differential/W:Ground-current type)	√	√	√	√	√
Grounding alarm/alarm output	√/▲	√/▲	√/▲	√/▲	√/▲
Current leakage protection/alarm/alarm output	–	–	√/√/▲	√/√/▲	√/√/▲
Neutral line protection	√	√	√	√	√
Current leakage protection/alarm/alarm output	√/–/–	√/–/–	√/√/▲	√/√/▲	√/√/▲
MCR	√	√	√	√	√
Load monitoring/alarm/alarm output	▲/▲/▲	▲/▲/▲	√/√/▲	√/√/▲	√/√/▲
Under-voltage protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Over-voltage protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Voltage unbalance protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Phase sequence protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Under-frequency protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Over-frequency protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Current required value protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Reverse power protection/alarm/alarm output	–	–	–	–	√/√/▲
Measurement Function					
Current measurement (phase pole, N-pole, grounding)	√	√	√	√	√
Voltage (phase voltage, circuit voltage, voltage unbalance rate)	–	√	–	√	√
Phase sequence detection	–	–	–	√	√
Frequency measurement	–	√	–	√	√
Required value measurement (current)	–	–	–	√	√
Required value measurement (power)	–	–	–	–	√
Power measurement (active power, reactive power, apparent power)	–	√	–	–	√
Power factor measurement	–	√	–	–	√
Electric energy measurement (active electric energy, reactive electric energy, apparent electric energy)	–	–	–	–	√
Harmonics measurement	–	–	–	–	√
Maintenance Functions					
LED fault status indication	√	√	√	√	√
Fault record and query	√	√	√	√	√
Position change record	–	–	√	√	√
Alarm history query	–	–	√	√	√
Fault tripping signal output	√	√	√	√	√
Self-diagnostic function	√	√	√	√	√
Simulating tripping test function	√	√	√	√	√
Contact wear equivalent (alarm) query	▲	▲	√	√	√
Query of number of operations	▲	▲	√	√	√
Clock function	–	–	√	√	√
Others					
Remote reset of controller	▲	▲	▲	▲	▲
Signal unit	▲	▲	▲	▲	▲
Zone selective interlock	–	–	▲	▲	▲
Communication	–	–	▲	▲	▲

Note: 1. Functions marked with "√" means available; "▲" optional for users; "–" not available.
2. Functions "V" and "P" are additional options for the common controllers.
3. Functions like alarm and other digital output or zone selective interlock can be achieved only when the signal unit function is added.

NDW1A Intelligent Air Circuit Breaker - Accessories Selection

Accessory Name	For what kind of circuit breakers	Supply Mode
Power supply module	Fixed type/Drawout type	To be ordered by the customers for their options
Relay module	Fixed type/Drawout type	To be ordered by the customers for their options and used with ST-IV
Off-position key lock	Fixed type/Drawout type	To be ordered by the customers for their options
Door interlock	Drawout type	To be ordered by the customers for their options
Three-position signal output of drawer seat of the circuit breaker	Drawout type	To be ordered by the customers for their options
Auxiliary switch	Fixed type/Drawout type	Standard configuration (1600/4000; A4, 2000/3200/6300; A44)
Closed electromagnet	Fixed type/Drawout type	Standard configuration
Shunt release	Fixed type/Drawout type	Standard configuration of release, retention shunt (to be customized), one of the two Retention shunt applicable to shell frame 2000/4000
Retention shunt release	Fixed type/Drawout type	
Motor operating mechanism	Fixed type/Drawout type	Standard configuration
Phase partition	Fixed type/Drawout type	To be ordered by the customers for their options (standard configuration for shell frame 4000)
Closing ready signal output device	Fixed type/Drawout type	To be ordered by the customers for their options
Under-voltage release	Fixed type/Drawout type	To be ordered by the customers for their options
Counter	Fixed type/Drawout type	To be ordered by the customers for their options
Doorframe	Fixed type/Drawout type	To be ordered by the customers for their options
IP54 transparent cover	Fixed type/Drawout type	This accessory comes with a special door frame, which cannot be selected at the same time as the regular door frame, as they have different sizes of door openings; to be ordered by the customers for their options (separate orders)
Connection bolt	Fixed type/Drawout type	To be ordered by the customers for their options
Installation & Operating Instructions	Fixed type/Drawout type	To be ordered by the customers for their options
Dust cover	Fixed type/Drawout type	To be ordered by the customers for their options
Mechanical interlock	Fixed type/Drawout type	To be ordered by the customers for their options (not available for 1600 fixed type shell frame)
Power automatic switching device	Fixed type/Drawout type	To be ordered by the customers for their options (not available for 1600 fixed type shell frame)

NDW2 Quick Selection Table

NDW	2	—	25	HU	/	C	16	/	4	/	KM1	H	/	D1	F1	B1	/	Q1	1	A4	BX	/	G	/	J1	KV4	GD
1	2		3	4		5	6		7		8	9		10	11	12		13	14	15	16		17		18	19	20

1-2: Product series code

NDW	ND: Nader/Lazzen Enterprise code W: Air Circuit Breaker
2	2: Design code

3: Frame

16	1600
20	2000
32	3200
40	4000
63	6300

4:Breaking Capacity

Empty	Regular Voltage(<AC690V)
HU	High Voltage(>AC690V)

5:Installation type

empty	Fixed type
C	Drawout-type

6:Rated current:

1600F		2000F		3200F		4000F		6300F	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
02	200A	04	400A	20	2000A	20	2000A	40	4000A
04	400A	06	630A	25	2500A	25	2500A	50	5000A
06	630A	08	800A	29	2900A	32	3200A	63	6300A
08	800A	10	1000A	32	3200A	36	3600A		
10	1000A	12	1250A			40	4000A		
12	1250A	16	1600A						

7: Poles

3	3 poles
4	4 poles
5	3P+N(3P+N with external N-phase transformer)

8:Controller Display type and Rated voltage(select one only):

Nixie tube display		Screen display:	
Code	Description	Code	Description
KM1	AC380/400V	KY1	AC380/400V
KM2	AC220/230V	KY2	AC220/230V
KM3	DC220V	KY3	DC220V
KM4	DC110V	KY4	DC110V
KM5	AC24V/DC24V	KY5	AC24V/DC24V

9:Controller option function(empty if the no need optional function)

Protection type		Communication		Signal unit		Remote reset function		N-phase (CT addition)	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
empty	conventional type	H	Modbus	S1	4DO	Z1	AC380/400V	E*	current leakage
V	voltage measurement	MP	Profibus-DP	S2	3DO, 1DI	Z2	AC220/230V	T*	differential type
P	harmonic measurement	MD	Devicenet	S3	2DO, 2DI	Z3	DC220V	W*	ground type
						Z4	DC110V	more information in note a	
						Z5	DC24V		

10:Motor Operating Mechanism:

Code	Description
D1	AC380/400V
D2	AC220V/230V
D3	DC220V
D4	DC110V
D5	DC24V

11:Shunt release:

Code	Description
F1	AC380/400V
F2	AC220V/230V
F3	DC220V
F4	DC110V
F5	DC24V
F6	AC220V/230V(hold type)

12:Closed electromagnet:

Code	Description
B1	AC380/400V
B2	AC220/230V
B3	DC220V
B4	DC110V
B5	DC24V

13:Under-voltage release / No-voltage release

Under-voltage release		No-voltage release:		Voltage recover closing release:	
Code	Description	Code	Description	Code	Description
Q1	AC380/400V	S1	AC380V/AC400V	J1	AC380V/AC400V
Q2	AC220/230V	S2	AC220V/AC230V	J2	AC220V/AC230V
Q3	DC220V				
Q4	DC110V				
Q5	DC24V				

14:Delay time for Under-voltage release or No-voltage release

Under-voltage release		No-voltage release:		
Code	Description	Code	Description	Remark
0	instantaneous	0-10	0-10s delay adjustable (step size 1s)	Frame 1600A or 6300A
1	1s delay	1	1s delay	Frame: 2000/3200/4000A
3	3s delay	3	3s delay	
5	5s delay	5	5s delay	

15:Auxiliary contacts

1600AF		2000-6300AF	
Code	Description	Code	Description
A4	4 open/closed contacts	A4	4 open/closed contacts
A6	6 open/closed contacts	A6	6 open/closed contacts
A44	4 open contacts +4 closed contacts	A44	4 open contacts +4 closed contacts
		A66	6 open contacts +6 closed contacts

16:Inside accessories

Code	Description
empty	no accessories
BX	contact for signalling closing
JS	operation counter
CM1	right side of the door interlock
CM2	left side of the door interlock

17:Outside accessories

Code	Description		
empty	no accessories		
M	door frame	S	safety locks
G	phase barrier	P2	voltage module
F	Dust cover	L	Connection bolt
R	NWDF1-RM relay	Z	Manual

18:Wiring method

Code	Description	Code	Description
empty	horizontal wiring	J5	mixed wiring (upper vertical and lower horizontal)
J1	horizontal extended wiring	J6	mixed extended wiring (upper vertical and lower horizontal)
J2	L wiring	J7	mixed extended wiring (upper horizontal and lower vertical)
J3	vertical wiring	J8	mixed extended wiring (upper vertical and lower horizontal)
J4	vertical extended wiring	more information in note b	

19:Rated voltage

Code	Description	Code	Description	Code	Description	Code	Description
empty	AC690V	KV4	AC800V	KV5	AC1000V	KV6	AC1140V

20:Product Use type

Code	Description	Code	Description	Code	Description
empty	general type	GD	plateau, low temperature	TH	thermal humidity

Note b: 3P+N grounding mode (external N-pole transformer optional):
T - differential type (omitted by default) W - ground current type
N1 - external N-phase transformer (62*21), applicable to shell frame 1600
N2 - external N-phase transformer (102*32.5), applicable to shell frames 1600, 2000
N3 - external N-phase transformer (122*52), applicable to shell frames 2000, 3200, 4000, 6300
N4 - external N-phase transformer (262*102), applicable to shell frames 3200, 4000, 6300
NR1 - external flexible transformer (280 mm), applicable to 200A-800A
NR2 - external flexible transformer (370 mm), applicable to 1000A-2000A
NR3 - external flexible transformer (450 mm), applicable to 1000A-6300A
Protection form of current leakage: E-type (including external current leakage transformer)
Contact wear equivalent, operation times query (NWK21/NWK31 optional): J
Choose only one of the followings: signal unit, voltage detector closing device and photovoltaic under-voltage release

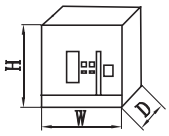
Note c: Auxiliary contact combination, shell frame 1600: A4 - four groups conversion, A6 - six groups conversion, A44 - four open and four closed
Shell frames 2000, 3200, 4000 and 6300: A4 - four groups conversion, A6 - six groups conversion, A44 - four normally open and four normally closed, A66 - six normally open and six normally closed

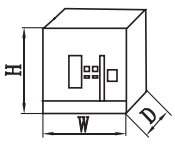
Note f: (note: NDW2-6300 with the rated current of 6,300A only has two wiring modes: vertical wiring and vertical extended wiring.)

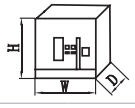
Interlocking Accessory Model Explanation and Encoding Rules

SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks. 2. Shell frame NDW2-1600 cannot be interlocked with others.
SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening), SR12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening), SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	1. Choose one of five mechanical interlocks. 2. Shell frame NDW2-1600 does not support the interlocking mode with two for closing and one for opening. 3. Shell frame NDW2-1600 cannot be interlocked with others. 4. Fixed-type shell frame NDW2-1600 has no such accessory.
ATS-R/S/F power automatic switching device (R: auto switch and auto recover; S: auto switch and non-auto recover; F: Mains - generator)	Mechanical interlock under standard configuration, type to be defined by the user. This accessory is not available for 1600 fixed type shell frame.

NDW2 ACB Main Performance Parameters

Air Circuit Breaker Model			NDW2-1600		
Rated current, In (A)			200, 400, 630	800, 1000	1250, 1600
N-pole rated current			100%In		
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V/415V, AC440V, AC660V/690V		
Rated frequency, f			50/60Hz		
Rated insulation voltage, Ui			1000V		
Rated impulse withstand voltage, Uimp			12kV		
Number of poles			3, 4		
Full break time			≤30ms		
Closing time			≤70ms		
Rated limit short-circuit breaking capacity, Icu (effective value) kA		AC415V	65kA		
		AC690V	42kA		
Rated operating short-circuit breaking capacity, Ics (effective value)		AC415V	55kA		
		AC690V	35kA		
Rated short-circuit making capacity, Icm (peak value)		AC415V	143kA		
		AC690V	88kA		
Rated short-time withstand current, Icw (effective value) 1s		AC415V	42kA		
		AC690V	35kA		
Operating performance (number of times)	Electrical life	AC415V	10000	10000	10000
		AC690V	10000	10000 (800A) 7000 (1000A)	6000
		Operating frequency	20 times/hour		
	Mechanical life	Maintenance-free	15000		
		With maintenance	30000		
		Operating frequency	60 times/hour		
Installation mode			Fixed type, drawout type		
Wiring method of the main circuit	Fixed type		Horizontal wiring, vertical wiring, horizontal extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal)		
	Drawout type				
Overall dimensions: W×D×H 		Fixed type 3P	260mm×205.5mm×319.5mm		
		Fixed type 4P	330mm×205.5mm×319.5mm		
		Drawout type 3P	268.5mm×303.5mm×352mm		
		Drawout type 4P	338.5mm×303.5mm×352mm		
Weight		Fixed type 3P	20 kg		21kg
		Fixed type 4P	24kg		26kg
		Drawout type 3P	40 kg		42 kg
		Drawout type 4P	50kg		52 kg

Air Circuit Breaker Model			NDW2-2000			NDW2-3200	
Rated current, In (A)			400, 630, 800	1000, 1250, 1600	2000	2000, 2500	2900, 3200
N-pole rated current			100%In				
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V/AC415V, AC440V/AC480V, AC660V/690V				
Rated frequency, f			50/60Hz				
Rated insulation voltage, Ui			1000V				
Rated impulse withstand voltage, Uimp			12kV				
Number of Poles			3, 4				
Full break time			≤30ms				
Closing time			≤70ms				
Rated limit short-circuit breaking capacity, Icu (effective value)		AC415V	80kA			100kA	
		AC690V	65kA			80kA	
Rated operating short-circuit breaking capacity, Ics (effective value)		AC415V	80kA			85kA	
		AC690V	65kA			65kA	
Rated short-circuit making capacity, Icm (peak value)		AC415V	176 kA			220kA	
		AC690V	143 kA			176kA	
Rated short-time withstand current, Icw (effective value) 1s		AC415V	66kA 1s			85kA 1s	
		AC690V	50kA 1s			55kA 1s	
Operating performance (number of times)	Electrical life	AC415V	15000	15000	11000	15000	12500 (2900A) 11000 (3200A)
		AC690V	15000	15000 (1000-1250A) 8000 (1600A)	6000	15000 (2000A) 9000 (2500A)	6000
		Operating frequency	20 times/hour			20 times/hour	
	Mechanical life	Maintenance-free	15000			15000	
		With maintenance	30000			20000	
		Operating frequency	60 times/hour			60 times/hour	
Installation mode			Fixed type, drawout type				
Wiring method of the main circuit		Fixed type	Horizontal wiring, horizontal extended wiring, L-wiring			Horizontal wiring, horizontal extended wiring	
		Drawout type	Horizontal wiring, horizontal extended wiring, vertical wiring, L-wiring			Horizontal wiring, horizontal extended wiring, vertical wiring	
Overall dimensions: W×D×H 		Fixed type 3P	362mm×331mm×397mm			422mm×302mm×397mm	
		Fixed type 4P	457mm×331mm×397mm			537mm×302mm×397mm	
		Drawout type 3P	375mm×398mm×432mm			435mm×398mm×432mm	
		Drawout type 4P	470mm×398mm×432mm			550mm×398mm×432mm	
Weight		Fixed type 3P	39kg	40kg	41kg	46kg	56kg
		Fixed type 4P	48kg	49kg	50kg	58kg	68kg
		Drawout type 3P	68kg	70kg	71kg	92kg	96kg
		Drawout type 4P	86kg	88kg	91kg	108kg	118kg

Air Circuit Breaker Model			NDW2-4000			NDW2-6300	
Rated current, In (A)			800, 1000, 1250, 1600	2000, 2500	3200, 3600, 4000	4000, 5000	6300
N-pole rated current			100%In				
Rated operating voltage, Ue			AC220V/230V/240V, AC380V/400V, AC415V, AC440V/480V, AC660V/690V, AC800V, AC1000/1140V				
Rated frequency, f			50/60Hz				
Rated insulation voltage, Ui			AC1000V, AC1250V(HU)				
Rated impulse withstand voltage, Uimp			12kV				
Number of Poles			3, 4				
Full break time			≤ 30ms				
Closing time			≤ 70ms				
Rated limit short-circuit breaking capacity, Icu (effective value)		AC400V	100kA			120kA	
		AC690V	75kA			85kA	
		AC800V	70 kA			75 kA	
		AC1000/1140V	55 kA			60 kA	
Rated operating short-circuit breaking capacity, Ics (effective value)		AC400V	100kA			120kA	
		AC690V	75kA			85kA	
		AC800V	70 kA			75 kA	
		AC1000/1140V	55 kA			60 kA	
Rated short-circuit making capacity, Icm (peak value)		AC400V	220kA			264kA	
		AC690V	165kA			187kA	
		AC800V	154kA			165 kA	
		AC1000/1140V	121kA			132 kA	
Rated short-time withstand current, Icw (effective value) 1s		AC400V	85kA			100kA	
		AC690V	75kA			85kA	
		AC800V	70 kA			75 kA	
		AC1000/1140V	55 kA			60 kA	
Operating performance (number of times)	Electrical life	AC400V	10000	8000	6000	3000	
		AC690V	10000	6000	3000	2000	
		AC800V	2000	1000	1000	3000(4000A) 1500(5000A) 1000(6300A)	
		AC1000/1140V	2000	1000	600	2000(4000A) 1000(5000A) 500 (6300A)	
		Operating frequency	20 times/hour			10 times/hour	
	Mechanical life	Maintenance-free	10000			5000	
		With maintenance	15000			10000	
		Operating frequency	60 times/hour			20 times/hour	
Installation mode			Fixed type, drawout type			Fixed type, drawout type	
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal), mixed extended wiring (upper horizontal and lower vertical), mixed extended wiring (upper vertical and lower horizontal)	
Overall dimensions: W×D×H 		Fixed type 3P	428mm×298mm×394mm		428mm×298mm×394mm	803mm×302.5mm×392mm	
		Fixed type 4P	543mm×298mm×394mm		543mm×298mm×394mm	1033mm×302.5mm×392mm	
		Drawout type 3P	435mm×403mm×432mm		435mm×397.5mm×432mm	809mm×401.5mm×475mm	
		Drawout type 4P	550mm×403mm×432mm		550mm×397.5mm×432mm	1039mm×401.5mm×475mm	
Weight (kg)		Fixed type 3P	59kg		60kg	125kg	127kg
		Fixed type 4P	70kg		71.5kg	167kg	170kg
		Drawout type 3P	97kg		103kg	193kg	195kg
		Drawout type 4P	114kg		120kg	257kg	260kg

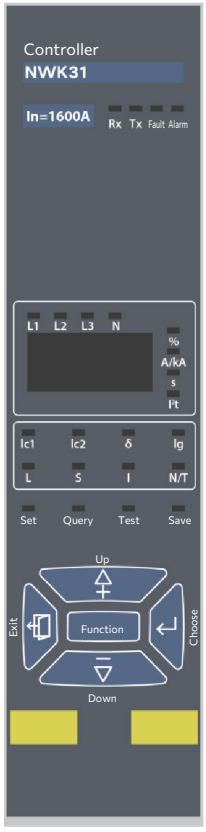
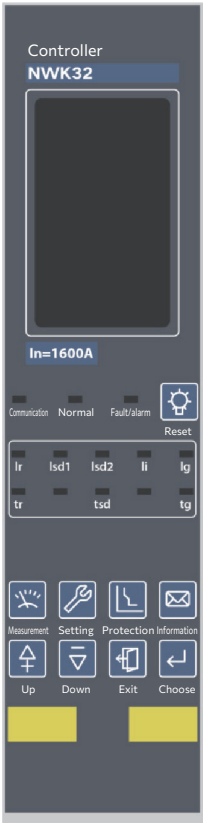
Note 1: full break time: refers to the time interval from the moment the circuit breaker is opened to the end of the arcing time.
Note 2: closing time: refers to the time interval from the moment the circuit breaker is closed to the moment when the contacts of all poles come into contact.

NDW2 Intelligent Air Circuit Breaker Controller Functions

Controller

Controller is one of the main components of the circuit breaker, which can provide the function of protecting the overload, short circuit, grounding, current unbalance, over-voltage, under-voltage, voltage unbalance, over-frequency, under-frequency, reverse power and other failures, and realize reasonable operation of the power grid through the load monitoring, required value protection, regional interlocking and other functions. Controller has the function of measuring the current, voltage, power, frequency, electric energy, required value, harmonic and other power grid parameters; and the function of recording the fault, alarm, operation, maximum historical current, contact wear and other operating maintenance parameters. When the power network is carrying on communication network, the controller can realize the remote metering, remote signalling, remote control and remote regulation at the remote terminal of the electric power automation network.

Type of Controller

Controller type	KM	KM/V	KY, KY/V, KY/P
Model	NWK21 / NWK31	NWK21(V) / NWK31(V)	NWK22 / NWK32 NWK22(V) / NWK32(V) NWK22(P) / NWK32(P)
NDW2-1600/2000/3200/4000/6300 Controller diagram			

Note: NWK31 and NWK32 used for NDW2-1600, NWK21 and NWK22 used for NDW2-2000, NDW2-3200, NDW2-4000 and NDW2-6300.

Controller functions

Functional items	NWK21, NWK31	NWK21/V NWK31/V	NWK22, NWK32	NWK22/V NWK32/V	NWK22/P NWK32/P
Display Interface					
Digital tube numbers and symbols display	√	√	–	–	–
ICD panel Chinese-English, symbols and graphics display	–	–	√	√	√
Protection Functions					
Overload long-time delay protection	√	√	√	√	√
Overload thermal memory	√	√	√	√	√
Overload pre-alarm/alarm output	√/▲	√/▲	√/▲	√/▲	√/▲
Short circuit short-time delay protection	√	√	√	√	√
Short-time delay thermal memory	√	√	√	√	√
Short circuit instantaneous protection	√	√	√	√	√
Ground protection (T-value differential type/N-ground current type)	√	√	√	√	√
Grounding alarm/alarm output	√/▲	√/▲	√/▲	√/▲	√/▲
Current leakage protection/alarm/alarm output	–	–	√/√/▲	√/√/▲	√/√/▲
Neutral line protection	√	√	√	√	√
Current leakage protection/alarm/alarm output	√/–/–	√/–/–	√/√/▲	√/√/▲	√/√/▲
MCR	√	√	√	√	√
Load monitoring/alarm/alarm output	▲ / ▲ / ▲	▲ / ▲ / ▲	√/√/ ▲	√/√/ ▲	√/√/ ▲
Under-voltage protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Over-voltage protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Voltage unbalance protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Phase sequence protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Under-frequency protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Over-frequency protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Current required value protection/alarm/alarm output	–	–	–	√/√/▲	√/√/▲
Reverse power protection/alarm/alarm output	–	–	–	–	√/√/▲
Measurement Function					
Current measurement (phase pole, N-pole, grounding)	√	√	√	√	√
Voltage (phase voltage, circuit voltage, voltage unbalance rate)	–	√	–	√	√
Phase sequence detection	–	–	–	√	√
Frequency measurement	–	√	–	√	√
Required value measurement (current)	–	–	–	√	√
Required value measurement (power)	–	–	–	–	√
Power measurement (active power, reactive power, apparent power)	–	√	–	–	√
Power factor measurement	–	√	–	–	√
Electric energy measurement (active electric energy, reactive electric energy, apparent electric energy)	–	–	–	–	√
Harmonics measurement	–	–	–	–	√
Maintenance Functions					
LED fault status indication	√	√	√	√	√
Fault record and query	√	√	√	√	√
Position change record	–	–	√	√	√
Alarm history query	–	–	√	√	√
Fault tripping signal output	√	√	√	√	√
Self-diagnostic function	√	√	√	√	√
Simulating tripping test function	√	√	√	√	√
Contact wear equivalent (alarm) query	▲	▲	√	√	√
Query of number of operations	▲	▲	√	√	√
Clock function	–	–	√	√	√
Others					
Remote reset of controller	▲	▲	▲	▲	▲
Signal unit	▲	▲	▲	▲	▲
Zone selective interlock	–	–	▲	▲	▲
Communication	–	–	▲	▲	▲

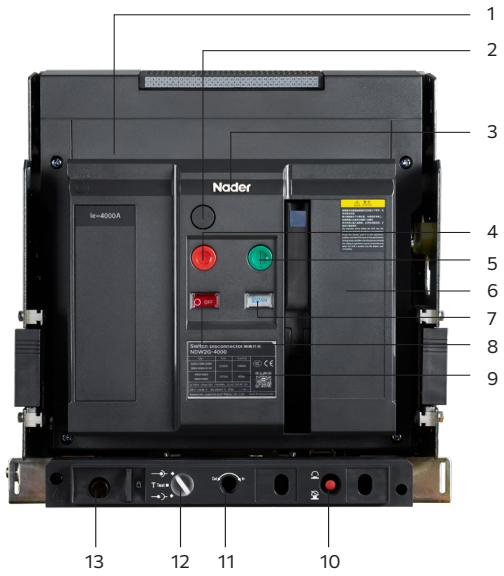
Note: 1. Functions marked with "√" means available; "▲" optional for users; "—" not available.
2. Controllers NWK21/V, NWK31/V, NWK22/N, NWK32/N, NWK22/P and NWK32/P are only applicable to the rated voltage of 500V and below.
3. Functions "V" and "P" are additional options for the common controllers.
4. Functions like alarm and other digital output or zone selective interlock can be achieved only when the signal unit function is added.

NDW2 Intelligent Air Circuit Breaker - Accessories Selection

Accessory Name	For what kind of circuit breakers	Supply Mode
Power supply module	Fixed type/Drawout type	To be ordered by the customers for their options
Relay module	Fixed type/Drawout type	To be ordered by the customers for their options and used with ST-IV
Off-position key lock	Fixed type/Drawout type	To be ordered by the customers for their options
Safety lock	Fixed type/Drawout type	To be ordered by the customers for their options (only applicable to shell frame 2000 and above)
Door interlock	Drawout type	To be ordered by the customers for their options
Three-position locking device for circuit breaker	Drawout type	Standard configuration
Auxiliary switch	Fixed type/Drawout type	Standard configuration (1600/4000; A4, 2000/3200/6300; A44)
Closed electromagnet	Fixed type/Drawout type	Standard configuration
Shunt release	Fixed type/Drawout type	Standard configuration of release, retention shunt (to be customized), one of the two Retention shunt applicable to shell frame 2000/4000
Retention shunt release	Fixed type/Drawout type	
Motor operating mechanism	Fixed type/Drawout type	Standard configuration
Phase partition	Fixed type/Drawout type	To be ordered by the customers for their options (standard configuration for shell frame 4000)
Closing ready signal output device	Fixed type/Drawout type	To be ordered by the customers for their options
Under-voltage release	Fixed type/Drawout type	To be ordered by the customers for their options
Counter	Fixed type/Drawout type	To be ordered by the customers for their options
Doorframe	Fixed type/Drawout type	To be ordered by the customers for their options
Dust cover	Fixed type/Drawout type	To be ordered by the customers for their options
Mechanical interlock	Fixed type/Drawout type	To be ordered by the customers for their options (not available for 1600 fixed type shell frame)
IP54 transparent cover	Fixed type/Drawout type	This accessory comes with a special door frame, which cannot be selected at the same time as the regular door frame, as they have different sizes of door openings; to be ordered by the customers for their options (separate orders)
Connection bolt	Fixed type/Drawout type	To be ordered by the customers for their options
Installation & Operating Instructions	Fixed type/Drawout type	To be ordered by the customers for their options
Power automatic switching device	Fixed type/Drawout type	To be ordered by the customers for their options (not available for 1600 fixed type shell frame)
Photovoltaic voltage detector closing device	Fixed type/Drawout type	To be ordered by the customers for their options (not available for shell frame 6300)

NDW2G AC Switch Disconnecto

Introduction of Structure and Indications

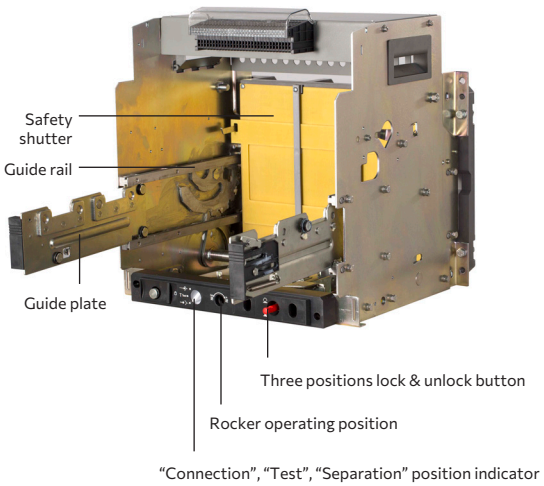


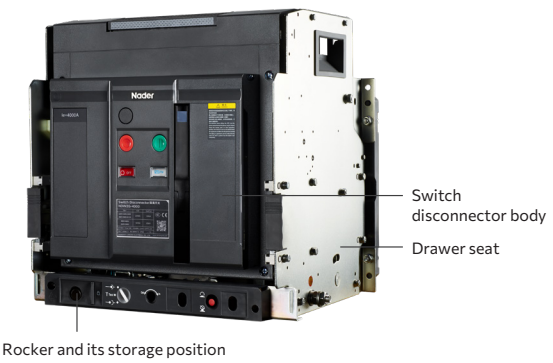
1. Specification sign
2. Off-position key lock (optional function)
3. Nader sign
4. Opening button
5. Closing button
6. Counter (optional function)
7. Energy release and storage indication
8. Opening and closing button
9. Nameplate
10. “Connection”, “Test”, “Separation” position locking and unlocking device
11. Rocker operating position
12. “Connection”, “Test”, “Separation” position indicator
13. Rocker and its storage position

Note: 1 ~ 9 are for fixed type, while 1 ~ 13 are drawout type.

Drawout Type Circuit Breaker Structure

Drawout type circuit breaker is composed of the circuit breaker body and the drawer seat. The drawer seat has guide rails on both sides. There’s movable guide plate on the guide rail. The circuit breaker body is placed on the left and right guide plates. The drawout type circuit breaker connects to the primary circuit by inserting the busbar on the circuit breaker body into the bridge contact on the drawer seat.





NDW2G-AC Switch Disconnector - Quick Selection



ND	W	2	G	F-	20	HU	C	16	/	3/D1	F1	B1	Q1	1	A55	Internal accessories	External accessories	/	/	/

Rated operating voltage: Non-marked: AC690V or below
KV4-AC800V KV5-AC1000V KV6-AC1140V

Product Use type Non-marked: Conventional

Wiring method: See note d

See note c

See note b

Contact combination: See note a

Delay time:
Conventional under-voltage: 0 - instantaneous, 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
Loss of voltage: 1 - 1s delay, 3 - 3s delay, 5 - 5s delay

Under-voltage release:
Q1-AC380V/AC400V Q2-AC220V/AC230V
Q3-DC220V Q4-DC110V Q5-DC24V

No-voltage release:
S1-AC380V/AC400V S2-AC220V/AC230V

Closed electromagnet:
B1-AC380V/AC400V B2-AC220V/AC230V
B3-DC220V B4-DC110V B5-DC24V

Shunt release:
F1-AC380V/AC400V F2-AC220V/AC230V
F3-DC220V F4-DC110V F5-DC24V

Electric energy storage mechanism:
D1-AC380V/AC400V D2-AC220V/AC230V
D3-DC220V D4-DC110V D5-DC24V

Number of poles: 3-3 pole, 4-4 pole

Rated current:
04: 400A, 06: 630A, 08: 800A, 10: 1000A, 12: 1250A, 16: 1600A, 20: 2000A, 25: 2500A, 29: 2900A,
32: 3200A, 40: 4000A

Installation structure: Non-marked: Fixed type C: Drawout type

Breaking type::
HU: high voltage level Non-marked: non-high voltage level

Shell frame level current: 20-2000, 40-4000

Derivation code: Non-marked - conventional, F - power generation type

Derivation code: G - switch disconnector

Design code: 2

Product code: W - universal type

Enterprise code: Nader

Note a:
Shell frame 2000: Non-marked - four normally open and four normally closed, A55 - five normally open and five normally closed, A66 - six normally open and six normally closed
Shell frame 4000: Non-marked - four groups conversion, A6 - six groups conversion, A44 - four normally open and four normally closed

Note b:
BX: Closing ready signal output unit
JS: Counter
CM1: drawout type (with the right side of the door interlock); CM2: drawout type (with the left side of the door interlock)
CX: Drawer seat three-position signal output

Note c:
M: Doorframe
G: Phase partition (standard configuration for shell frame 4000)
F: Dust cover
S: Button lock

Note d:
Wiring method:
Non-marked - horizontal wiring,
J1 - horizontal extended wiring,
J2 - L-wiring,
J3 - vertical wiring,
J4 - vertical extended wiring

Note e:
Power supply/load connection mode: B-B wiring (3P), C-C wiring (4P), non-marked - free wiring (applicable to 3P/4P)

Note f:
Rated operating voltage: Non-marked - DC750V, KV1-DC1000V, KV2-DC1200V, KV3-DC1500V (KV2 not available for shell frame 2000)

Interlocking Accessory Model Explanation and Encoding Rules

SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks; 2. Choose one of five mechanical interlocks;
SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening), SR12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening), SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	

NDW2G - Accessories Selection



Secondary terminal



Auxiliary switch



Phase partition



Counter





Under-voltage release



Doorframe



Closing/shunt coil



Off-position lock

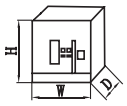


Mechanical interlock

Accessory Name	For what kind of circuit breakers	Supply Mode
Off-position key lock	Fixed type/Drawout type	To be ordered by the customers for their options
Door interlock	Drawout type	To be ordered by the customers for their options
Three-position locking device for circuit breaker	Drawout type	Standard configuration
Auxiliary switch	Fixed type/Drawout type	Standard configuration
Closed electromagnet	Fixed type/Drawout type	Standard configuration
Shunt release	Fixed type/Drawout type	Standard configuration
Motor operating mechanism	Fixed type/Drawout type	Standard configuration
Phase partition	Fixed type/Drawout type	To be ordered by the customers for their options
Closing ready signal output device	Fixed type/Drawout type	To be ordered by the customers for their options
Under-voltage release	Fixed type/Drawout type	To be ordered by the customers for their options
Counter	Fixed type/Drawout type	To be ordered by the customers for their options
Doorframe	Fixed type/Drawout type	To be ordered by the customers for their options
Dust cover	Fixed type/Drawout type	To be ordered by the customers for their options

NDW2G Main Performance Parameters

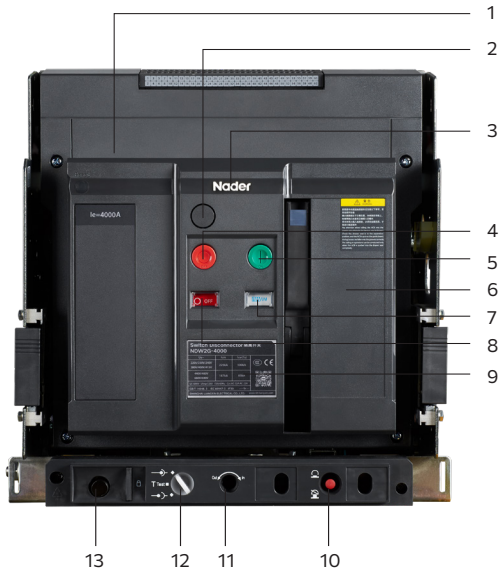
Switch Disconnector Model			NDW2G-2000			NDW2G-4000	
Rated current, In (A) (+40°C)			400, 630, 800	1000, 1250, 1600	2000	800, 1000, 1250, 1600, 2000, 2500	3200, 4000
N-pole rated current			100%In				
Rated operating voltage, Ue			AC415V, AC690V			AC415V, AC690V, AC800V, AC1000/1140V	
Rated frequency, f			50/60Hz				
Rated insulation voltage, Ui			1000V			AC1000V(AC415V, AC690V), AC1250V(AC800V, AC1000/1140V)	
Rated impulse withstand voltage, Uimp			12kV				
Number of poles			3, 4				
Full break time			≤ 30ms				
Closing time			≤ 70ms				
Rated short-circuit making capacity, Icm (peak value) (kA)		AC415V	143			220	
		AC690V	110			187	
		AC800V	-			154	
		AC1000/1140V	-			121	
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC415V	65			100	
		AC690V	50			85	
		AC800V	-			70	
		AC1000/1140V	-			55	
With circuit breaker for external protection, with the max limit breaking capacity with 0.4s delay (kA)		AC415V	65			100	
		AC690V	50			85	
		AC800V	-			70	
		AC1000/1140V	-			55	
Use type			AC-22A, AC-23A				
Operating performance (number of times)	Electrical life	AC415V	8000			8000	
		AC690V	5000			3000	
		AC800V	-			2000 (800A～1600A) 1000 (2000A～4000A)	
		AC1000/1140V	-			2000 (800A～1600A) 1000 (2000A, 2500A) 600 (3200A, 4000A)	
	Mechanical life	Maintenance-free	15000			10000	
		With maintenance	25000			15000	
Installation mode		Fixed type	▲			▲	
		Drawout type	▲			▲	
Wiring method of the main circuit		Fixed type	Horizontal wiring, horizontal extended wiring, L-wiring			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring	
		Drawout type	Horizontal wiring, horizontal extended wiring, vertical wiring, L-wiring			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring	

Switch Disconnector Model		NDW2G-2000			NDW2G-4000	
Overall dimensions: W×D×H(mm) 	Fixed type 3P	362×331×397			428×300×393.5	
	Fixed type 4P	457×331×397			543×300×393.5	
	Drawout type 3P	375×398×432			435×403×432 (800~2500A)	435×397.5×432 (3200A, 4000A)
	Drawout type 4P	470×398×432			550×403×432 (800~2500A)	550×397.5×432 (3200A, 4000A)
Weight(kg)	Fixed type 3P	39	40	41	59	60
	Fixed type 4P	48	49	50	70	71.5
	Drawout type 3P	68	70	71	97	103
	Drawout type 4P	86	88	91	114	120

Note: Functions marked with "▲" mean available.

NDW2G DC Switch Disconnecto

Introduction of Structure and Indications

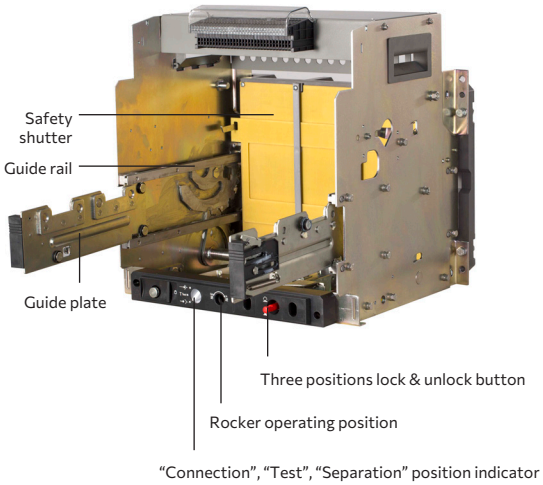


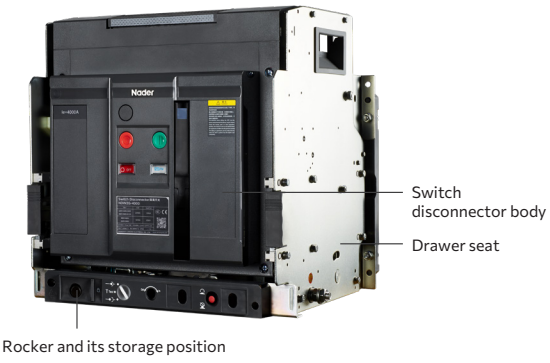
1. Specification sign
2. Off-position key lock (optional function)
3. Nader sign
4. Opening button
5. Closing button
6. Counter (optional function)
7. Energy release and storage indication
8. Opening and closing button
9. Nameplate
10. “Connection”, “Test”, “Separation” position locking and unlocking device
11. Rocker operating position
12. “Connection”, “Test”, “Separation” position indicator
13. Rocker and its storage position

Note: 1 ~ 9 are for fixed type, while 1 ~ 13 are drawout type.

Drawout Type Circuit Breaker Structure

Drawout type circuit breaker is composed of the circuit breaker body and the drawer seat. The drawer seat has guide rails on both sides. There’s movable guide plate on the guide rail. The circuit breaker body is placed on the left and right guide plates. The drawout type circuit breaker connects to the primary circuit by inserting the busbar on the circuit breaker body into the bridge contact on the drawer seat.





NDW2GZ DC Switch Disconnector - Quick Selection



ND	W	2	GZ	F-	20	C	16	/3	D1	F1	B1	Q1	1	A55	Internal accessories	External accessories	J1	B	/

- Rated operating voltage: See note f
- Power supply/load connection mode: See note e
- Wiring method - J1: horizontal extended wiring
- See note c
- See note b
- Contact combination: See note a
- Delay time:
  Conventional under-voltage: 0 - instantaneous, 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
  Loss of voltage: 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
- Under-voltage release:
  Q1-AC380V/AC400V
  Q2-AC220V/AC230V
  Q3-DC220V Q4-DC110V Q5-DC24V
  No-voltage release:
  S1-AC380V/AC400V, S2-AC220V/AC230V
- Closed electromagnet:
  B1-AC380V/AC400V B2-AC220V/AC230V
  B3-DC220V B4-DC110V B5-DC24V
- Shunt release:
  F1-AC380V/AC400V F2-AC220V/AC230V
  F3-DC220V F4-DC110V F5-DC24V
- Electric energy storage mechanism:
  D1-AC380V/AC400V D2-AC220V/AC230V
  D3-DC220V D4-DC110V D5-DC24V
- Number of poles: 3: three poles, 4: four poles
- Rated current:
  08: 800A, 10: 1000A, 12: 1250A, 16: 1600A, 20: 2000A, 25: 2500A, 29: 2900A, 32: 3200A, 40: 4000A
- Installation structure:
  Non-marked: Fixed type C: Drawout type
- Shell frame level current: 20-2000, 40-4000
- Derivation code: Non-marked - conventional, F - power generation type
- Derivation code: G - switch disconnector Z - direct current
- Design code: 2
- Product code: W - universal type
- Enterprise code: Nader

Note a:
Shell frame 2000: Non-marked - four normally open and four normally closed, A55 - five normally open and five normally closed, A66 - six normally open and six normally closed
Shell frame 4000: Non-marked - four groups conversion, A6 - six groups conversion, A44 - four normally open and four normally closed

Note b:
BX: Closing ready signal output unit
JS: Counter
CM1: drawout type (with the right side of the door interlock); CM2: drawout type (with the left side of the door interlock)
CX: Drawer seat three-position signal output

Note c:
M: Doorframe
G: Phase partition (standard configuration for shell frame 4000)
F: Dust cover
S: Button lock

Note d:
Wiring method:
Non-marked - horizontal wiring,
J1 - horizontal extended wiring,
J2 - L-wiring,
J3 - vertical wiring,
J4 - vertical extended wiring

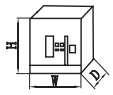
Note e:
Power supply/load connection mode: B-B wiring (3P), C-C wiring (4P), non-marked - free wiring (applicable to 3P/4P)

Note f:
Rated operating voltage: Non-marked - DC750V, KV1-DC1000V, KV2-DC1200V, KV3-DC1500V (KV2 not available for shell frame 2000)

Interlocking Accessory Model Explanation and Encoding Rules

SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks; 2. Choose one of five mechanical interlocks;
SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening), SR12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening), SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	

NDW2GZ Main Performance Parameters

Switch Disconnector Model			NDW2GZ-2000			NDW2GZ-4000	
Rated current, In (A) (+40°C)			800	1000, 1250, 1600	2000	1250, 1600, 2000, 2500	3200, 4000
Rated operating voltage, Ue			DC750V (3P), DC1000V (4P), DC1500V (4P)				
Rated insulation voltage, Ui			1500V				
Rated impulse withstand voltage, Uimp			12kV				
Number of poles			Three poles, four poles				
Full break time			≤30ms				
Closing time			≤70ms				
Rated short-circuit making capacity, Icm (peak value) (kA)		DC750V	80			100	
		DC1000V	52.5			52.5	
		DC1500V	35			50	
Rated short-time withstand current, Icw (effective value) 1s (kA)		DC750V	35			50	
		DC1000V	35			50	
		DC1500V	35			50	
Use type			DC-22A, DC-23A				
Operating performance (number of times)	Electrical life	DC750V	3000			1000	
		DC1000V	2000			800	
	Mechanical life	Maintenance-free	15000			10000	
		With maintenance	25000			15000	
Installation mode		Fixed type	▲			▲	
		Drawout type	▲			▲	
Wiring method of the main circuit		Fixed type	Horizontal extended wiring			Horizontal extended wiring	
		Drawout type	Horizontal extended wiring			Horizontal extended wiring	
Overall dimensions: W×D×H (mm) 		Fixed type 3P	362×331×397			428×300×393.5	
		Fixed type 4P	457×331×397			543×300×393.5	
		Drawout type 3P	375×398×432			435×403×432 (800~2500A)	435×397.5×432 (3200, 4000A)
		Drawout type 4P	470×398×432			550×403×432 (800~2500A)	550×397.5×432 (3200, 4000A)
Weight (kg)		Fixed type 3P	39	40	41	59	60
		Fixed type 4P	48	49	50	70	71.5
		Drawout type 3P	68	70	71	97	103
		Drawout type 4P	86	88	91	114	120

Note: Functions marked with "▲" mean available.

NDW2GZ - Accessories Selection



Secondary terminal



Auxiliary switch



Phase partition



Counter





Under-voltage release



Doorframe



Closing/shunt coil



Off-position lock



Mechanical interlock

Accessory Name	For what kind of circuit breakers	Supply Mode
Off-position key lock	Fixed type/Drawout type	To be ordered by the customers for their options
Door interlock	Drawout type	To be ordered by the customers for their options
Three-position locking device for circuit breaker	Drawout type	Standard configuration
Auxiliary switch	Fixed type/Drawout type	Standard configuration
Closed electromagnet	Fixed type/Drawout type	Standard configuration
Shunt release	Fixed type/Drawout type	Standard configuration
Motor operating mechanism	Fixed type/Drawout type	Standard configuration
Phase partition	Fixed type/Drawout type	To be ordered by the customers for their options
Closing ready signal output device	Fixed type/Drawout type	To be ordered by the customers for their options
Under-voltage release	Fixed type/Drawout type	To be ordered by the customers for their options
Counter	Fixed type/Drawout type	To be ordered by the customers for their options
Doorframe	Fixed type/Drawout type	To be ordered by the customers for their options
Dust cover	Fixed type/Drawout type	To be ordered by the customers for their options

NDW3 Intelligent Air Circuit Breaker - Quick Selection



ND	W	3-	40	S	10	/	C	4	KM	H	D1	F1	B1	Q1	1	A6	Internal accessories	External accessories	/	/	/	/

- Language type: See note i
- Rated operating voltage: See note h
- Product Use type See note g
- Wiring method: See note f
- See note e
- See note d
- Contact combination: See note c
- Delay time::
  Time delay for conventional under-voltage:
  0 - instantaneous, 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
  NDW3-1600/6300/7500 time delay for loss of voltage:
  0s ~ 10s, user adjustable (set to 3s by default), step size 1s;
  NDW3-2500/4000 time delay for loss of voltage:
  0 - instantaneous, 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
  Whether voltage detector contains harness: 0 - no harness, 1 - harness contained
- Under-voltage release Q: Q1-AC380/400V Q2-AC220/230V Q3-DC220V Q4-DC110V Q5-DC24V
  No-voltage release S: Voltage: S1-AC380/400V S2-AC220/230V
  Voltage detector closing device: J1-AC380V/AC400V J2-220V/AC230V
- Closed electromagnet: B1: AC380/400V
  B2: AC220/230V
  B3: DC220V
  B4: DC110V
  B5: DC24V
- Shunt release: F1: AC380/400V F2: AC220/230V
  F3: DC220V F4: DC110V F5: DC24V
  F6: AC230V/DC220V retention type
  Applicable for: Shell frame 2000/4000 (to be customized)
- Electric energy storage mechanism:
  D1: AC380/400V D2: AC220/230V
  D3: DC220V D4: DC110V D5: DC24V
- Optional functions of controller (see note b)
- Controller type: KM & KY (see note a)
- Number of poles: 3-3 pole, 4-4 pole, 5-3P+N (3P+N with external N-phase transformer)
- Installation structure: Non-marked - fixed type C - drawout type
- Rated current: 02-200A, 04-400A, 06-630A, 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 32-3200A, 36-3600A, 40-4000A, 50-5000A, 63-6300A, 75-7500
- Breaking type: S - conventional breaking, H - high breaking, HU - high voltage level, XU - ultra-high voltage level (shell frame 1600 has one breaking type only, omitted by default)
- Shell frame level: 16-1600 25-2500 40-4000 63-6300 75-7500
- Design code: 3
- Product code: Air Circuit Breaker
- Enterprise code: Nader

NDW3 Quick Selection Table

NDW	3	—	25	HU	/	16	C	/	4	/	KM1	H	/	D1	F1	B1	/	Q1	1	A4	BX	/	G	/	J1	GD	KV4
1	2		3	4		5	6		7		8	9		10	11	12		13	14	15	16		17		18	19	20

1-2: Product series code

NDW	ND: Nader/Lazzen Enterprise code W: Air Circuit Breaker
2	2: Design code

3: Frame

16	1600
25	2500
40	4000
63	6300
75	7500

4:Breaking Capacity

S	Regular breaking capacity (AC 690v)
H	High breaking capacity (AC 690v)
HU	High voltage breaking capacity (AC 800v/1000v/1140v)
XU	Extra-high voltage breaking capacity (AC 1380v/1500v)

5:Rated current:

1600		2500		4000		6300		7500	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
02	200A	08	800A	16	1600A	40	4000A	40	4000A
04	400A	10	1000A	20	2500A	50	5000A	50	5000A
06	630A	12	1250A	25	2500A	63	6300A	63	6300A
08	800A	16	1600A	32	3200A			75	7500A
10	1000A	20	2500A	36	3600A				
12	1250A	25	2500A	40	4000A				

6:Installation type

empty	Fixed type
C	Drawout-type

7: Poles

3	3 poles
4	4 poles
5	3P+N(3P+N with external N-phase transformer)

8:Controller Display type and Rated voltage(select one only):

Nixie tube display		Screen display:	
Code	Description	Code	Description
KM1	AC380/400V	KY1	AC380/400V
KM2	AC220/230V	KY2	AC220/230V
KM3	DC220V	KY3	DC220V
KM4	DC110V	KY4	DC110V
KM5	AC24V/DC24V	KY5	AC24V/DC24V

9:Controller option function(empty if the no need optional function)

Protection type		Communication		Signal unit		Remote reset function		N-phase (CT addition)	
Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
empty	Conventional type	empty	RS485	S1	4DO	Z1	AC380/400V	E*	current leakage
V	Voltage type	H	Modbus	S2	3DO, 1DI	Z2	AC220/230V	T*	differential type
P	Harmonic type	MP	Profibus-DP	S3	2DO, 2DI	Z3	DC220V	W*	ground type
P1	Metering type	MD	Devicenet			Z4	DC110V	more information in note f	
P2	Power quality type					Z5	DC24V		

10:Motor Operating Mechanism:

Code	Description
D1	AC380/400V
D2	AC220V/230V
D3	DC220V
D4	DC110V
D5	DC24V

11:Shunt release:

Code	Description
F1	AC380/400V
F2	AC220V/230V
F3	DC220V
F4	DC110V
F5	DC24V
F6	AC220V/230V(hold type)

12:Closed electromagnet:

Code	Description
B1	AC380/400V
B2	AC220/230V
B3	DC220V
B4	DC110V
B5	DC24V

13:Under-voltage release / No-voltage release

Under-voltage release		No-voltage release:		Voltage recover closing release:	
Code	Description	Code	Description	Code	Description
Q1	AC380/400V	S1	AC380V/AC400V	J1	AC380V/AC400V
Q2	AC220/230V	S2	AC220V/AC230V	J2	AC220V/AC230V
Q3	DC220V				
Q4	DC110V				
Q5	DC24V				

14:Delay time for Under-voltage release or No-voltage release

Under-voltage release		No-voltage release:		
Code	Description	Code	Description	Remark
0	instantaneous	0-10	0-10s delay adjustable (step size 1s)	Frame 1600A or 6300A
1	1s delay	1	1s delay	Frame: 2000/3200/4000A
3	3s delay	3	3s delay	
5	5s delay	5	5s delay	

15:Auxiliary contacts

1600AF		2000-6300AF	
Code	Description	Code	Description
A4	4 open/closed contacts	A4	4 open/closed contacts
A6	6 open/closed contacts	A6	6 open/closed contacts
A44	4 open contacts +4 closed contacts	A44	4 open contacts +4 closed contacts
		A66	6 open contacts +6 closed contacts

16:Inside accessories

Code	Description
empty	no accessories
BX	contact for signalling closing
JS	operation counter
CM1	right side of the door interlock
CM2	left side of the door interlock

17:Outside accessories

Code	Description		
empty	no accessories		
M	door frame	BC	Button locks
F	Dust cover	IO	IO Moudle
R	NWDF1-RM relay	AM	voltage module
NDWF1	Power module	P2	voltage module
A	Safety locks	I	Ethernet
S	Button locks	L	Connection bolt
		Z	Manual

18:Wiring method

Code	Description	Code	Description
empty	horizontal wiring	J5	mixed wiring (upper vertical and lower horizontal)
J1	horizontal extended wiring	J6	mixed extended wiring (upper vertical and lower horizontal)
J2	L wiring	J7	mixed extended wiring (upper horizontal and lower vertical)
J3	vertical wiring	J8	mixed extended wiring (upper vertical and lower horizontal)
J4	vertical extended wiring	more information in note f	

19:Product application

Code	Description	Code	Description	Code	Description
empty	general type	GD	plateau, low temperature	TH	thermal humidity

20:Rated voltage

Code	Description	Code	Description	Code	Description	Code	Description
empty	AC690V	KV4	AC800V	KV5	AC1000V	KV6	AC1140V

Note a:
1. KM-NWK31 and KY-NWK32 controllers optional for shell frame 1600.
(KM voltage 1-AC380/400V 2-AC220/230V 3-DC220V 4-DC110V 5-DC24V)
(KY voltage 1-AC380/400V 2-AC220/230V 3-DC220V 4-DC110V 5-DC24V)
2. KM-NWK21 and KY-NWK22 controllers optional for shell frames 2500, 4000, 6300 and 7500
(KM voltage 1-AC380V/400V 2-AC220V/230V 3-DC220V 4-DC110V 5DC24V)
(KY voltage 1-AC380V/400V 2-AC220V/230V 3-DC220V 4-DC110V 5DC24V)

Note b:
Optional functions of controller:
Protection type: Non-marked - conventional type, V - voltage measurement and protection, P - harmonic measurement and protection
Communication function: H (Modbus protocol) MP (Profibus-DP protocol) MD (Devicenet protocol)
Signal unit: S1-4DO; S2-3DO, 1DI; S3-2DO, 2DI
Remote reset function: Z1 (AC380V/AC400V), Z2 (AC220V/AC230V), Z3 (DC220V), Z4 (DC110V), Z5 (DC24V)
3P+N grounding mode: T - differential type (omitted by default) W - ground current type
External N-pole transformer optional:
N1 - external N-phase transformer (62*21), applicable to NDW3-1600
N2 - external N-phase transformer (102*32.5), applicable to NDW3-1600/2500
N3 - external N-phase transformer (122*52), applicable to NDW3-2500/4000/6300/7500
N4 - external N-phase transformer (262*102), applicable to NDW3-2500/4000/6300/7500
NR1 - external flexible transformer (280 mm), applicable to 200A-800A
NR2 - external flexible transformer (370 mm), applicable to 1000A-2000A
NR3 - external flexible transformer (450 mm), applicable to 1000A-7500A
Protection form of current leakage: E-type (including external current leakage transformer)
Contact wear equivalent, operation times query (NWK21/31 optional): J
Notes:
1. This shall be omitted if the controller has no optional function. NWK21/NWK31 controllers have S1-4DO only;
2. NDW3-1600 Remote reset function does not have Z1;
3. Choose one of the three communication functions, “H”, “MP” and “MD”;
4. Voltage module P2 should be added for controllers with functions “V” and “P”, for main circuit with the rated voltage of AC500V and above.

Note c:
Auxiliary contact combination, shell frame 1600: A4 - four groups conversion, A6 - six groups conversion, A44 - four open and four closed
Shell frames 2500, 4000, 6300 and 7500: A4 - four groups conversion, A6 - six groups conversion, A44 - four normally open and four normally closed, A66 - six normally open and six normally closed

Note d:
BX - closing ready signal output unit
JS - counter
CM1; drawout type (with the right side of the door interlock); CM2; drawout type (with the left side of the door interlock)
CX - drawer seat three-position signal output

Note e:
M - doorframe
F - dust cover
R-NWDF1-RM relay module (ST201), contact capacity applicable to AC250V, DC24V
P-NWDF1 power supply module P1-DC24V, P3-AC380V/AC 400V, AC220V/AC230V, P5-DC220V, DC110V
A - safety lock
S - button lock
P2 - voltage conversion module
L - connection bolt
Z - Installation & Operating Instructions and Controller Manual

Note f:
Wiring method (non-marked - horizontal wiring, J1 - horizontal extended wiring, J3 - vertical wiring, J4 - vertical extended wiring, J5 - mixed wiring (upper horizontal and lower vertical), J6 - mixed wiring (upper vertical and lower horizontal), J7 - mixed extended wiring (upper horizontal and lower vertical), J8 - mixed extended wiring (upper vertical and lower horizontal)

Note g:
Product Use type Non-marked - conventional, TH - thermal humidity, FD - wind power, plateau

Note h:
Rated operating voltage: Non-marked - AC690V and below, KV4-AC800V, KV5-AC1000V, KV6-AC1140V, KV7-AC1380V, KV8-AC1500V

Note i:
Language type: Non-marked - Chinese; Y - English; ZY - Chinese and English (only NWK22/32 controllers have the function of switching between Chinese and English)

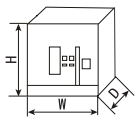
Remarks:

1. Power supply module, relay module, external leakage transformer, and external N-pole transformer should be used with controllers;
2. Separate with "/" according to the order shown in the table;
3. Accessory monitoring unit cannot be selected simultaneously with the communication function, signal unit and controllers with functions "V" and "P";
4. Energy storage signal communication module component cannot be selected simultaneously with those controllers with functions "V" and "P";
5. Choose one of the two functions: safety lock and off-position lock;
6. MDW3-6300/7500: rated current of 6,300A only has two wiring modes: vertical wiring and vertical extended wiring; rated voltage of 7,500A only has the mode of vertical extended wiring.

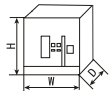
Interlocking Accessory Model Explanation and Encoding Rules

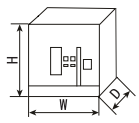
SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks; 2. Shell frame NDW3-1600 can be interlocked with others.
SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening), SR12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening), SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	1. Choose one of five mechanical interlocks; 2. SR21 and SR12 are only applicable to shell frame NDW3-2500 and above.
ATS-R/S/F power automatic switching device (R: auto switch and auto recover; S: auto switch and non-auto recover; F: Mains - generator)	Mechanical interlock under standard configuration, type to be defined by the user.

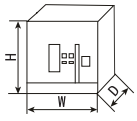
NDW3 Main Performance Parameters

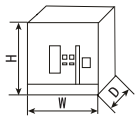
Air Circuit Breaker Model			NDW3-1600	
Rated current, In (+40°C) (A)			200, 400, 630, 800, 1000, 1250, 1600	
N-pole rated current			100%In	
Rated operating voltage, Ue (V)			AC220/230/240, AC380/400/415, AC440/480, AC660/690	
Rated frequency, f (Hz)			50/60	
Rated insulation voltage, Ui (V)			1000	
Rated impulse withstand voltage, Uimp (kV)			12	
Number of Poles pole			3, 4	
Full break time[Note 1] (ms)			≤25	
Closing time [Note 2] (ms)			≤60	
Rated limit short-circuit breaking capacity, Icu (effective value) (kA)		AC220V/230V/240V AC380V/400V/415V	66	
		AC440V/480V AC660V/690V	50	
Rated operating short-circuit breaking capacity, Ics (effective value) (kA)		AC220V/230V/240V AC380V/400V/415V	66	
		AC440V/480V AC660V/690V	50	
Rated short-circuit making capacity, Icm (peak value) (kA)		AC220V/230V/240V AC380V/400V/415V	145	
		AC440V/480V AC660V/690V	105	
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC220V/230V/240V AC380V/400V/415V	55	
		AC440V/480V AC660V/690V	42	
Operating performance	Electrical life (times) operating frequency (20 times/hour)	AC220V/230V/240V AC380V/400V/415V	10000 (200A～630A), 8000 (800A～1250A), 6500 (1600A)	
		AC440V/480V AC660V/690V	8000 (200A～630A), 5000 (800A～1250A), 3000 (1600A)	
	Mechanical life (times), operating frequency (60 times/hour)	Maintenance-free	10000	
		With maintenance	20000	
Installation mode			Fixed type, drawout type	
Wiring method of the main circuit			Horizontal wiring, vertical wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal)	
Overall dimensions: W×D×H(mm) 		Fixed type 3P	259×200.5×318	
		Fixed type 4P	329×200.5×318	
		Drawout type 3P	282×305×351.5	
		Drawout type 4P	352×305×351.5	
Weight (kg)		Fixed type 3P	22 (200A～630A)	23 (800A～1600A)
		Fixed type 4P	34 (200A～630A)	35 (800A～1600A)
		Drawout type 3P	43 (200A～630A)	44 (800A～1600A)
		Drawout type 4P	56 (200A～630A)	57 (800A～1600A)

Note: 1. Full break time: refers to the time interval from the moment the circuit breaker is opened to the end of the arcing time (the same below);
2. Closing time: refers to the time interval from the moment the circuit breaker is closed to the moment when the contacts of all poles come into contact (the same below).

Air Circuit Breaker Model			NDW3-2500			
Rated current, In (+40°C) (A)			630, 800, 1000, 1250, 1600, 2000, 2500			
N-pole rated current			100%In			
Rated operating voltage, Ue (V)			AC220/230/240, AC380/400/415, AC440/480, AC660/690, AC800, AC1000, AC1140, AC1380V, AC1500V			
Rated frequency, f (Hz)			50/60			
Rated insulation voltage, Ui (V)			1250, 1800(XU)			
Rated impulse withstand voltage, Uimp (kV)			12, 18(XU)			
Number of Poles pole			3, 4			
Full break time (ms)			≤30			
Closing time (ms)			≤70			
Breaking type			S	H	HU	XU
Rated limit short-circuit breaking capacity, Icu (effective value) (kA)		AC220V~415V	66	85		-
		AC440V/480V/660V/690V	55	66		-
		AC800V	-	-	60	
		AC1000V	-	-	55	
		AC1140V	-	-	50	50
		AC1380V/AC1500V				50
Rated operating short-circuit breaking capacity, Ics (effective value) (kA)		AC220V~415V	66	85		-
		AC440V/480V/660V/690V	55	66		-
		AC800V	-	-	60	
		AC1000V	-	-	55	
		AC1140V	-	-	50	50
		AC1380V/AC1500V				50
Rated short-circuit making capacity, Icm (peak value) (kA)		AC220V~415V	145.2	187		-
		AC440V/480V/660V/690V	121	145.2		-
		AC800V	-	-	132	
		AC1000V	-	-	121	
		AC1140V	-	-	110	110
		AC1380V/AC1500V				110
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC220V~415V	66	85		-
		AC440V/480V/660V/690V	55	66		-
		AC800V	-	-	60	
		AC1000V	-	-	55	
		AC1140V	-	-	50	50
		AC1380V/AC1500V				50
Operating performance	Electrical life (times) operating frequency (20 times/hour)	AC220V~ 415V	15000(630A~1250A), 11500(1600A~2000A), 11000(2500A)			
		AC440V/480V/660V/690V	12500(630A~1250A), 10000(1600A~2000A), 8000(2500A)			
		AC800V	5000(630A~2000A), 4500(2500A)			
		1000V/1140V	3000(630A~2000A), 2000(2500A)			
		AC1380V/AC1500V	500(2500A)			
	Mechanical life (times), operating frequency (60 times/hour)	Maintenance-free	15000 (10000 for XU products)			
		With maintenance	30000			
Installation mode			Fixed type, drawout type			
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal), mixed extended wiring (upper horizontal and lower vertical), mixed extended wiring (upper vertical and lower horizontal)			
Overall dimensions: W×D×H(mm) 		Fixed type 3P	368×309.5×394			
		Fixed type 4P	463×309.5×394			
		Drawout type 3P	375x400x432			
		Drawout type 4P	470x400x432			
Weight (kg)		Fixed type 3P	49.4 (630A～1250A)		50 (1600A～2500A)	
		Fixed type 4P	61.5 (630A～1250A)		62.3 (1600A～2500A)	
		Drawout type 3P	87.1 (630A～1250A)		87.4 (1600A～2500A)	
		Drawout type 4P	106.2 (630A～1250A)		106.7 (1600A～2500A)	

Air Circuit Breaker Model			NDW3-4000			
Rated current, In (+40°C) (A)			800, 1000, 1250, 1600, 2000, 2500, 3200, 3600, 4000			
N-pole rated current			100%In			
Rated operating voltage, Ue (V)			AC220/230/240, AC380/400, AC415, AC440/480, AC660/690, AC800, AC1000, AC1140, AC1380, AC1500			
Rated frequency, f (Hz)			50/60			
Rated insulation voltage, Ui (V)			1250, 1800 (XU type)			
Rated impulse withstand voltage, Uimp (kV)			12, 18 (XU type)			
Number of Poles pole			3, 4			
Full break time (ms)			≤30			
Closing time (ms)			≤70			
Breaking type			S	H	HU	XU
Rated limit short-circuit breaking capacity, Icu (effective value) (kA)		AC220V~ 400V	85	100	–	–
		AC415V, AC440V/480V, AC660V/690V	75	85	–	–
		AC800V	–	–	75	–
		AC1000V/1140V	–	–	60	–
		AC1140V/1380V/1500V	–	–	–	60
Rated operating short-circuit breaking capacity, Ics (effective value) (kA)		AC220V~ 400V	85	100	–	
		AC415V, AC440V/480V, AC660V/690V	75	85	–	–
		AC800V	–	–	75	–
		AC1000V/1140V	–	–	60	–
		AC1140V/1380V/1500V	–	–	–	60
Rated short-circuit making capacity, Icm (peak value) (kA)		AC220V~ 400V	187	220	–	–
		AC415V, AC440V/480V, AC660V/690V	165	187	–	–
		AC800V	–	–	165	–
		AC1000V/1140V	–	–	132	–
		AC1140V/1380V/1500V	–	–	–	132
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC220V~ 400V	85	100	–	
		AC415V, AC440V/480V, AC660V/690V	75	85	–	–
		AC800V	–	–	75	–
		AC1000V/1140V	–	–	60	–
		AC1140V/1380V/1500V	–	–	–	60
Operating performance	Electrical life (times) operating frequency (20 times/hour)	AC220V~400V	10000 (800A~1600A), 8000 (2000A, 2500A), 6000 (3200A, 4000A)			
		AC415V, AC440V/480V, AC660V/690V	10000 (800A~1600A), 6000 (2000A, 2500A), 3000 (3200A, 4000A)			
		AC800V	2000 (800A~1600A), 1000 (2000A, 4000A)			
		AC1000V/1140V(HU)	2000 (800A~1600A), 1000 (2000A, 2500A), 600 (3200A, 4000A)			
	Electrical life (times) operating frequency (10 times/hour)	AC1140V/AC/1380V/1500V(XU)	2000(800A~4000A)			
	Mechanical life (times), operating frequency (60 times/hour)	Maintenance-free	10000, 12000 (XU)			
		With maintenance	15000			
Installation mode		Fixed type, drawout type				
Wiring method of the main circuit		Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring				
Overall dimensions: W×D×H(mm) 		Fixed type 3P	428×300×393.5			
		Fixed type 4P	543×300×393.5			
		Drawout type 3P	435×403×432 (800A～2500A)		435×397.5×432 (3200A～4000A)	
		Drawout type 4P	550×403×432 (800A～2500A)		550×397.5×432 (3200A～4000A)	
Weight (kg)		Fixed type 3P	59 (800A~2500A)		60 (3200, 4000A)	
		Fixed type 4P	70 (800A~2500A)		71.5 (3200, 4000A)	
		Drawout type 3P	97 (800A~2500A)		103 (3200, 4000A)	
		Drawout type 4P	114 (800A~2500A)		120 (3200, 4000A)	

Air Circuit Breaker Model			NDW3-6300			
Rated current, In (+40°C) (A)			4000, 5000, 6300			
N-pole rated current			100%In			
Rated operating voltage, Ue (V)			AC220/230/240, AC380/400/AC415, AC440/480, AC660/690, AC800, AC1000, AC1140, AC1380, AC1500			
Rated frequency, f (Hz)			50/60			
Rated insulation voltage, Ui (V)			1250, 1800 (XU type)			
Rated impulse withstand voltage, Uimp (kV)			12, 18 (XU type)			
Number of Poles pole			3, 4			
Full break time (ms)			≤30			
Closing time (ms)			≤70			
Breaking type			S	H	HU	XU
Rated limit short-circuit breaking capacity, Icu (effective value) (kA)		AC220V~415V	120	135	–	–
		AC440V/480V/660V/690V	85	100	–	–
		AC800V	–	–	85	–
		AC1000V/1140V	–	–	66	–
		AC1140V/1380V/1500V	–	–	–	80
Rated operating short-circuit breaking capacity, Ics (effective value) (kA)		AC220V~415V	120	135	–	–
		AC440V/480V/660V/690V	85	100	–	–
		AC800V	–	–	85	–
		AC1000V/1140V	–	–	66	–
		AC1140V/1380V/1500V	–	–	–	80
Rated short-circuit making capacity, Icm (peak value) (kA)		AC220V~415V	264	297	–	–
		AC440V/480V/660V/690V	187	220	–	–
		AC800V	–	–	187	–
		AC1000V/1140V	–	–	145.2	–
		AC1140V/1380V/1500V	–	–	–	176
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC220V~415V	120	135	–	–
		AC440V/480V/660V/690V	85	100	–	–
		AC800V	–	–	85	–
		AC1000V/1140V	–	–	66	–
		AC1140V/1380V/1500V	–	–	–	80
Operating performance	Electrical life (times) Operating frequency (10 times/hour)	AC220V~415V	6000 (4000A), 4000 (5000A), 2000 (6300A)			
		AC440V/480V/660V/690V	3500 (4000A), 2500 (5000A), 1500 (6300A)			
		AC800V	3000 (4000A), 1500 (5000A), 1000 (6300A)			
		1000V/1140V/1380V/1500V	2000 (4000A), 1000 (5000A), 500 (6300A)			
	Mechanical life (times) Operating frequency (20 times/hour)	Maintenance-free	6500 (4P), 7000 (3P)			8000
		With maintenance	13000			
Installation mode			Fixed type, drawout type			
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal), mixed extended wiring (upper horizontal and lower vertical), mixed extended wiring (upper vertical and lower horizontal)			
Overall dimensions: W×D×H(mm) 		Fixed type 3P	803×302.5×392			
		Fixed type 4P	1033×302.5×392			
		Drawout type 3P	809×401.5×475			
		Drawout type 4P	1039×401.5×475			
Weight (kg)		Fixed type 3P	125 (4000A, 5000A)	127 (6300A)		
		Fixed type 4P	167 (4000A, 5000A)	170 (6300A)		
		Drawout type 3P	193 (4000A, 5000A)	195 (6300A)		
		Drawout type 4P	257 (4000A, 5000A)	260 (6300A)		

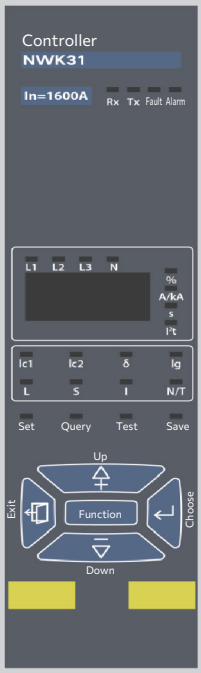
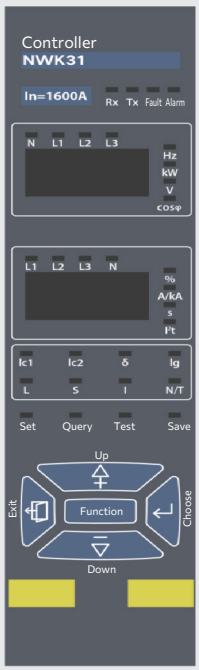
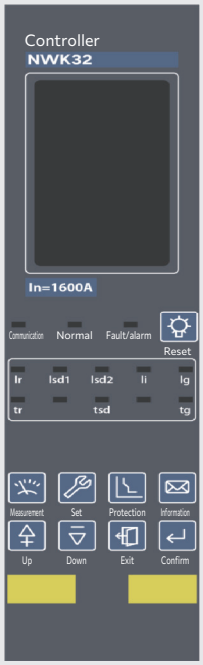
Air Circuit Breaker Model			NDW3-7500		
Rated current, In (+40°C) (A)			4000, 5000, 6300, 7500		
N-pole rated current			100%In		
Rated operating voltage, Ue (V)			AC220/230/240, AC380/400/415, AC440/480, AC660/690		
Rated frequency, f (Hz)			50/60		
Rated insulation voltage, Ui (V)			1000		
Rated impulse withstand voltage, Uimp (kV)			12		
Number of Poles pole			3, 4		
Full break time (ms)			≤30		
Closing time (ms)			≤70		
Breaking type			S	H	
Rated limit short-circuit breaking capacity, Icu (effective value) (kA)		AC220V~415V	150	160	
		AC440V/480V/660V/690V	100	120	
Rated operating short-circuit breaking capacity, Ics (effective value) (kA)		AC220V~415V	150	160	
		AC440V/480V/660V/690V	100	120	
Rated short-circuit making capacity, Icm (peak value) (kA)		AC220V~415V	330	352	
		AC440V/480V/660V/690V	220	264	
Rated short-time withstand current, Icw (effective value) 1s (kA)		AC220V~415V	150	150	
		AC440V/480V/660V/690V	100	120	
Operating performance	Electrical life (times) operating frequency (20 times/hour)	AC220V~415V	5000(4000A, 5000A), 3000 (6300A), 2000 (7500A)		
		AC440V/480V/660V/690V	3000(4000A, 5000A), 2000 (6300A), 1500 (7500A)		
	Mechanical life (times), operating frequency (60 times/hour)	Maintenance-free	6000		
		With maintenance	12000		
Installation mode			Fixed type, drawout type		
Wiring method of the main circuit			Horizontal wiring, vertical wiring, horizontal extended wiring, vertical extended wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal), mixed extended wiring (upper horizontal and lower vertical), mixed extended wiring (upper vertical and lower horizontal) Note: 7,500A only has the mode of vertical extended wiring and 6,300A only has two wiring modes: vertical wiring and vertical extended wiring.		
Overall dimensions: W×D×H(mm) 		Fixed type 3P	803×302.5×392		
		Fixed type 4P	1033×302.5×392		
		Drawout type 3P	809×401.5×475		
		Drawout type 4P	1039×401.5×475		
Weight (kg)		Fixed type 3P	125 (4000A, 5000A)	127 (6300A)	132 (7500A)
		Fixed type 4P	167 (4000A, 5000A)	170 (6300A)	175 (7500A)
		Drawout type 3P	193 (4000A, 5000A)	195 (6300A)	200(7500A)
		Drawout type 4P	257 (4000A, 5000A)	260 (6300A)	265(7500A)

NDW3 Intelligent Air Circuit Breaker Controller Functions

Smarink X Controller

Smarink X controller is a new control unit for circuit breaker developed by our Company and is one of the main components of the circuit breaker, which can provide the function of protecting the overload, short circuit, ground protection, current unbalance, over-voltage, under-voltage, voltage unbalance, over-frequency, under-frequency, reverse power and other failures, and realize reasonable operation of the power grid through the load monitoring, required value protection, regional interlocking and other functions. Controller has the function of measuring the current, voltage, power, frequency, electric energy, required value, harmonic and other power grid parameters; and the function of recording the fault, alarm, operation, maximum historical current, contact wear and other operating maintenance parameters. When the power network is carrying on communication network, the controller can realize the remote metering, remote signalling, remote control and remote regulation at the remote terminal of the electric power automation network.

Smarink X Controller

Model	NWK21/NWK31	NWK21 (V) /NWK31 (V) NWK21 (V1) /NWK31 (V1) NWK21 (P) /NWK31 (P)	NWK22/NWK32 NWK22 (V) /NWK32 (V) NWK22 (V1) /NWK32 (V1)	NWK22 (P) /NWK32 (P) NWK22 (P1) /NWK32 (P1) NWK22 (P2) /NWK32 (P2)
Controller Diagram				
	NWK31 and NWK32 used for NDW3-1600, NWK21 and NWK22 used for NDW3-2500, NDW2-4000, NDW3-6300 and NDW3-7500			

Smarink X Controller Functions

Functional items		NWK21, NWK31	NWK21/V, NWK31/V	NWK21/V1, NWK31/V1	NWK21/P, NWK31/P
Display Interface					
Digital tube numbers and symbols display		√	√	√	√
ICD panel Chinese-English, symbols and graphics display		—	—	—	—
Protection Functions					
Protection Functions	Overload long-time delay protection	√	√	√	√
	Overload thermal memory	√	√	√	√
	Overload pre-alarm/alarm output	√/□	√/□	√/□	√/□
	Short circuit short-time delay protection	√	√	√	√
	Short-time delay thermal memory	√	√	√	√
	Short circuit instantaneous protection	√	√	√	√
	Ground protection	√	√	√	√
	Grounding alarm/alarm output	√/□	√/□	√/□	√/□
	Current leakage protection/alarm/alarm output	—	—	—	—
	Neutral line protection	√	√	√	√
	Current leakage protection/alarm/alarm output	√/—/—	√/—/—	√/—/—	√/—/—
	MCR	√	√	√	√
	HSISC	√	√	√	√
	Load monitoring/alarm/alarm output	▲/▲/□	▲/▲/□	▲/▲/□	▲/▲/□
	Current required value protection/alarm/output	-/-/-	-/-/-	-/-/-	√/-/-
Voltage protection	Under-voltage protection/alarm/alarm output	-/-/-	-/-/-	√/-/-	√/-/-
	Dual under-voltage protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Over-voltage protection/alarm/alarm output	-/-/-	-/-/-	√/-/-	√/-/-
	Dual over-voltage protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Voltage unbalance protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Phase sequence protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
Frequency protection	Under-frequency protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Dual under-frequency protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Over-frequency protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Dual over-frequency protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Protection for rate of change of frequency	—	—	—	—
Power protection	Reverse power protection/alarm/alarm output	-/-/-	-/-/-	-/-/-	-/-/-
	Power factor alarm/alarm output	-/-	-/-	-/-	-/-
	Over power protection/alarm/alarm output (active)	-/-/-	-/-/-	-/-/-	-/-/-
	Under power protection/alarm/alarm output (active)	-/-/-	-/-/-	-/-/-	-/-/-
	Reverse power protection/alarm/alarm output (reactive)	-/-/-	-/-/-	-/-/-	-/-/-
	Over power protection/alarm/alarm output (reactive)	-/-/-	-/-/-	-/-/-	-/-/-
	Dual reverse power protection/alarm/alarm output (reactive)	-/-/-	-/-/-	-/-/-	-/-/-
	Directional protection	—	—	—	—
Temperature protection	Contact temperature measurement and alarm/trip/alarm output	-/-/-	-/-/-	√/√/-	√/√/-
	Controller temperature alarm/trip/alarm output	-/-/-	-/-/-	√/√/-	√/√/-
Zone selective interlock (ZSI)		—	—	—	—
Measurement Function					
Current	Current measurement (phase pole, N-pole, grounding)	√	√	√	√
	Required value measurement (current)	—	√	√	√
	Current heat capacity	√	√	√	√
Voltage	Voltage (phase voltage, circuit voltage, voltage unbalance rate, average voltage)	—	√	√	√
	Phase sequence detection	—	√	√	√
	Frequency measurement	—	√	√	√
Power	Required value measurement (power)	—	√	√	√
	Power measurement (active power, reactive power, apparent power)	—	√	√	√
	Power factor measurement	—	√	√	√
	Peak factor	—	—	—	—

Functional items		NWK21, NWK31	NWK21/V, NWK31/V	NWK21/V1, NWK31/V1	NWK21/P, NWK31/P
Electric energy	Active, reactive and apparent electric energy	–	–	–	√
	Forward active electric energy	–	–	–	–
	Reverse active electric energy	–	–	–	–
	Four-quadrant reactive	–	–	–	–
	Forward apparent electric energy	–	–	–	–
	Reverse apparent electric energy	–	–	–	–
	Electric energy pulse	–	–	–	–
	Electric energy curve	–	–	–	–
Harmonic	Harmonics measurement	–	–	–	–
Intelligent electric power quality analysis	Waveform capture (communication reading)	–	–	–	–
	Hourly average voltage	–	–	–	–
	Short interruption of voltage	–	–	–	–
	Voltage swell and dip	–	–	–	–
	Short-time impulse voltage	–	–	–	–
	Slow voltage swell and dip	–	–	–	–
	Daily extreme value measurement (maximum and minimum voltage/current/frequency/ power/required current/required power/ contact temperature)	–	–	–	–
Temperature	On-board temperature measurement	–	–	√	√
	Temperature curve	–	–	–	–
	Contact temperature measurement	–	–	√	√
Data management and diagnosis					
Data management	Fault record (30 times) and query	√	√	√	√
	Position change record (closing, opening, reset)	▲ (communication)	▲ (communication)	√	√
	Alarm history query	–	–	–	–
	Query of number of operations	√	√	√	√
	Historical maximum and minimum current	–	–	–	–
	Historical maximum and minimum voltage	–	–	–	–
	Maximum and minimum frequency	–	–	–	–
	Maximum and minimum power	–	–	–	–
	Required peak power	–	–	–	–
	Maximum required current	–	–	–	–
	Electric power quality analysis record	–	–	–	–
	Operation record	▲ (communication)	▲ (communication)	√	√
	Communication reading frame complete machine number	–	–	–	√
	Record of protection value changes	▲ (communication)	▲ (communication)	√	√
Diagnosis	Fault record	–	–	–	√
	Clock function	▲ (communication)	▲ (communication)	√	√
	LED fault status indication	√	√	√	√
	Battery level alarm	▲	▲	√	√
	Controller fault tripping signal output	√	√	√	√
	Self-diagnosis	√	√	√	√
	Contact wear equivalent (alarm) query	▲ (communication)	√	√	√
Health degree	Health degree/service life prediction	–	–	–	√
	Remaining life prediction	–	–	–	√
Intelligent Communication					
	Modbus protocol address assignable	▲ (communication)	▲ (communication)	√	√
	One-click backup and recovery of protection parameters	√	√	√	√
Intelligent Control					
Intelligent control	Remote reset of controller	▲ (communication) □	▲ (communication) □	▲ (communication) □	▲ (communication) □

Functional items		NWK21, NWK31	NWK21/V, NWK31/V	NWK21/V1, NWK31/V1	NWK21/P, NWK31/P
Intelligent Measurement					
High-accuracy measurement	Current: ± 0.5%	–	–	–	√
	Voltage: ± 0.5%	–	–	–	√
	Power: 1s	–	–	–	√
	Power factor: 2%	–	–	–	√
	Electric energy: 1s	–	–	–	√
Intelligent Interconnection					
Communication mode	RS485 communication	▲(communication)	▲(communication)	√	√
	Bluetooth (standard configuration by default)	–	–	–	√
	NFC	–	–	–	▲
	WiFi	–	–	–	▲
	NB-IoT	–	–	▲	▲
	Ethernet	–	–	▲	▲
Communication protocol	Modbus RTU	▲(communication)	▲(communication)	√	√
	Modbus TCP	–	▲	▲	▲
	Profbus-DP	–	▲	▲	▲
	Devicenet	–	▲	▲	▲
	CAN	–	▲	▲	▲
	DL/T 645	–	▲	▲	▲

Note:
1. Functions marked with "√" means available; "▲" optional for users; "—" not available, □: available with optional signal unit;
2. Voltage module P2 should be added for controllers with functions "V" and "P", for main circuit with the rated voltage of AC500V and above.
3. Functions "V" and "P" are additional options for the common controllers.

Functional items		NWK22, NWK32	NWK22/V, NWK32/V	NWK22/V1, NWK32/V1	NWK22/P, NWK32/P	NWK22/P1, NWK32/P1	NWK22/P2, NWK32/P2
Display Interface							
Digital tube numbers and symbols display		–	–	–	–	–	–
ICD panel Chinese-English, symbols and graphics display		√	√	√	√	√	√
Protection Functions							
Current protection	Overload long-time delay protection	√	√	√	√	√	√
	Overload thermal memory	√	√	√	√	√	√
	Overload pre-alarm/alarm output	√/□	√/□	√/□	√/□	√/□	√/□
	Short circuit short-time delay protection	√	√	√	√	√	√
	Short-time delay thermal memory	√	√	√	√	√	√
	Short circuit instantaneous protection	√	√	√	√	√	√
	Ground protection (differential type)	√	√	√	√	√	√
	Grounding alarm/alarm output (choose one of the two: grounding and leakage)	√/□	√/□	√/□	√/□	√/□	√/□
	Current leakage protection/alarm/alarm output (choose one of the two: grounding and leakage)	√/□	√/□	√/□	√/□	√/□	√/□
	Neutral line protection	√	√	√	√	√	√
	Current leakage protection/alarm/alarm output	√/□	√/□	√/□	√/□	√/□	√/□
	MCR	√	√	√	√	√	√
	HSISC	√	√	√	√	√	√
	Load monitoring/alarm/alarm output	▲/▲/□	▲/▲/□	▲/▲/□	▲/▲/□	▲/▲/□	▲/▲/□
	Current required value protection/alarm/output	–	√/□	√/□	√/□	√/□	√/□
Voltage protection	Under-voltage protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
	Dual under-voltage protection/alarm/alarm output	–	–	–	▲/▲/□	▲/▲/□	√/√/□
	Over-voltage protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
	Dual over-voltage protection/alarm/alarm output	–	–	–	▲/▲/□	▲/▲/□	√/√/□
	Voltage unbalance protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
	Phase sequence protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□

Functional items		NWK22, NWK32	NWK22/V, NWK32/V	NWK22/V1, NWK32/V1	NWK22/P, NWK32/P	NWK22/P1, NWK32/P1	NWK22/P2, NWK32/P2
Frequency protection	Under-frequency protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
	Dual under-frequency protection/alarm/alarm output	–	–	–	▲/▲/□	▲/▲/□	√/√/□
	Over-frequency protection/alarm/alarm output	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
	Dual over-frequency protection/alarm/alarm output	–	–	–	▲/▲/□	▲/▲/□	√/√/□
	Protection for rate of change of frequency	–	√/√/□	√/√/□	√/√/□	√/√/□	√/√/□
Power protection	Reverse power protection/alarm/alarm output	–	–	–	√/√/□	√/√/□	√/√/□
	Power factor alarm/alarm output	–	–	–	√/√/□	√/√/□	√/√/□
	Over power protection/alarm/alarm output (active)	–	–	–	√/√/□	√/√/□	√/√/□
	Under power protection/alarm/alarm output (active)	–	–	–	√/√/□	√/√/□	√/√/□
	Reverse power protection/alarm/alarm output (reactive)	–	–	–	√/√/□	√/√/□	√/√/□
	Over power protection/alarm/alarm output (reactive)	–	–	–	√/√/□	√/√/□	√/√/□
	Dual reverse power protection/alarm/alarm output (active)	–	–	–	▲/▲/□	▲/▲/□	√/√/□
	Directional protection	–	–	–	√/√/□	√/√/□	√/√/□
Temperature protection	Contact temperature measurement and alarm/trip/alarm output	–	–	▲/▲/□	▲/▲/□	√/√/□	√/√/□
	Controller temperature alarm/trip/alarm output	–	–	▲/▲/□	▲/▲/□	√/√/□	√/√/□
Zone selective interlock (ZSI)		▲/□	▲/□	▲/□	▲/□	▲/□	▲/□
Measurement Function							
Current	Current measurement (phase pole, N-pole, grounding)	√	√	√	√	√	√
	Required value measurement (current)	–	√	√	√	√	√
	Current heat capacity	√	√	√	√	√	√
Voltage	Voltage (phase voltage, circuit voltage, voltage unbalance rate)	–	√	√	√	√	√
	Phase sequence detection	–	√	√	√	√	√
	Frequency measurement	–	√	√	√	√	√
Power	Required value measurement (power)	–	–	–	√	√	√
	Power measurement (active power, reactive power, apparent power)	–	–	–	√	√	√
	Power factor measurement	–	–	–	√	√	√
	Peak factor (with communication)	–	√	√	√	√	√
Electric energy	Active, reactive and apparent electric energy	–	–	–	√	√	√
	Forward active electric energy	–	–	–	√	√	√
	Reverse active electric energy	–	–	–	√	√	√
	Four-quadrant reactive	–	–	–	√	√	√
	Forward apparent electric energy	–	–	–	√	√	√
	Reverse apparent electric energy	–	–	–	√	√	√
	Electric energy pulse	–	–	–	√	√	√
	Electric energy curve	–	–	–	√	√	√
Harmonic	Harmonics measurement	–	–	–	√	√	√
Intelligent electric power quality analysis (with communication)	Waveform capture (communication reading)	–	–	–	▲	▲	√
	Hourly average voltage	–	–	–	▲	▲	√
	Short interruption of voltage	–	–	–	▲	▲	√
	Voltage swell and dip	–	–	–	▲	▲	√
	Short-time impulse voltage	–	–	–	▲	▲	√
	Slow voltage swell and dip	–	–	–	▲	▲	√
	Daily extreme value measurement (maximum and minimum voltage/current/frequency/power/required current/required power/contact temperature)	–	–	–	▲	▲	√

Functional items		NWK22, NWK32	NWK22/V, NWK32/V	NWK22/V1, NWK32/V1	NWK22/P, NWK32/P	NWK22/P1, NWK32/P1	NWK22/P2, NWK32/P2
Temperature	On-board temperature measurement	–	–	▲	▲	–	–
	Temperature curve	–	–	▲	▲	√	√
	Contact temperature measurement	–	–	▲	▲	√	√
Data management and diagnosis							
Data management	Fault record (30 times) and query	√	√	√	√	√	√
	Position change record (closing, opening, reset)	√	√	√	√	√	√
Data management	Alarm history query	√	√	√	√	√	√
	Query of number of operations	√	√	√	√	√	√
	Historical maximum and minimum current	–	–	–	–	√	√
	Historical maximum and minimum voltage	–	–	–	–	√	√
	Maximum and minimum frequency	–	–	–	–	√	√
	Maximum and minimum power	–	–	–	–	√	√
	Required peak power	–	–	–	–	√	√
	Maximum required current	–	–	–	–	√	√
	Electric power quality analysis record	–	–	–	–	√	√
	Operation record	▲(communication)	▲(communication)	√	√	√	√
	Communication reading frame complete machine number	–	–	–	–	√	√
	Record of protection value changes	–	–	–	–	√	√
	Hourly average voltage	–	▲(communication)	√	√	√	√
Diagnosis	Fault record	–	–	√	√	√	√
	Clock function	√	√	√	√	√	√
	LED fault status indication	√	√	√	√	√	√
	Battery level alarm	√	√	√	√	√	√
	Controller fault tripping signal output	□	□	□	□	□	□
	Self-diagnosis	√	√	√	√	√	√
	Contact wear equivalent (alarm) query	√	√	√	√	√	√
Health degree	Health degree/service life prediction	–	–	–	–	√	√
	Remaining life prediction	–	–	–	–	√	√
Intelligent Control							
Intelligent control	Remote reset of controller	▲(communication)□	▲(communication)□	▲(communication)□	▲(communication)□	▲(communication)□	▲(communication)□
Intelligent Communication							
	Modbus protocol address assignable	√	√	√	√	√	√
	One-click backup and recovery of protection parameters	√	√	√	√	√	√
Intelligent Measurement							
High-precision measurement	Current: ± 0.5%	–	–	–	–	√	√
	Voltage: ± 0.5%	–	–	–	–	√	√
	Power: 1s	–	–	–	–	√	√
	Power factor: 2%	–	–	–	–	√	√
	Electric energy: 1s	–	–	–	–	√	√
Intelligent Interconnection							
Communication mode	RS485 communication	▲(communication)	▲(communication)	√	√	√	√
	Bluetooth (standard configuration by default)	–	–	–	–	–	√
	NFC	–	–	–	–	–	▲
	WiFi	–	–	–	–	–	▲
	NB-IoT	–	▲	▲	▲	▲	▲
	Ethernet	–	▲	▲	▲	▲	▲
Communication protocol	Modbus RTU	▲(communication)	▲(communication)	√	√	√	√
	Modbus TCP	–	▲	▲	▲	▲	▲
	Profbus-DP	–	▲	▲	▲	▲	▲
	Devicenet	–	▲	▲	▲	▲	▲
	CAN	–	▲	▲	▲	▲	▲
	DL/T 645	–	▲	▲	▲	▲	▲

NDW3 Intelligent Air Circuit Breaker - Accessories Selection

Accessory Type	Accessory Name	Configuration	Installation Structure Type	Remarks
Electrical control accessories	Closed electromagnet	Standard configuration	Fixed type/Drawout type	
	Shunt release	Standard configuration	Fixed type/Drawout type	One of two
	Retention shunt release	To be customized	Fixed type/Drawout type	Retention type applicable to shell frame 2500/4000
	Motor operating mechanism	Standard configuration	Fixed type/Drawout type	
	Under-voltage release	To be ordered by the customers for their options	Fixed type/Drawout type	One of two
	No-voltage release	To be ordered by the customers for their options	Fixed type/Drawout type	
	Remote reset electromagnet	To be ordered by the customers for their options	Fixed type/Drawout type	
Signal output accessories	Auxiliary switch	Standard configuration	Fixed type/Drawout type	
	Closing ready signal output device	To be ordered by the customers for their options	Fixed type/Drawout type	
	Three-position status signal output device for drawer seat	To be ordered by the customers for their options	Drawout type	
	Secondary terminal	Standard configuration	Fixed type/Drawout type	
Controller-related accessories	External N-pole transformer (rectangular, flexible type)	To be ordered by the customers for their options	Fixed type/Drawout type	
	External current leakage transformer	To be ordered by the customers for their options	Fixed type/Drawout type	Only applicable to shell frame 2500 and below
	Power supply module NWDF1	To be ordered by the customers for their options	Fixed type/Drawout type	
	Relay module NWDF1-RM	To be ordered by the customers for their options	Fixed type/Drawout type	Used with power supply module
	Communication adapter NWDF1-MD/MP	To be ordered by the customers for their options	Fixed type/Drawout type	
	Remote intelligent I/O module NWDF1-C8/S12/ SC64/SCM423	To be ordered by the customers for their options	Fixed type/Drawout type	
	6-channel programmable output module NWDF1-C6	To be ordered by the customers for their options	Fixed type/Drawout type	
	Accessory monitoring unit NWDF1-AM	To be ordered by the customers for their options	Fixed type/Drawout type	
	Energy storage signal communication module NWDF1-S1	To be ordered by the customers for their options	Fixed type/Drawout type	
	Voltage conversion module NWDF1-P2	To be ordered by the customers for their options	Fixed type/Drawout type	
Safety accessories	Phase partition	Standard configuration	Fixed type/Drawout type	
	Counter	To be ordered by the customers for their options	Drawout type	
	Doorframe	To be ordered by the customers for their options	Fixed type/Drawout type	
	Dust cover	To be ordered by the customers for their options	Drawout type	
	IP54 transparent cover	To be ordered by the customers for their options (separate orders)	Fixed type/Drawout type	This accessory comes with a special door frame, which cannot be selected at the same time as the regular door frame, as they have different sizes of door openings.
	Connection bolt	To be ordered by the customers for their options	Fixed type/Drawout type	
	Installation & Operating Instructions	To be ordered by the customers for their options	Fixed type/Drawout type	
Locking and interlocking devices	Off-position key lock	To be ordered by the customers for their options	Fixed type/Drawout type	
	Safety lock	To be ordered by the customers for their options	Fixed type/Drawout type	Only applicable for shell frame 2500 and above
	Button lock	To be ordered by the customers for their options	Fixed type/Drawout type	
	Door interlock	To be ordered by the customers for their options	Drawout type	
Power conversion system	Mechanical interlock	To be ordered by the customers for their options	Fixed type/Drawout type	
	Power automatic switching device (ATS)	To be ordered by the customers for their options	Fixed type/Drawout type	For dual power supply

NDW3A-2500 UL Air Circuit Breaker - Quick Selection

ND W 3A - 2500 / 1000 / 3

- Number of poles: 3P
- Rated current: 10-1000A, 12-1250A, 16-1600A, 20-2000A
- Frame current: 25-2500
- Design code: 3A
- Product code: Air Circuit Breaker
- Enterprise code: Nader



NDW3A-2500 Main Performance Parameters

Air Circuit Breaker Model			NDW3A-2500
Rated current, In (+40°C) (A)			1000, 1250, 1600, 2000
Rated operating voltage, Ue (V)			AC254, AC508, AC635, AC730
Rated frequency, f (Hz)			50/60
Rated insulation voltage, Ui (V)			1250
Rated impulse withstand voltage, Uimp (kV)			12
Number of Poles			3
Full break time Note 1 (ms)			≤50
Closing time Note 2 (ms)			≤85
Rated short-circuit breaking current (kA) (Power factor cosφ ≤ 0.15) (UL1066)		AC254V	75
		AC508V	75
		AC635V	75
		AC730V	65
Rated short-time current (kA) (Power factor cosφ ≤ 0.15) (UL1066)		AC254V	75
		AC508V	75
		AC635V	75
		AC730V	65
Operating performance	Electrical life (times) operating frequency (30 times/hour)	AC635V	8000(2000A)
		AC730V	6000(2000A)
	Mechanical life (times), operating frequency (60 times/hour)	Maintenance-free	10000
Installation mode		Fixed type	
Wiring method of the main circuit		Horizontal wiring, vertical wiring, mixed wiring (upper horizontal and lower vertical), mixed wiring (upper vertical and lower horizontal)	
Conform to standards		UL1066	
Overall dimensions: W×D×H (mm)		Fixed type 3P	368×309.5×394
Weight(kg)		Fixed type 3P	50

Note: 1. Full break time: refers to the time interval from the moment the mechanical switching device is opened to the end of the arcing time;
2. Closing time: refers to the time interval from the moment the switching device is closed to the moment when the contacts of all poles come into contact.

NDW3Z DC Air Circuit Breaker - Quick Selection



ND W 3Z – 25 / S/16/C/7/3/KX2 / H D1 F1 B1 Q1 1 A55 Internal accessories External accessories / /

- Product Use type See note g
- Wiring method: See note f
- See note e
- See note d
- Contact combination: See note c
- Time delay for under-voltage/no-voltage release:
  Conventional under-voltage:
  0 - instantaneous, 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
  Loss of voltage: 1 - 1s delay, 3 - 3s delay, 5 - 5s delay
- Under-voltage/no-voltage release:
  Q1/S1: AC380/400V Q2/S2: AC220/230V
  Q3: DC220V Q4: DC110V Q5: DC24V
- Closed electromagnet::
  B1: AC380/400V B2: AC220/230V
  B3: DC220V B4: DC110V B5: DC24V
- Shunt release:
  F1: AC380/400V F2: AC220/230V
  F3: DC220V F4: DC110V F5: DC24V
- Electric energy storage mechanism::
  D1: AC380/400V D2: AC220/230V
  D3: DC220V D4: DC110V D5: DC24V
- Optional functions of controller (see note b)
- Controller type: KX & KY (see note a)
- Number of poles in series: 2 - 2P in series, 3 - 3P in series, 4 - 4P in series
- Rated voltage: 5-500VDC, 7-750VDC, 10-1000VDC, 15-1500VDC
- Installation structure: Non-marked - fixed type C - drawout type
- Rated current: 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 32-3200A, 36-3600A, 40-4000A
- Breaking type: S - conventional breaking, H - high breaking
- Shell frame level: 25-2500, 40-4000
- Design code: 3Z
- Product code: Air Circuit Breaker
- Enterprise code: Nader

Note a:
KX-NWK20Z and KY-NWK22Z controllers optional
(KX-NWK20Z voltage 1-AC380V/400V, 2-AC220V/230V, 3-DC220V 4-DC110V, 5-DC24V)
(KY-NWK22Z voltage 1-AC380V/400V, 2-AC220V/230V, 3-DC220V 4-DC110V, 5-DC24V)

Note b:
Optional functions of controller:
Protection type: Non-marked - conventional type, V - voltage measurement and protection, P - power measurement and protection (protection types "V" and "V" are additional options for NWK22Z, applicable to the main circuit with the rated voltage of DC500V and below)
Communication function: H (Modbus protocol) MP (Profibus-DP protocol) MD (Devicenet protocol) (choose one of the three)
Signal unit (additional option for NDWK22Z): S1-4DO; S2-3DO, 1DI; S3-2DO, 2DI
Remote reset function: Z1 (AC380V/AC400V), Z2 (AC220V/AC230V), Z3 (DC220V), Z4 (DC110V), Z5 (DC24V)
Contact wear equivalent, operation times query (additional option for NWK22Z): J

Note c:
Non-marked - four open and four closed, A55 - five open and five closed, A66 - six open and six closed (applicable for NDW3Z-2500)
Non-marked - four groups conversion, A6 - six groups conversion, A44 - four open and four closed (applicable for NDW3Z-4000)

Note d:
BX - closing ready signal output unit
JS - counter functional unit
CM1; drawout type (with the right side of the door interlock); CM2; drawout type (with the left side of the door interlock)
CX - drawer seat three-position signal output
Off-position key lock: SF11, SF21, SF31, SF32, SF53

Note e:
Mechanical interlock: SR11, SR12, SR21, SY11, SY12
M - doorframe
F - dust cover
R-NWDF1-RM relay module (ST201), contact capacity applicable to AC250V, DC24V
P-NWDF1 (ST-IV) power supply module P1-DC24V, P3-AC380V/AC 400V, AC220V/AC230V, P5-DC220V, DC110V
S - button lock

Note f:
Wiring mode (JCS - vertical top entry, JSS - horizontal top entry, JCX - vertical bottom entry, JSX - horizontal bottom entry),
JT1 - special vertical top entry, JTS - special vertical bottom entry, JT3 - special horizontal top entry, JT4 - special horizontal bottom entry

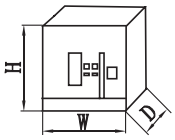
Note g:
Product Use type Non-marked - conventional, TH - thermal humidity, CCS - for ships (optional for NDW3Z-2500 only)
Remarks

1. Power supply module, relay module, programmable output module and communication adapter should be used with controllers;
2. Separate with "/" according to the order shown in the table;
3. Accessory monitoring unit cannot be selected simultaneously with the communication function, signal unit and controllers with functions "V" and "P";
4. Energy storage signal communication module component cannot be selected simultaneously with those controllers with functions "V" and "P".

Interlocking Accessory Model Explanation and Encoding Rules

Key lock	SF11 - key lock device (one lock and one key), SF21 - key lock device (two locks and one key), SF31 - key lock device (three locks and one key), SF32 - key lock device (three locks and two keys), SF53 - key lock device (five locks and three keys)	1. Choose one of five key locks; 2. Choose one of five mechanical interlocks.
Mechanical interlock	SR11 - mechanical interlocking device (two sets of steel cables, one for closing and one for opening) SR12 - mechanical interlocking device (three sets of steel cables, one for closing and two for opening) SR21 - mechanical interlocking device (three sets of steel cables, two for closing and one for opening) SY11 - mechanical interlocking device (two sets of hard rods, one for closing and one for opening) SY12 - mechanical interlocking device (three sets of hard rods, one for closing and two for opening)	

NDW3Z Main Performance Parameters

Air Circuit Breaker Model			NDW3Z-2500		NDW3Z-4000	
Rated current, In (+40°C) (A)			800, 1000, 1250, 1600, 2000, 2500		1600, 2000, 2500, 3200A, 3600A, 4000A	
Rated operating voltage, Ue (V)			DC500/750 (2P, 3P), DC1000/1500 (4P)		DC500/750 (3P), DC1000/1500 (4P)	
Rated insulation voltage, Ui (V)			1500		1500	
Rated impulse withstand voltage, Uimp (kV)			12		12	
Number of poles in series			2, 3, 4		3, 4	
Full break time (ms) Note 1			≤30		≤30	
Closing time (ms) Note 2			≤70		≤70	
Breaking type			/		S	H
Rated limit short-circuit breaking capacity, Icu Note 3 (kA)	DC500V	2P	50		/	/
		3P	65		80	120
	DC750V	2P	40		/	/
		3P	55		65	80
	DC1000V	4P	50		55	75
	DC1500V	4P	40		50	60
Rated operating short-circuit breaking capacity, Ics Note 3 (kA)			100% Icu			
Rated short-circuit making capacity, Icm Note 3 (kA)			100%Icu			
Rated short-time withstand current, Icw/1s Note 3 (kA)			100% Icu			
Operating performance (times)	Electrical life (times)		DC1500V (4P)	2000(20 times/hour)	DC1500V (4P)	2000(10 times/hour)
			DC1000V (4P)	7000(20 times/hour)	DC750V (3P)	10000(10 times/hour)
	Mechanical life (times)	Maintenance-free	10000 (60 times/hour)		13000 (60 times/hour)	
		With maintenance	15000 (60 times/hour)		15000 (60 times/hour)	
Installation mode			Fixed type, drawout type			
Wiring method of the main circuit			Horizontal wiring, vertical wiring			
Overall dimensions: W×D×H (mm) 	Fixed type2P/3P		368×309.5×394		428×300×393.5(3P)	
	Fixed type 4P		463×309.5×394		543×300×393.5	
	Drawout type2P/3P		375×400×432		435×401×432(3P)	
	Drawout type 4P		470×400×432		550×401×432	
Weight (kg)	Fixed type2P		47.4 (800A～1250A)	48 (1600A～2500A)	/	
	Fixed type 3P		55(800A～1250A)	55.6 (1600A～2500A)	62(1600A～2500A)	67.5 (3200A～4000A)
	Fixed type 4P		72.7 (800A～1250A)	73.5 (1600A～2500A)		89(3200A～4000A)
	Drawout type2P		85.1 (800A～1250A)	85.4 (1600A～2500A)	/	
	Drawout type 3P		92.7 (800A～1250A)	93 (1600A～2500A)		
	Drawout type 4P		117.4 (800A～1250A)	117.9 (1600A～2500A)		

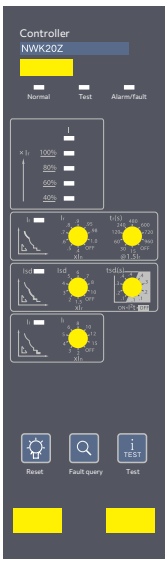
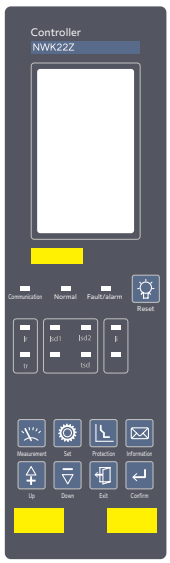
Note: 1. Full break time: refers to the time interval from the moment the circuit breaker is opened to the end of the arcing time;
2. Closing time: refers to the time interval from the moment the circuit breaker is closed to the moment when the contacts of all poles come into contact;
3. Time constant is 15ms.

NDW3Z Intelligent Air Circuit Breaker Controller Functions

Controller

Controller is one of the main components of the circuit breaker, which can provide the function of protecting the overload, short circuit, over-voltage, under-voltage and other failures, and realize reasonable operation of the power grid through the load monitoring, regional interlocking and other functions. Controller has the function of measuring the current, voltage, power, electric energy, required value and other power grid parameters; and the function of recording the fault, alarm, operation, maximum historical current, contact wear and other operating maintenance parameters. When the power network is carrying on communication network, the controller can realize the remote metering, remote signalling, remote control and remote regulation at the remote terminal of the electric power automation network.

Type of Controller

Controller Type	Button type	LCD type
Model	NWK20Z	NWK22Z
NDW3Z-2500 Controller Diagram		

Controller Functions

Functional items		NWK20Z	NWK22Z	NWK22Z/V	NWK22Z/P
Display Interface	ICD panel Chinese, symbols and graphics display	—	√	√	√
	DIP switch	√	—	—	—
Protection Functions	Overload long-time delay protection	Single	Multiple	Multiple	Multiple
	Overload thermal memory	√	√	√	√
	Overload pre-alarm/alarm output	—	√/▲	√/▲	√/▲
	Short circuit short-time delay protection	√	√	√	√
	Short-time delay thermal memory	√	√	√	√
	Short circuit instantaneous protection	√	√	√	√
	MCR	√	√	√	√
	Under-voltage protection/ alarm/alarm output	—	—	√/√/▲	√/√/▲
	Over-voltage protection/alarm/ alarm output	—	—	√/√/▲	√/√/▲
	Zone selective interlock	—	▲	▲	▲
Measurement Function	Current measurement	√	√	√	√
	Maximum current measurement	—	√	√	√
	Voltage	—	—	√	√
	Required value measurement (current)	—	—	√	√
	Required value measurement (power)	—	—	—	√
	Power measurement	—	—	—	√
	Electric energy measurement	—	—	—	√
Maintenance Functions	LED fault status indication	√	√	√	√
	Fault record and query	1 time Note 2	30 times	30 times	30 times
	Alarm history query	—	√	√	√
	Self-diagnostic function	√	√	√	√
	Simulating tripping test function	√	√	√	√
	Contact wear equivalent (alarm) query	—	√	√	√
	Query of number of operations	—	√	√	√
	Clock function	—	√	√	√
Others	Remote reset of controller	▲	▲	▲	▲
	Signal unit	—	▲	▲	▲
	RS485 communication	▲	▲	▲	▲

Note:

1. Functions marked with "√" means available; "▲" optional for users; "—" not available;
2. Controllers with functions "V" and "P" are applicable to the main circuit with the rated voltage of DC500V and below;
3. Functions "V" and "P" are additional options for the common controllers.

Note 2: 30 times according to communication query.

NDW3Z Intelligent Air Circuit Breaker - Accessories Selection

Accessory Type	Accessory Name	Configuration	Installation Structure Type	备注
Electrical control accessories	Closed electromagnet	Standard configuration	Fixed type/Drawout type	
	Shunt release	Standard configuration	Fixed type/Drawout type	
	Motor operating mechanism	Standard configuration	Fixed type/Drawout type	
	Under-voltage release	To be ordered by the customers for their options	Fixed type/Drawout type	One of two
	No-voltage release	To be ordered by the customers for their options	Fixed type/Drawout type	
	Remote reset electromagnet	To be ordered by the customers for their options	Fixed type/Drawout type	
Signal output accessories	Auxiliary switch	Standard configuration	Fixed type/Drawout type	
	Closing ready signal output device	To be ordered by the customers for their options	Fixed type/Drawout type	
	Three-position status signal output device for drawer seat	To be ordered by the customers for their options	Drawout type	
	Secondary terminal	Standard configuration	Fixed type/Drawout type	
Controller-related accessories	Power supply module NWDF1	To be ordered by the customers for their options	Fixed type/Drawout type	
	Relay module NWDF1-RM	To be ordered by the customers for their options	Fixed type/Drawout type	Used with power supply module
Safety accessories	Phase partition	Standard configuration	Fixed type/Drawout type	
	Counter	To be ordered by the customers for their options	Drawout type	
	Doorframe	To be ordered by the customers for their options	Fixed type/Drawout type	
	Dust cover	To be ordered by the customers for their options	Drawout type	
Locking and interlocking devices	Off-position key lock	To be ordered by the customers for their options	Fixed type/Drawout type	
	Button lock	To be ordered by the customers for their options	Fixed type/Drawout type	
	Door interlock	To be ordered by the customers for their options	Drawout type	
Power conversion system	Mechanical interlock	To be ordered by the customers for their options	Fixed type/Drawout type	

NDW3AGZ DC Switch Disconnector - Quick Selection



ND W 3A GZ - 2500

- Frame: 2500A
- Derivation code: G - switch disconnector Z – DC
- Design code: 3A
- Product code: Air Circuit Breaker
- Enterprise code: Nader

NDW3AGZ-2500 Main Performance Parameters

Switch Disconnector Model			NDW3AGZ-2500
Rated current, Ie (A)			1600, 2000, 2500
Rated nominal voltage, Ue (Vdc)			1250
Rated maximum voltage, Ue (Vdc)			1500
Number of Poles			4P
Closing time (ms)			< 85
Full break time (ms)			< 40
Rated short-circuit making capacity, Icm (peak value) (kA)		DC1500V	125
Rated short-time withstand current, Icw (effective value) 50ms kA		DC1500V	125
Operating performance (number of times)	Electrical life operating frequency (60 times/hour)	DC1500V	1000
	Electrical life operating frequency (60 times/hour)	Maintenance-free	10000
Installation mode	Fixed type		▲
Wiring method of the main circuit	Fixed type		Horizontal wiring, vertical wiring
Overall dimensions: W×D×H (mm)	Fixed type 4P		463×309.5×394
Overall dimensions: W×D×H (mm)	Fixed type 4P		583×282×464
Weight(kg)	Fixed type 4P		73.5
Conform to standards			UL489B/ UL489
Note: Functions marked with "▲" mean available.			

Charter 3
Molded Case Circuit Breaker

NDM3 Molded Case Circuit Breaker - Quick Selection !



ND M 3 -125 M P/3 3 08 2 (A) Q I P 100A

- Rated current: See the parameter list
- Wiring method code: See note b
- Special function code: I: Overload alarm and non-tripping (for NDM3-125, NDM3-250, NDM3-400 and NDM3-630 only)
- Special purposes: Q: Voltage detector self-reset function (except for NDM3-160 and NDM3-1600)
- Type of N-pole (neutral) of the 4P product: See note a
- Application code:
  No code: Power Distribution Type
  2: motor protection type (not for 1,250A shell frames NDM3-160 and NDM3-1600)
- Accessory code: See the accessories selection list
- Release: 0 - no release
  2 - instantaneous release only
  3 - complex release (not available for overload alarm and non-tripping products)
- Number of poles: 3 - three poles, 4 - four poles
- Operation mode:
  No code: Direct handle-operated
  P: Motor operating
  Z: Rotary handle
- Breaking capacity: (Applicable for 3P products only)
  C: Commercial type
  L: low type
  M: Middle type
  H: High type
- N: Normal type (Ics=100%Icu)
  S: Standard type (Ics=100%Icu)
- Shell frame level: 63, 100, 125, 160, 250, 400, 630, 800, 1600
- Design code: 3
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Note a:

Neutral line (N-pole) of the 4P product can be divided into four types:

Type A: The N-pole shall have no over-current release installed and shall be always connected.

Type B: The N-pole shall have no over-current release installed and shall be opened/closed together with the other three poles.

Type C: The N-pole shall have over-current release installed and shall be opened/closed together with the others.

Type D: The N-pole shall have over-current release installed and shall be always connected.

Note b: (For the applicability of each shell frame, see the list of main parameters)

No code: Conventional front panel connection

P: Extended terminals

Z1: rear panel connection

Z3Q: Integrated plug-in type front panel connection

Z3H: Integrated plug-in type rear panel connection

Note 1: only Type A & B products with 3 and 4 neutral poles of NDM3-125, NDM3-250 (except for Type C), NDM3-400 and NDM3-630 have the alarm and non-tripping function, and the release code must be 2;

Note 2: NDM3-1600 has front panel connection, Extended terminals, horizontal and vertical rear panel connection.

Note 3: NDM3-125 with the rated current 10A is applicable to Type C breaking capacity only.

Note 4: 4D is applicable to NDM3-125C products only.

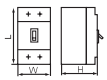
Note 5: NDM3-125C has Extended terminals, rear panel connection, integrated plug-in type rear panel connection and integrated plug-in type front panel connection only.

Note 6: shell frame NDM3-1600: Terminal screw is 35 long for 800A/1,000A and 40 long for 1,250A by default. For other lengths, please refer to the screw selection list on pages 1 ~ 36 of volumes NDM3.

Note 7: Z3Q/Z3H not available for the 4P products of shell frame NDM3-63/100.

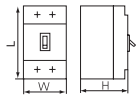
Note 8: Z3H/Z3Q terminal cover and heat sink as standard configuration for shell frame 800.

NDM3 Main Performance Parameters

Model			NDM3-63			NDM3-100		NDM3-125									NDM3-160			
Rated current of shell frame level, Inm (A)			63			100		125									160			
Rated current, In (A)			10, 16, 20, 25, 32, 40, 50, 63			10, 16, 20, 25, 32, 40, 50, 63, 80, 100		16, 20, 25, 32, 40, 50, 63, 80, 100, 125									125, 140, 160			
Rated insulation voltage, Ui (V)			1000			1000		1000									1000			
Rated impulse withstand voltage, Uimp (V)			8000			8000		8000									8000			
Power frequency withstand voltage, U (1 minute) (V)			3500			3500		3500									3500			
Utilization category			A			A		A									A			
Number of Poles			3	3	4	3	4	3	3	3	3	3	3	4	4	4	4	3	3	3	4
Breaking capacity level			L	M	/	C	/	L	M	H	C	N	S	/	C	N	S	C	L	M	/
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC380/400/415V		36	55	55	40	40	50	70	100	40	50	70	70	40	50	70	40	50	70	70
	AC 500V		/	20	20	15	15	/	40	/	15	/	/	40	15	/	/	/	/	/	/
	AC 660/690V		/	12	12	12	12	/	20	/	12	/	/	20	12	/	/	/	/	20	20
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		36	40	40	30	30	40	50	70	40	50	70	50	40	50	70	30	40	50	50
	AC 500V		/	15	15	12	12	/	40	/	12	/	/	40	12	/	/	/	/	/	/
	AC 660/690V		/	10	10	10	10	/	10	/	10	/	/	10	10	/	/	/	/	10	10
Operating performance (times)	Electrical life		8000			8000		8000									8000			
	Mechanical life	Maintenance-free life	20000			20000		20000									20000			
		Maintainable life	40000			40000		40000									40000			
Dimensions 	L (mm)		130	130	130	130	130	150	150	150	130	150	150	150	130	150	150	139	150	150	150
	W (mm)		75	75	100	75	100	92	92	92	75	92	92	122	100	122	122	92	92	92	122
	H (mm)		65	65	65	65	65	69	87.5	87.5	65.1	87.5	87.5	87.5	65.1	87.5	87.5	75.3	74.3	92.3	92.3
Flashover distance (mm)			≤50					≤50									≤50			
Wiring method			Front panel connection, P, Z1, Z3Q, Z3H					Front panel connection, P, Z1, Z3Q, Z3H									Front panel connection, P, Z1, Z3Q, Z3H			

Note 1: NDM3-125C has front panel connection, P, Z1, Z3Q and Z3H only;
Note 2: Z3Q/Z3H not available for the 4P products of shell frame NDM3-63/100.

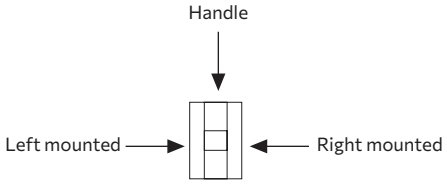
Model			NDM3-250									NDM3-400				
Rated current of shell frame level, Inm (A)			250									400				
Rated current, In (A)			100, 125, 140, 160, 180, 200, 225, 250									225, 250, 315, 350, 400				
Rated insulation voltage, Ui (V)			1000									1000				
Rated impulse withstand voltage, Uimp (V)			8000									8000				
Power frequency withstand voltage, U (1 minute) (V)			3500									3500				
Utilization category			A									A				
Number of Poles			3	3	3	3	3	3	4	4	4	3	3	3	3	4
Breaking capacity level			C	L	M	H	N	S		N	S	C	L	M	H	
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC380/400/415V		40	50	70	100	50	70	70	50	70	36	50	70	100	70
	AC 500V				40				40					50		50
	AC 660/690V				20				20					20		20
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		35	40	50	70	50	70	50	50	70	36	50	70	75	70
	AC 500V				40				40					50		50
	AC 660/690V				10				10					15		15
Operating performance (times)	Electrical life		8000									7500				
	Mechanical life	Maintenance-free life	20000									10000				
		Maintainable life	40000									20000				
Dimensions 	L (mm)		165	165	165	165	165	165	165	165	165	257	257	257	257	257
	W (mm)		105	107	107	107	107	107	142	142	142	150	150	150	150	198
	H (mm)		67	88	105	105	105	105	105	105	105	107	107	107	107	107
Flashover distance (mm)			≤50									≤100				
Wiring method			Front panel connection, P, Z3Q, Z3H	Front panel connection, P, Z1, Z3Q, Z3H								Front panel connection, P, Z1, Z3Q, Z3H				

Model			NDM3-630					NDM3-800			NDM3-1600	
Shell frame level current, Inm (A)			630					800			1600	
Rated current, In (A)			400, 500, 630					630, 700, 800			800, 1000, 1250	
Rated insulation voltage, Ui (V)			1000					1000			1000	
Rated impulse withstand voltage, Uimp (V)			8000					8000			12000	
Power frequency withstand voltage, U (1 minute) (V)			3500					3500			3500	
Utilization category			A					A			A	
Number of Poles			3	3	3	3	4	3	3	4	3	4
Breaking capacity level			C	L	M	H		M	H		M	
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC380/400/415V		36	50	70	100	70	70	100	70	70	
	AC 500V				30		30	30		30	50	
	AC 660/690V				20		20	20		20	20	
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		36	50	70	75	70	70	75	70	50	
	AC 500V				30		30	30		30	50	
	AC 660/690V				15		15	15		15	20	
Operating performance	Electrical life		7500					7500			1000 (AC415V), 800 (AC500V), 500 (AC690V)	
	Mechanical life	Maintenance-free life	10000					10000			10000 (3P) / 6000 (4P)	
		Maintainable life	20000					20000			20000 (3P) / 12000 (4P)	
Dimensions	L (mm)		270	270	270	270	270	280	280	280	268	268
	W (mm)		182	182	182	182	240	210	210	280	210	280
	H (mm)		111	111	111	111	111	113.5	113.5	113.5	152	152
Flashover distance (mm)			≤100					≤100			≤100	
Wiring method			Front panel connection, P, Z1, Z3Q, Z3H					Front panel connection, P, Z1, Z3Q, Z3H			Front panel connection, P, HZ1, CZ1	

Note 1: shell frame NDM3-1600: Terminal screw is 35 long for 800A/1, 000A and 40 long for 1, 250A by default. For other lengths, please refer to the screw selection list on pages 1 ~ 36 of volumes NDM3.
Note 2: Z3H/Z3Q terminal cover and heat sink as standard configuration for shell frame 800.

NDM3- Accessories Selection

Accessory Code	Accessory Name	NDM3-63		NDM3-100		NDM3-125		NDM3-160		NDM3-250 C	NDM3 -250L/M/H	NDM3-250	NDM3-400		NDM3-630		NDM3-800	
	Installation Position / Model / Number of Poles	3	4	3	4	3	4	3	4	3	3	4	3	4	3	4	3	4
00	Nil	–		–		–		–		–	–	–	–		–		–	
10	Shunt release	◻●		◻●		◻●		●◻		◻●	◻●	◻●	◻●		◻●		◻●	
20	Double Auxiliary Contacts	◨◻		◨◻		◨◻		◨◻		–	◨◻	◨◻	◨◻		◨◻		◨◻	
21	Single auxiliary contact	◧◻		◧◻		◧◻		◧◻		◧◻	◧◻	◧◻	◧◻		◧◻		◧◻	
30	Under-voltage release	○◻		○◻		○◻		○◻		◻○	○◻	○◻	○◻		○◻		○◻	
40	Shunt release, double auxiliary contacts	◨●		◨●		◨●		●◨		–	◨●	◨●	◨●		◨●		◨●	
41	Shunt release, single auxiliary contact	◧●		◧●		◧●		●◧		◧●	◧●	◧●	◧●		◧●		◧●	
50	Shunt release, under-voltage release	○●		○●		○●		–		●○	○●	○●	○●		○●		○●	
60	Two sets of double auxiliary contacts	◨◨		◨◨		◨◨		–		–	◨◨	◨◨	◨◨		◨◨		◨◨	
61	Two sets of single auxiliary contact	◧◧		◧◧		◧◧		◧◧		◧◧	◧◧	◧◧	◧◧		◧◧		◧◧	
62	Double auxiliary contacts, single auxiliary contact	◨◧		◨◧		◨◧		–		–	◨◧	◨◧	◨◧		◨◧		◨◧	
70	Under-voltage release, double auxiliary contacts	○◨		○◨		○◨		○◨		–	○◨	○◨	○◨		○◨		○◨	
71	Under-voltage release, single auxiliary contact	○◧		○◧		○◧		○◧		◧○	○◧	○◧	○◧		○◧		○◧	
08	Alarm contact	◻◻		◻◻		◻◻		◻◻		◻◻	◻◻	◻◻	◻◻		◻◻		◻◻	
18	Shunt release, alarm contact	◻●		◻●		◻●		–		◻●	◻●	◻●	◻●		◻●		◻●	
28	Double auxiliary contacts, alarm contact	◻◨		◻◨		◻◨		◻◨		–	◻◨	◻◨	◻◨		◻◨		◻◨	
38	Under-voltage release, alarm contact	○◻		○◻		○◻		–		◻○	○◻	○◻	○◻		○◻		–	
48	Shunt release, auxiliary alarm contact	◧●		◧●		◧●		●◧		◧●	◧●	◧●	◧●		◧●		◧●	
58	Auxiliary alarm contact	◧◻		◧◻		◧◻		◧◻		◧◻	◧◻	◧◻	◧◻		◧◻		◧◻	
68	Double auxiliary contacts, auxiliary alarm contact	◧◨		◧◨		◧◨		–		–	◧◨	◧◨	◧◨		◧◨		◧◨	
78	Under-voltage release, auxiliary alarm contact	○◧		○◧		○◧		–		◧○	○◧	○◧	○◧		○◧		–	

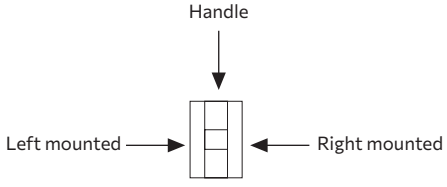


Legend::

- ◧ Single auxiliary contact
- ◨ Double Auxiliary Contacts
- ◻ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles: NDM3-1600 3	NDM3-1600 4
00	Nil	–	
08	One block of alarm contact	□	
98	Two sets of alarm contact	□ □	
10	Shunt release	●	
K01	Two groups of shunt release	● ●	
30	Under-voltage release	○	
A01	Two groups of under-voltage release	○ ○	
21	Single auxiliary contact	◧	
61	Two sets of single auxiliary contact	◧◧	
23	Three sets of single auxiliary contact	◧◧◧	
24	Four sets of single auxiliary contact	◧◧◧◧	
18	Shunt release, alarm contact	□ ●	
38	Under-voltage release, alarm contact	□ ○	
22	Single auxiliary contact, alarm contact	□ ◧	
88	Two sets of single auxiliary contact, alarm contact	□ ◧◧	
26	Three sets of single auxiliary contact, alarm contact	□ ◧◧◧	
25	Four sets of single auxiliary contact, alarm contact	□ ◧◧◧◧	
42	Shunt release, single auxiliary contact, alarm contact	□ ◧ ●	
44	Shunt release, two sets of single auxiliary contact, alarm contact	□ ◧◧ ●	
46	Shunt release, three sets of single auxiliary contact, alarm contact	□ ◧◧◧ ●	
14	Shunt release, four sets of single auxiliary contact, alarm contact	□ ◧◧◧◧ ●	
75	Under-voltage release, single auxiliary contact, alarm contact	□ ◧ ○	
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	□ ◧◧ ○	

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles: NDM3-1600 3	NDM3-1600 4
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	□	◧◧◧ ○
82	Under-voltage release, four sets of single auxiliary contact, alarm contact	□	◧◧◧◧ ○
41	Shunt release, single auxiliary contact		◧ ●
11	Shunt release, two sets of single auxiliary contact		◧◧ ●
12	Shunt release, three sets of single auxiliary contact		◧◧◧ ●
13	Shunt release, four sets of single auxiliary contact		◧◧◧◧ ●
71	Under-voltage release, single auxiliary contact		◧ ○
72	Under-voltage release, two sets of single auxiliary contact		◧◧ ○
73	Under-voltage release, three sets of single auxiliary contact		◧◧◧ ○
74	Under-voltage release, four sets of single auxiliary contact		◧◧◧◧ ○
31	Under-voltage release, shunt release, alarm contact	□	● ○
37	Under-voltage release, shunt release, two sets of single alarm contact	□ □	● ○
51	Under-voltage release, shunt release, single auxiliary contact		◧ ● ○
52	Under-voltage release, shunt release, two sets of single auxiliary contact		◧◧ ● ○
53	Under-voltage release, shunt release, three sets of single auxiliary contact		◧◧◧ ● ○
54	Under-voltage release, shunt release, four sets of single auxiliary contact		◧◧◧◧ ● ○
19	Shunt release, two sets of single alarm contact	□ □	●
79	Under-voltage release, two sets of single alarm contact	□ □	○
63	Single auxiliary contact, two sets of single alarm contact	□ □	◧
64	Two sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧
65	Three sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧◧
66	Four sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧◧◧
43	Shunt release, single auxiliary contact, two sets of single alarm contact	□ □	◧ ●



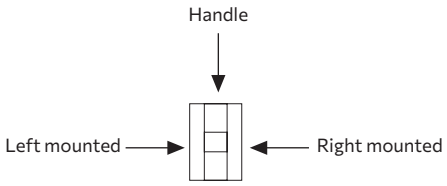
Legend::

- ◧ Single auxiliary contact
- ◨ Double Auxiliary Contacts
- □ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

Accessory Code / Accessory Name	Installation Position / Number of Poles	NDM3-63	NDM3-100	NDM3-125	NDM3-160	NDM3-250 C	NDM3-250 L/M/H	NDM3-400	NDM3-630	NDM3-800
		3/4	3/4	3/4	3/4	3	3/4	3/4	3/4	3/4
30Q	Under-voltage time delay release	○	○	○	--	○	○	○	○	○
50Q	Shunt release, under-voltage time delay release	○●	○●	○●	--	●○	○●	○●	○●	○●
70Q	Under-voltage time delay release, double auxiliary contacts	○◧	○◧	○◧	--	◧○	○◧	○◧	○◧	○◧
71Q	Under-voltage time delay release, single auxiliary contact	○◧	○◧	○◧	--	◧○	○◧	○◧	○◧	○◧
38Q	Under-voltage time delay release, alarm contact	○□	○□	○□	--	□○	○□	○□	○□	--
78Q	Under-voltage time delay release, auxiliary alarm contact	○◧	○◧	○◧	--	◧○	○◧	○◧	○◧	--

Note 1: besides the above accessory types, the 3P products can also choose “plug-in accessories". For Dimensions, see the following chapters (except NDM3-160);

Note 2: “Q” in the accessory code “10Q” means “under-voltage time delay release”, which can achieve the function of automatic reclosing for voltage detector; If this type of accessory is selected, each circuit breaker shall be provided with one motor-driven operating mechanism, which can be omitted for type selection. Please note that this accessory cannot be ordered separately and cannot achieve the “plug-in accessory" at the same time.



Legend::

- ◧ Single auxiliary contact
- ◧ Double Auxiliary Contacts
- □ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

NDM3L Series Earth Leakage Circuit Breakers - Quick Selection



ND M 3 L-250 P/A X U 4 3 00 2 (A) P 225A

- Rated current
- Wiring method: No code: Conventional products P: Extended terminals Z1: rear panel connection
- Type of N-pole (neutral) of the 4P product: See note a
- Application code: No code: Power distribution type 2: motor protection type
- Accessory code: See the Accessories Selection List
- Release code: 0: no release
  2: instantaneous release only
  3: complex release
- Number of poles: 3, 4
- Type of residual current release:
  V: 30mA, 100mA, 300mA, 500mA, 1000mA
  W: 1A, 3A, 10A, 30A
- Type of time delay:
  X: Non-delay
  Y: Delay
  XB: Non-delay alarm and tripping
  YB: Delay alarm and tripping
  XI: Non-delay alarm and non-tripping
  YI: Delay alarm and non-tripping
  XY: Non-delay & delay adjustable (for shell frames 630/800 only)
  YYI: Non-delay & delay alarm and non-tripping (for shell frames 630/800 only)
- Function derivation code:
  No code: Type-AC current leakage protection type A: Type-A current leakage protection type
- Operation mode: No code: Direct handle-operated
  P: Motor operating Z: Manual operation
- Shell frame level: 125, 250, 400, 630, 800
- L: Residual current protection action
- Design code: 3
- Product code: Molded case circuit breaker
- Enterprise code: Nader

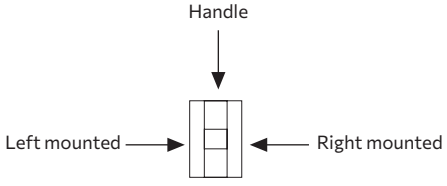
Note a:
N-pole (neutral) of the 4P product can be divided into four types:
Type A: The N-pole shall have no over-current release installed and shall be always connected.
Type B: The N-pole shall have no over-current release installed and shall be opened/closed together with the other three poles.
Type C: The N-pole shall have over-current release installed and shall be opened/closed together with the others.
Type D: The N-pole shall have no over-current release installed and shall be always connected.

Note 1: 4D is applicable to shell frame 800 only and Z2H is applicable to shell frames 600 and 800 only;
Note 2: when the type of time delay is selected as XB/YB, please contact the manufacturer for special supply.

NDM3L - Accessories Selection

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM3L-125		NDM3L-250		NDM3L-400		NDM3L-630/800	
			3	4	3	4	3	4	3	4
00	Nil		––		––		––		––	
10	Shunt release		●		●		●		●	
20	Double Auxiliary Contacts		◧		◧		◧		◧	
21	Single auxiliary contact		◧		◧		◧		◧	
30	Under-voltage release		○		○		○		○	
40	Shunt release, double auxiliary contacts		––	● ◧	––	● ◧	––	● ◧	––	● ◧
41	Shunt release, single auxiliary contact		––	● ◧	––	● ◧	––	● ◧	––	● ◧
60	Two sets of double auxiliary contacts		––	◧ ◧	––	◧ ◧	––	◧ ◧	––	◧ ◧
61	Two sets of single auxiliary contact		––	◧ ◧	––	◧ ◧	––	◧ ◧	––	◧ ◧
62	Double auxiliary contacts, single auxiliary contact		––	◧ ◧	––	◧ ◧	––	◧ ◧	––	◧ ◧
70	Under-voltage release, double auxiliary contacts		––	○ ◧	––	○ ◧	––	○ ◧	––	○ ◧
71	Under-voltage release, single auxiliary contact		––	○ ◧	––	○ ◧	––	○ ◧	––	○ ◧
08	Alarm contact		□		□		□		□	
28	Double auxiliary contacts, alarm contact		––	□ ◧	––	□ ◧	––	□ ◧	––	□ ◧
58	Auxiliary alarm contact		◧		◧		◧		◧	
68	Double auxiliary contacts, auxiliary alarm contact		––	◧ ◧	––	◧ ◧	––	◧ ◧	––	◧ ◧

Note: NDM3L 3P products and the non-tripping type leakage alarm products can choose the left-mounted single accessories only, i.e. accessory code: 10, 20, 21, 30, 08, 58;



Legend::

- ◧ Single auxiliary contact
- ◧ Double Auxiliary Contacts
- □ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

NDM3E Series Electronic Trip Circuit Breakers - Quick Selection



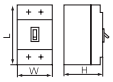
ND M 3 E -125 M P/ T/ 3 318 2 C Q I 20 P

- Wiring form: See note a
- Rated current: See the performance parameter list
- Special function code: I: Overload alarm and non-tripping function
- Special purposes: Q: Voltage detector self-reset
- Type of N-pole (neutral) of the 4P product:
  Type C: The N-pole shall have over-current release installed and shall be opened/closed together with the other three poles
  Type D: The N-pole shall have over-current release installed and shall be always connected.
- Application code:
  No code: Power distribution type (NDM3EX-1600 has power distribution type only)
  2: motor protection type
- Accessory code: See the accessories selection list
- Number of poles: 3, 4
- Function derivation code:
  No code: Intelligent release of basic type
  G: Intelligent release of ground protection type
  T: Intelligent release of communication type
  GT: Intelligent release of ground protection and communication type
- Operation mode:
  No code: Direct handle-operated
  P: Motor operating
  Z: Manual operation
- Breaking capacity level: M: Middle type, H: High type
- Shell frame level: 125, 250, 400, 630, 800, 1600
- derivation code: E: Electronic type, EX: Electronic type, miniature
- Design code: 3
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Note a: Wiring Form (for the applicability of each shell frame, see the list of main parameters)
No code: Conventional
Z1: rear panel connection
Z3H: Integrated plug-in type rear panel connection
P: Extended terminals
Z3Q: Integrated plug-in type front panel connection

Note 1: NDM3EX-1600 has basic and ground protection types only;
Note 2: No. 13: for NDM3EX-1600, the current value selected is In (rated current), while for other products, the current value selected is Ir (setting current);
Note 3: NDM3EX-1600 has front panel connection, Extended terminals (P), horizontal rear panel connection (HZ1) and vertical rear panel connection (CZ1) only;
Note 4: motor protection type is available for shell frame NDM3EX-1600 with the rated current of 1,000 and 800;
Note 5: shell frame NDM3EX-1600: Terminal screw is 35 long for 800A/1,000A and 40 long for 1,250A/1,600A by default. For other lengths, please refer to the screw selection list on pages 1 ~ 36 of volumes NDM3.
Note 6: Z3H/Z3Q terminal cover and heat sink as standard configuration for shell frame 800.

NDM3E- Main Performance Parameters

Model			NDM3E-125						NDM3E-250			NDM3E-400		
Rated current of shell frame level, Inm (A)			125						250			400		
Rated current, In (A)			32, 63			125			160	250		250		
Rated insulation voltage, Ui (V)			1000			1000			1000	1000		1000		
Rated impulse withstand voltage, Uimp (V)			8000			8000			8000	8000		8000		
Power frequency withstand voltage, U (1 minute) (V)			3500			3500			3500	3500		3500		
Utilization category			A			A			A	A		A		
Rated short-time withstand current, Icw (kA/1s)			1			1			1.6	2.5		2.5		
Number of Poles			3	3	4	3	3	4	3	3	4	3	3	4
Breaking capacity level			M	H		M	H		M	H		M	H	
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC 380/400/415V		70	85	70	70	85	70	70	85	70	70	100	70
	AC 500V													
	AC 660/690V		20		20	20		20	20		20	20		20
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		50	65	50	50	65	50	50	65	50	65	70	65
	AC 500V													
	AC 660/690V		15		15	15		15	15		15	15		15
Operating performance (times)	Electrical life AC 380/400/415V		8000			8000			8000			7500		
	Mechanical life	Maintenance-free life	20000			20000			20000			15000		
		Maintainable life	40000			40000			40000			30000		
Dimensions 	L (mm)		150	150	150	150	150	150	165	165	165	257	257	257
	W (mm)		92	92	122	92	92	122	107	107	142	150	150	198
	H (mm)		92.5	92.5	92.5	92.5	92.5	92.5	92.4	92.4	92.4	107	107	107
Flashover distance (mm)			≤50			≤50			≤50			≤100		
Wiring method			Front panel connection, P, Z1						Front panel connection, P, Z1			Front panel connection, P, Z1, Z3Q, Z3H		

Note: Setting current is set to rated value by default; to be set to other setting values, please contact the sales personnel;

Model			NDM3E-630			NDM3E-800			NDM3EX-1600	
Rated current of shell frame level, Inm (A)			630			800			1600	
Rated current, In (A)			630			800			800, 1000, 1250, 1600	
Rated insulation voltage, Ui (V)			1000			1000			1000	
Rated impulse withstand voltage, Uimp (V)			8000			8000			12000	
Power frequency withstand voltage, U (1 minute) (V)			3500			3500			3500	
Utilization category			B			B			B	
Rated short-time withstand current, Icw (kA/1s)			8			10			20	
Number of Poles			3	3	4	3	3	4	3	4
Breaking capacity level			M	H		M	H		M	
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC 380/400/415V		70	100	70	70	100	70	70	
	AC 500V								50	
	AC 660/690V		20		20	20		20	20	
Rated operating short-circuit breaking capacity, Ics (kA)	AC 380/400/415V		65	70	65	65	70	65	50	
	AC 500V								50	
	AC 660/690V		15		15	15		15	20	
Operating performance (times)	Electrical life AC 380/400/415V		7500			7500			1000	
	Electrical life AC500V								800	
	Electrical life AC660/690V								500	
	Mechanical life	Maintenance-free life	10000			10000			10000(3P)/6000(4P)	
		Maintainable life	20000			20000			20000(3P)/12000(4P)	
Dimensions	L (mm)		280	280	280	280	280	280	268	268
	W (mm)		210	210	280	210	210	280	210	280
	H (mm)		113.5	113.5	113.5	113.5	113.5	113.5	154	154
Flashover distance (mm)			≤100			≤100			≤100	
Wiring method			Front panel connection, P, Z1, Z3Q, Z3H			Front panel connection, P, Z1, Z3Q, Z3H			Front panel connection, P, HZ1, CZ1	

Note 1: Setting current is set to rated value by default; to be set to other setting values, please contact the sales personnel;

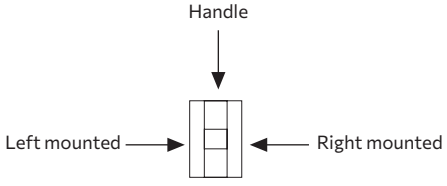
Note 2: For shell frame NDM3EX-1600, terminal screw is 35 long for 800A/1,000A and 40 long for 1,250A by default. For other lengths, please refer to the screw selection list on pages 3 ~ 36 of volumes NDM3.

Note 3: Z3H/Z3Q terminal cover and heat sink as standard configuration for shell frame 800.

NDM3E - Accessories Selection

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM3E-125		NDM3E-250		NDM3E-400		NDM3E-630		NDM3E-800	
			3	4	3	4	3	4	3	4	3	4
300	Nil		––		––		––		––		––	
310	Shunt release		●		●			●		●		●
320	Double Auxiliary Contacts		◧		◧		◧		◧		◧	
321	Single auxiliary contact		◧		◧		◧		◧		◧	
330	Under-voltage release		○		○		○		○		○	
340	Shunt release, double auxiliary contacts		●	◧	●	◧	◧	●	◧	●	◧	●
341	Shunt release, single auxiliary contact		●	◧	●	◧	◧	●	◧	●	◧	●
350	Shunt release, under-voltage release		––		––		○	●	○	●	○	●
360	Two sets of double auxiliary contacts		◧	◧	◧	◧	◧	◧	◧	◧	◧	◧
361	Two sets of single auxiliary contact		◧	◧	◧	◧	◧	◧	◧	◧	◧	◧
362	Double auxiliary contacts, single auxiliary contact		○	◧	○	◧	◧	◧	◧	◧	◧	◧
370	Under-voltage release, double auxiliary contacts		○	◧	○	◧	○	◧	○	◧	○	◧
371	Under-voltage release, single auxiliary contact		□		□		○	◧	○	◧	○	◧
308	Alarm contact		□	◧	□	◧	□		□		□	
318	Shunt release, alarm contact		––		––		□	●	□	●	□	●
328	Double auxiliary contacts, alarm contact		●	◧	●	◧	□	◧	□	◧	□	◧
338	Under-voltage release, alarm contact		––		––				––		––	
348	Shunt release, auxiliary alarm contact		◧		◧		◧	●	◧	●	◧	●
358	Auxiliary alarm contact		◧	◧	◧	◧	◧		◧		◧	
368	Double auxiliary contacts, auxiliary alarm contact		○	◧	○	◧	◧	◧	◧	◧	◧	◧
378	Under-voltage release, auxiliary alarm contact		○	◧	○	◧	○	◧	––		––	

Remarks: 1. The first digit "3" of the accessory code for the release mode means the intelligent controller with three-stage protection, while the last two digits mean the internal accessory codes.
2. For accessories of "communication type and ground connection and communication type", please consult us.
3. In "32**I", "2" and "I" mean overload alarm and non-tripping function with output, while the last two digits mean the internal accessory codes.



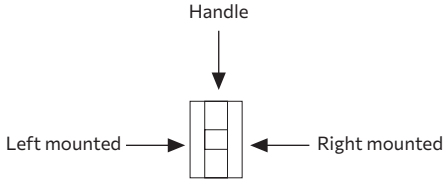
Legend::

- ◧ Single auxiliary contact
- ◧ Double Auxiliary Contacts
- □ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

NDM3EX-1600 - Accessories Selection

Accessory Code	Accessory Name	NDM3EX-1600	
	Installation Position / Model / Number of Poles	3	4
300	Nil	–	
308	One block of alarm contact	□	
398	Two sets of alarm contact	□ □	
310	Shunt release		●
3K01	Two groups of shunt release		● ●
330	Under-voltage release		○
3A01	Two groups of under-voltage release		○ ○
321	Single auxiliary contact		◧
361	Two sets of single auxiliary contact		◧◧
323	Three sets of single auxiliary contact		◧◧◧
324	Four sets of single auxiliary contact		◧◧◧◧
318	Shunt release, alarm contact	□	●
338	Under-voltage release, alarm contact	□	○
322	Single auxiliary contact, alarm contact	□	◧
388	Two sets of single auxiliary contact, alarm contact	□	◧◧
326	Three sets of single auxiliary contact, alarm contact	□	◧◧◧
325	Four sets of single auxiliary contact, alarm contact	□	◧◧◧◧
342	Shunt release, single auxiliary contact, alarm contact	□	◧ ●
344	Shunt release, two sets of single auxiliary contact, alarm contact	□	◧◧ ●
346	Shunt release, three sets of single auxiliary contact, alarm contact	□	◧◧◧ ●
314	Shunt release, four sets of single auxiliary contact, alarm contact	□	◧◧◧◧ ●
375	Under-voltage release, single auxiliary contact, alarm contact	□	◧ ○
377	Under-voltage release, two sets of single auxiliary contact, alarm contact	□	◧◧ ○

Accessory Code	Accessory Name	NDM3EX-1600	
	Installation Position / Model / Number of Poles	3	4
381	Under-voltage release, three sets of single auxiliary contact, alarm contact	□	◧◧◧ ○
382	Under-voltage release, four sets of single auxiliary contact, alarm contact	□	◧◧◧◧ ○
341	Shunt release, single auxiliary contact		◧ ●
311	Shunt release, two sets of single auxiliary contact		◧◧ ●
312	Shunt release, three sets of single auxiliary contact		◧◧◧ ●
313	Shunt release, four sets of single auxiliary contact		◧◧◧◧ ●
371	Under-voltage release, single auxiliary contact		◧ ○
372	Under-voltage release, two sets of single auxiliary contact		◧◧ ○
373	Under-voltage release, three sets of single auxiliary contact		◧◧◧ ○
374	Under-voltage release, four sets of single auxiliary contact		◧◧◧◧ ○
331	Under-voltage release, shunt release, alarm contact	□	● ○
337	Under-voltage release, shunt release, two sets of single alarm contact	□ □	● ○
351	Under-voltage release, shunt release, single auxiliary contact		◧ ● ○
352	Under-voltage release, shunt release, two sets of single auxiliary contact		◧◧ ● ○
353	Under-voltage release, shunt release, three sets of single auxiliary contact		◧◧◧ ● ○
354	Under-voltage release, shunt release, four sets of single auxiliary contact		◧◧◧◧ ● ○
319	Shunt release, two sets of single alarm contact	□ □	●
379	Under-voltage release, two sets of single alarm contact	□ □	○
363	Single auxiliary contact, two sets of single alarm contact	□ □	◧
364	Two sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧
365	Three sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧◧
366	Four sets of single auxiliary contact, two sets of single alarm contact	□ □	◧◧◧◧
343	Shunt release, single auxiliary contact, two sets of single alarm contact	□ □	◧ ●

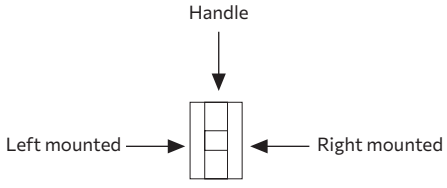


Legend::

- ◧ Single auxiliary contact
- ◨ Double Auxiliary Contacts
- □ Alarm contact
- ● Shunt release
- ○ Under-voltage release
- ◧ Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles: NDM3EX-1600 3	NDM3EX-1600 4
345	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact		
347	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact		
315	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact		
376	Under-voltage release, single auxiliary contact, two sets of single alarm contact		
380	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact		
383	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact		
384	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact		
332	Under-voltage release, shunt release, single auxiliary contact, alarm contact		
333	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact		
334	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact		
335	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact		
339	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact		
355	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact		
356	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact		
336	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact		
3A02	Two groups of under-voltage release, single auxiliary contact		
3A07	Two groups of under-voltage release, two sets of single auxiliary contact		
3A08	Two groups of under-voltage release, three sets of single auxiliary contact		
3A09	Two groups of under-voltage release, four sets of single auxiliary contact		
3A10	Two groups of under-voltage release, single auxiliary contact, alarm contact		
3A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact		
3A14	Under-voltage release		
3A16	Under-voltage release		

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles: NDM3EX-1600 3	NDM3EX-1600 4
3A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact		
3A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact		
3A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact		
3A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact		
3A05	Two groups of under-voltage release, alarm contact		
3A06	Two groups of under-voltage release, two sets of single alarm contact		
3K04	Two groups of shunt release, single auxiliary contact		
3K06	Two groups of shunt release, two sets of single auxiliary contact		
3K07	Two groups of shunt release, three sets of single auxiliary contact		
3K08	Two groups of shunt release, four sets of single auxiliary contact		
3K12	Two groups of shunt release, single auxiliary contact, alarm contact		
3K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact		
3K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact		
3K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact		
3K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact		
3K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact		
3K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact		
3K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact		
3K02	Two groups of shunt release, alarm contact		
3K05	Two groups of shunt release, two sets of single alarm contact		



Legend::

- Single auxiliary contact
- Double Auxiliary Contacts
- Alarm contact
- Shunt release
- Under-voltage release
- Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

NDM3A Series AC1140V Bircuit Breakers - Quick Selection

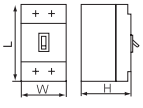


ND M 3A - 400 M P/3 3 21 P 250A

- Rated current: See the performance parameter list
- Wiring method: P: Extended terminals, see note a
- Accessory code: See the Accessories Selection List
- Release code:
  0: no release
  2: instantaneous release only
  3: complex release
- Number of poles: 3 pole
- Operation mode:
  No code: Direct handle-operated
  P: Motor operating
  Z: Rotary handle
- Breaking level code: M: Middle type, H: High type
- Shell frame level: 250, 400, 630
- Design number: 3A
- Product code: M molded case circuit breaker
- Enterprise code: Nader low-voltage electrical appliances

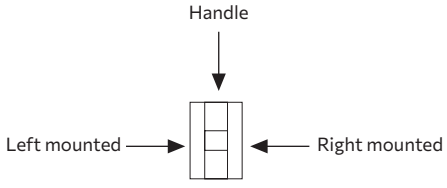
Note a:
No code: Front panel connection
P: Extended terminals
Z1: rear panel connection

NDM3A Main Performance Parameters

Model			NDM3A-250			NDM3A-400	NDM3A-630
Rated current of shell frame level, Inm (A)			250			400	630
Protection characteristics			Electromagnetic type	Thermomagnetic type		Thermomagnetic type	Thermomagnetic type
Rated current, In (A)			32, 40, 50	63, 80, 100, 125, 140, 160, 180, 200, 225, 250		225, 250, 315, 350, 400	400, 500, 630
Rated insulation voltage, Ui (AC V)			1140			1140	1140
Rated impulse withstand voltage, Uimp (V)			8000			8000	8000
Power frequency withstand voltage, U (1 minute) (V)			3500			3500	3500
Utilization category			A			A	A
Number of Poles			3			3	3
Breaking capacity level			M	M	H	M	M
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC 550V		/	50	/	50	50
	AC 600V		/	42	/	42	42
	AC 690V		35	35	/	35	35
	AC 800V		/	30	36.5	30	30
	AC 1000V		/	12	/	12	12
Rated operating short-circuit breaking capacity, Ics (kA)	AC 550V		/	50	/	50	50
	AC 600V		/	42	/	42	42
	AC 690V		35	35	/	35	35
	AC 800V		/	23	30	23	23
	AC 1000V		/	12	/	12	12
Electrical life	AC 550V		5000			4000	4000
	AC 600V		3000			2500	2500
	AC 690V		2000			2000	2000
	AC 800V		1500			1500	1500
	AC 1000V		1000			1000	1000
Mechanical life	Mechanical life	Maintenance-free life	20000			10000	10000
		Maintainable life	40000			20000	20000
Dimensions 	L (mm)		229.5			328.6	335
	W (mm)		113			150	182
	H (mm)		103			106.5	110.5
Flashover distance (mm)			≤50			≤100	≤100
Terminal cover:			Standard configuration/1 piece			Standard configuration/1 piece	Standard configuration/1 piece
Wiring method			Nil, P, Z1			Nil, P, Z1	Nil, P, Z1

NDM3A Accessories Selection

Accessory Code	Accessory Name	NDM3A-250	NDM3A-400	NDM3A-630
Installation Position / Model / Number of Poles		3	3	3
00	Nil	——	——	——
10	Shunt release			
20	Double Auxiliary Contacts			
21	Single auxiliary contact			
30	Under-voltage release			
40	Shunt release, double auxiliary contacts			
41	Shunt release, single auxiliary contact			
50	Shunt release, under-voltage release			
60	Two sets of double auxiliary contacts			
61	Two sets of single auxiliary contact			
62	Double auxiliary contacts, single auxiliary contact			
70	Under-voltage release, double auxiliary contacts			
71	Under-voltage release, single auxiliary contact			
08	Alarm contact			
18	Shunt release, alarm contact			
28	Double auxiliary contacts, alarm contact			
38	Under-voltage release, alarm contact			
48	Shunt release, auxiliary alarm contact			
58	Auxiliary alarm contact			
68	Double auxiliary contacts, auxiliary alarm contact			
78	Under-voltage release, auxiliary alarm contact			



Legend::

- Single auxiliary contact
- Double Auxiliary Contacts
- Alarm contact
- Shunt release
- Under-voltage release
- Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

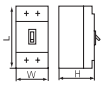
NDM3Z Series DC1500V Circuit Breakers - Quick Selection



ND M 3 Z-250 V (P)/2 3 18 250A J1 S

- S: Other code: S: Extended handle; Z: Terminal Cover
- J1: Wiring form: 2P no code: Conventional products
3P no code: Conventional products, J0 (free wiring)
4P: J0, J1, J2, J3, parallel connection
- 250A: Rated current: See the parameter list
- 18: Accessory code: See the performance parameter list
- 3: Release code:
0 - no release (can be used as the bus tie instead of the switch disconnector)
2 - instantaneous release only
3 - complex release (products V and VM have complex release only)
- /2: Number of poles: 2 - two poles, 3 - three poles, 4 - four poles
- (P): Operation mode:
No code: Direct operation
P: Motor operating
Z: Rotary handle
- V: Variety derivation code:
No code : Conventional products
V: High-voltage (applicable to shell frames 250 and 320 only)
VM: High-voltage and middle breaking (applicable to shell frame 250 only)
- 250: Shell frame current level: 125, 250, 320, 400, 630, 800
- Z: DC molded case circuit breaker:
Z: DC molded case circuit breaker
- 3: Design code: 3
- M: Product code: Molded case circuit breaker
- ND: Enterprise code: Nader

NDM3Z Quick Selection

Model			NDM3Z-125			NDM3Z-250								NDM3Z-250VM		NDM3Z-250V		NDM3Z-320V	
Rated current of shell frame level, Inm (A)			125			250								250		250		320	
Rated current, In (A)			16, 20, 25, 32, 40, 50, 63, 80, 100, 125			125, 140, 160, 180, 200, 225, 250								125, 140, 160, 180, 200, 225, 250		125, 140, 160, 180, 200, 225, 250		250, 300, 320	
Rated insulation voltage, Ui (V)			1000			1500								1500		1500		1500	
Rated impulse withstand voltage, Uimp (V)			8000			8000								8000		12000		12000	
Power frequency withstand voltage, U (1 minute) (V)			3500			3500								3820		3820		3820	
Utilization category			A			A								A		A		A	
Number of Poles			2	3	4	2			3	4	4 J0/J1/J2/J3	4 J0/J2	4 J1/J3	2	2	2	3	3	
Rated operating voltage, Ue (DC V)			500	750	1000	500	600	690	750	1000 (bottom entry)	1000	1200	1250	1000	1100	1000	1500	1500	
Rated Limit Short-circuit Breaking Capacity, Icu (kA)			20	20	20	35	8	5	40	40	40	10	15	20	10	20	20	10	20 (τ=5ms)
Rated operating short-circuit breaking capacity, Ics (kA)			20	20	20	35	8	5	25	25	25	10	15	20	10	16	16	10	20 (τ=5ms)
Operating performance (times)	Electrical life		5000			5000								2000		2000		1000	
	Mechanical life	Maintenance-free life	20000			10000								12000		10000		10000	
		Maintainable life	40000			20000								24000		20000		20000	
Dimensions	L (mm)		150	150	150	165			165	165		165		180		200	200	200	
	W (mm)		92	92	122	107			107	142		142		75		90	135	135	
	H (mm)		87.5	87.5	87.5	105			105	105		105		105		107	107	107	
Flashover distance (mm)			≤50			≤50								≤50		≤50		≤50	
Wiring method			Conventional	Conventional J0	J0, J1, J2	Conventional			Conventional J0	J0, J1, J2				Conventional		Conventional		Conventional	

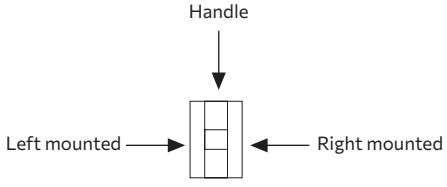
Model			NDM3Z-400				NDM3Z-630						NDM3Z-630V	NDM3Z-800					
Shell frame level current, Inm (A)			400				630						630	800					
Rated current, In (A)			225, 250, 315, 350, 400				400, 500, 630				1000, 1250 (parallel)		400, 450, 500, 630	630, 700, 800				1250, 1440 (parallel)	
Rated insulation voltage, Ui (V)			1000				1000				1000		1600	1000				1000	
Rated impulse withstand voltage, Uimp (V)			8000				8000				8000		12000	8000				8000	
Power frequency withstand voltage, U (1 minute) (V)			3500				3500				3500		3820	3500				3500	
Utilization category			A				A				A		A	A				A	
Pole in series			2		3	4	2		3	4	4		2	2		3	4	4	
Rated operating voltage, Ue (DC V)			500	690	750	1000	500	690	750	1000	500	700	1500	500	690	750	1000	500	630
Rated Limit Short-circuit Breaking Capacity, Icu (kA)			35	8	40	40	35	8	40	40	30	20	20（τ=5ms）/15（τ=10ms）	35	8	40	40	30	20
Rated operating short-circuit breaking capacity, Ics (kA)			35	8	40	40	35	8	40	40	30	20	20（τ=5ms）/15（τ=10ms）	35	8	40	40	30	20
Operating performance	Electrical life		1000				1000				1000		1000	1000				500	
	Mechanical life	Maintenance-free life	5000				5000				5000		7000	5000				5000	
		Maintainable life	10000				10000				10000		14000	10000				10000	
Dimensions	L		257		257	257	270		270	270	270		250	280		280	280	280	
	W		150		150	198	182		182	240	240		96	210		210	280	280	
	H		107		107	107	111		111	111	111		135	113.5		113.5	113.5	113.5	
Flashover distance (mm)			≤100				≤100						65 mm (with terminal cover) 150 mm (without terminal cover)	≤100					
Wiring method			Conventional		Conventional, J0	J0, J1, J2, J3	Conventional		Conventional, J0	Note 1	Parallel connection		Front panel connection	Conventional		Conventional, J0	Note 2	Parallel connection	

Note 1: 400/500A: J0, J1, J2, J3. 630A: J0 (short Extended terminals available)
Note 2: 630A: J0, J1, J2, J3. 700/800A: J0 (short Extended terminals available)

NDM3Z Accessories Selection

Accessory Code	Accessory Name	Installation Position / Number of Poles	NDM3Z-125			NDM3Z-250			NDM3Z-250V		NDM3Z-320V	NDM3Z-400			NDM3Z-630			NDM3Z-630	NDM3Z-800		
			2	3	4	2	3	4	2	3	3	2	3	4	2	3	4	2	2	3	4
00	Nil		--			--			--	--	--	--			--			--	--		
10	Shunt release																				
20	Double Auxiliary Contacts								--	--	--							--			
21	Single auxiliary contact																				
30	Under-voltage release								--	--	--							--			
40	Shunt release, double auxiliary contacts								--	--	--							--			
41	Shunt release, single auxiliary contact								--												
50	Shunt release, under-voltage release								--	--	--							--			
60	Two-phase double auxiliary contacts								--	--	--							--			
61	Two-phase single auxiliary contact								--	--	--							--			
62	Double auxiliary contacts, single auxiliary contact								--	--	--							--			
70	Under-voltage release, double auxiliary contacts								--	--	--							--			
71	Under-voltage release, single auxiliary contact								--	--	--							--			
08	Alarm contact								--	--	--										
18	Shunt release, alarm contact								--	--	--										
28	Double auxiliary contacts, alarm contact								--	--	--							--			
38	Under-voltage release, alarm contact								--	--	--							--	--		
48	Shunt release, auxiliary alarm contact								--	--	--							--			
58	Auxiliary alarm contact								--	--	--							--			
68	Double auxiliary contacts, auxiliary alarm contact								--	--	--							--			
78	Under-voltage release, auxiliary alarm contact								--	--	--							--	--		
22	Single auxiliary contact + alarm contact		--			--			--	--	--	--			--				--		
42	Shunt release + single auxiliary contact + alarm contact		--			--			--	--	--	--			--				--		

Note:
For NDM3Z-250VM, accessories with the codes of 10, 20, 21 and 41 are provided only and all are left-mounted.



Legend::

- Single auxiliary contact
- Double Auxiliary Contacts
- Alarm contact
- Shunt release
- Under-voltage release
- Auxiliary alarm contact (single accessory integrates auxiliary and alarm functions)

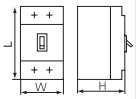
NDM3G Molded Case Switch Disconnector - Quick Selection

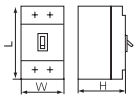


ND M 3 G - 400 V P/20 21 400 P

- Wiring form:
  No code: Conventional products
  P: Extended terminals
- Rated operating current: See the performance parameter list
- Accessory code: See the accessories selection list
- Number of poles: 20 - 2 pole, 30 - 3 pole, 40 - 4 pole
- Operation mode:
  No code: Direct handle-operated
  P: Motor operating
  Z: Rotary handle
- Variety derivation code:
  V: High voltage
- Shell frame current level: 250, 250V, 400, 400V, 630, 800
- Switch disconnector
- Design code: 3
- Product code: Molded case circuit breaker
- Enterprise code: Nader

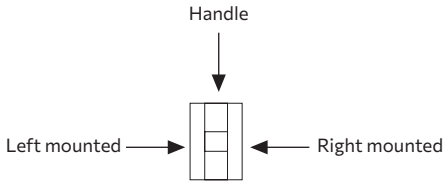
NDM3G Main Performance Parameters

Model			NDM3G-250			NDM3G-250V	NDM3G-400			NDM3G-400V
Rated current of shell frame level, Inm (A)			250			250	400			400
Rated operating current, Ie (A)			250			250	400			400
Rated insulation voltage, Ui (V)			1000			1250	1000			1140
Rated impulse withstand voltage, Uimp (V)			8000			8000	8000			8000
Power frequency withstand voltage, U (1 minute) (V)			3000			3500	3000			3000
Utilization category			AC-21A/22A/23A DC-21B/22B	AC-21A/22A/23A DC-21B/22B	AC-21A/22A/23A DC-21B/22B	AC-21B	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21B
Number of Poles（P）			2	3	4	3	2	3	4	3
Rated operating voltage, Ue (V)			AC380/400/415 AC500 AC660/690 DC500	AC380/400/415 AC500 AC660/690 DC750	AC380/400/415 AC500 AC660/690 DC1000	AC1140	AC380/400/415 AC500 AC660/690 DC500	AC380/400/415 AC500 AC660/690 DC750	AC380/400/415 AC500 AC660/690 DC1000	AC1140
Rated short-circuit making capacity, Icm (kA)			3	3	3	3	5	5	5	5
Rated short-time withstand current, Icw (kA/1s)			3	3	3	3	5	5	5	5
Operating performance (times)	Electrical life		5000			1000	7500			1000
	Mechanical life	Maintenance-free life	10000			10000	10000			10000
		Maintainable life	20000			20000	20000			20000
Dimensions	L (mm)		165	165	165	165	257	257	257	257
	W (mm)		107	107	142	107	150	150	198	150
	H (mm)		105	105	105	105	107	107	107	107
Flashover distance (mm)			≤50			≤50	≤100			≤100
Wiring method			Front panel connection, P			Front panel connection, P	Front panel connection, P			Front panel connection, P

Model			NDM3G-630			NDM3G-800		
Rated current of shell frame level, Inm (A)			630			800		
Rated operating current, In (A)			630			800		
Rated insulation voltage, Ui (V)			1000			1000		
Rated impulse withstand voltage, Uimp (V)			8000			8000		
Power frequency withstand voltage, U (1 minute) (V)			3000			3000		
Utilization category			AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A	AC-21A/22A/23A DC-21A/22A/23A
Number of Poles（P）			2	3	4	2	3	4
Rated operating voltage, Ue (V)			AC380/400/415 AC500 AC660/690 DC500	AC380/400/415 AC500 AC660/690 DC750	AC380/400/415 AC500 AC660/690 DC1000	AC380/400/415 AC500 AC660/690 DC500	AC380/400/415 AC500 AC660/690 DC750	AC380/400/415 AC500 AC660/690 DC1000
Rated short-circuit making capacity, Icm (kA)			8	8	8	10	10	10
Rated short-time withstand current, Icw (kA/1s)			8	8	8	10	10	10
Operating performance (times)	Electrical life		7500			7500		
	Mechanical life	Maintenance-free life	10000			10000		
		Maintainable life	20000			20000		
Dimensions	L (mm)		270	270	270	280	280	280
	W (mm)		182	182	240	210	210	280
	H (mm)		111	111	111	113.5	113.5	113.5
Flashover distance (mm)			≤50			≤50		
Wiring method			Front panel connection, P			Front panel connection, P		

NDM3G Accessories Selection

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM3G-250			NDM3G-400			NDM3G-630			NDM3G-800		
			2	3	4	2	3	4	2	3	4	2	3	4
00	Nil		––			––			––			––		
20	Double Auxiliary Contacts													
21	Single auxiliary contact													



Legend::

- Single auxiliary contact
- Double Auxiliary Contacts

NDM5 Series Thermal-Magneti MCCB- Quick Selection



ND M 5 - 250 V M T/125/3 TMD RO M22 10 Z

- Other code: See note e
- Accessory code: See the List of Accessories
- Operation mode: See note d
- Installation mode + wiring method: See note c
- Release code: See note b
- Number of poles: See note a
- Rated current: See the performance parameter list
- Reference temperature: T: High temperature type; No code: Normal temperature type
- Breaking level code: L: Low type M: Middle type, H: High type; U: Extremely high breaking type; R: Ultra-high breaking type
- Variety derivation code: V: High voltage No code: Normal voltage
- Shell frame current level: 125, 160, 250, 400, 630, 1600
- Design code: 5
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Note 1: For high-voltage type and types U & R breaking level, there are 3-pole products only; for shell frame 250 high-voltage and types U & R, there are fixed type and front panel connection products only. If plug-in/draw-out type or manual/motor-operated accessories are needed, please consult our sales personnel;
Note 2: High-temperature type I is for high-voltage type only;
Note 3: the 2P products of shell frame NDM5-125/160/250 have front panel connection and Extended terminals only.

Note a:
2: 2 pole
3: 3 pole
4A: The N-pole shall have no over-current release installed and shall be always connected.
4B: The N-pole shall have no over-current release installed and shall be opened/closed together with the other three poles.
4C: The N-pole shall have over-current release installed and shall be opened/closed together with the other three poles
4D: The N-pole shall have over-current release installed and shall be always connected.

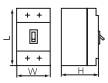
Note b:
MF: Single-magnetic fixed release
MA: Single-magnetic adjustable release
TMD: Thermomagnetic adjustable protection (power distribution protection)
TMM: Thermomagnetic adjustable protection (motor protection)
TMF: Thermomagnetic non-adjustable release

Note c:
Nil: Fixed type + front panel connection
ES: Fixed type + extended front panel connection
R0: fixed type + screw connection behind terminal
R1: fixed type + horizontal connection behind terminal
R2: fixed type + vertical connection behind terminal
Fcu: Fixed type + front bare copper cable connection
G: Rail type + front panel connection
GES: Rail type + extended front panel connection
GFcu: Rail type + front bare copper cable connection
P0FH: Plug-in type, without secondary terminal + horizontal front panel connection
P0RH: Plug-in type, without secondary terminal + horizontal rear panel connection
P0RV: Plug-in type, without secondary terminal + vertical rear panel connection
P1FH: Plug-in type, with secondary terminal + horizontal front panel connection
P1RH: Plug-in type, with secondary terminal + horizontal rear panel connection
P1RV: Plug-in type, with secondary terminal + vertical rear panel connection
W0FH: Draw-out type, without secondary terminal + horizontal front panel connection
W0RH: Draw-out type, without secondary terminal + horizontal rear panel connection
W0RV: Draw-out type, without secondary terminal + vertical rear panel connection
W1FH: Draw-out type, with secondary terminal + horizontal front panel connection
W1RH: Draw-out type, with secondary terminal + horizontal rear panel connection
W1RV: Draw-out type, with secondary terminal + vertical rear panel connection

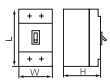
Note d:
Nil: Direct handle-operated
Z1A150: circular center hole rotary handle + shaft length 150 mm
Z1A200: circular center hole rotary handle + shaft length 200 mm
1A300: circular center hole rotary handle + shaft length 300 mm
Z1A350: circular center hole rotary handle + shaft length 350 mm
Z1A650: circular center hole rotary handle + shaft length 650 mm
Z1F150: circular center hole rotary handle + shaft length 150 mm
Z1F200: circular center hole rotary handle + shaft length 200 mm
Z1F300: circular center hole rotary handle + shaft length 300 mm
Z1F350: circular center hole rotary handle + shaft length 350 mm
Z1F650: circular center hole rotary handle + shaft length 650 mm
Z2A150: circular eccentric hole rotary handle + shaft length 150 mm
Z2A200: circular eccentric hole rotary handle + shaft length 200 mm
Z2A300: circular eccentric hole rotary handle + shaft length 300 mm
Z2A350: circular eccentric hole rotary handle + shaft length 350 mm
Z2A650: circular eccentric hole rotary handle + shaft length 650 mm
Z2F150: circular eccentric hole rotary handle + shaft length 150 mm
Z2F200: circular eccentric hole rotary handle + shaft length 200 mm
Z2F300: circular eccentric hole rotary handle + shaft length 300 mm
Z2F350: circular eccentric hole rotary handle + shaft length 350 mm
Z2F650: circular eccentric hole rotary handle + shaft length 650 mm
M02: motor operating DC24V
M11: Motor operating AC110V/DC110V
M22: Motor operating AC230V/DC220V
M40: Motor operating AC400V

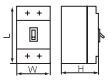
Note e:
J: Mechanical interlock
MS2: MS2 lock
Z: Terminal Cover
CZ: Long terminal cover

NDM5 Main Performance Parameters

Model			NDM5-125									NDM5-160									NDM5-250													
Rated current of shell frame level, Inm (A)			125									160									250													
Rated current, In (A)			1.5, 2.5, 6, 10, 12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125									16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160									6, 10, 12.5, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250													
Rated insulation voltage, Ui (V)			800									800									1000, 1140(U,R)													
Rated impulse withstand voltage, Uimp (V)			8000									8000									8000													
Power frequency withstand voltage, U (1 minute) (V)			3000									3000									3500													
Utilization category			A									A									A													
Number of Poles			2			3			4			2			3			4			2			3						4			
Breaking capacity			L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	U	R	L	M	H		
Rated Limit Short-circuit Breaking Capacity, Icu (kA) 50/60Hz	AC 230/240V		100	120	150	100	120	150	100	120	150	100	120	150	100	120	150	100	120	150	70	100	150	70	100	150			70	100	150		
	AC 380/400/415V					70	100	150	70	100	150				70	100	150	70	100	150				70	100	150			70	100	150		
	AC 500V																																
	AC 660/690V																							10	15	25	55	80	10	15	25		
	AC 800V																																
	AC 1000V																																
Rated operating short-circuit breaking capacity, Ics (kA) 50/60Hz	AC 230/240V		100	120	150	100	120	150	100	120	150	100	120	150	100	120	150	100	120	150	70	100	150	70	100	150			70	100	150		
	AC 380/400/415V					70	100	150	70	100	150				70	100	150	70	100	150				70	100	150			70	100	150		
	AC 500V																																
	AC 660/690V																							10	15	25	55	80	10	15	25		
	AC 800V																																
	AC 1000V																																
Operating performance (times)	Electrical life	AC 230/240V	10000									10000									10000													
		AC 380/400/415V	10000									10000									10000													
		AC 500V																																
		AC 660/690V										8000									4000													
		AC 800V																																
		AC 1000V																																
	Mechanical life	Maintenance-free life	20000									20000									25000						15000		25000					
		Maintainable life	40000									40000									50000						30000		50000					
Dimensions	L (mm)		135			135			135			135			135			135			165			165			200		165					
	W (mm)		61			90			120			61			90			120			70			105			105		140					
	H (mm)		80			80			80			80			80			80			86			86			106.5		86					
Flashover distance (mm), without terminal cover			≤50									≤50									≤50													
Flashover distance (mm), with terminal cover			0									0									0													

Note 1: only 3P for NDM5-250, In (63, 80, 100, 125).

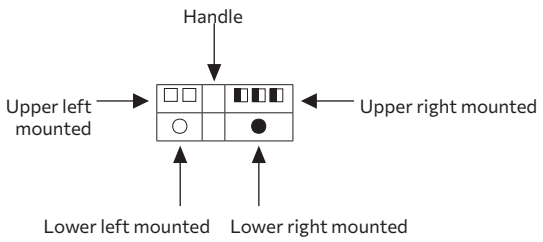
Model			NDM5-250V	NDM5-400								NDM5-400V	NDM5-630								NDM5-630V
Rated current of shell frame level, Inm (A)			250	400								400	630								630
Rated current, In (A)			63, 80, 100, 125, 160, 200, 250	250, 320, 400								250, 320, 400	400, 500, 630								400, 500, 630
Rated insulation voltage, Ui (V)			1140	1000								1000	1000								1000
Rated impulse withstand voltage, Uimp (V)			8000	8000								8000	8000								8000
Power frequency withstand voltage, U (1 minute) (V)			3500	4000								4000	4000								4000
Utilization category			A	A								A	A								A
Number of Poles			3	3				4				3	3				4				3
Breaking capacity level			M	L	M	H	U	R	L	M	H	M	L	M	H	U	R	L	M	H	M
Rated Limit Short-circuit Breaking Capacity, Icu (kA) 50/60Hz	AC 230/240V																				
	AC 380/400/415V			70	100	150			70	100	150		70	100	150			70	100	150	
	AC 500V			50	70	85			50	70	85		50	70	85			50	70	85	
	AC 660/690V			20	30	40	55	80	20	30	40		20	30	40	55	80	20	30	40	
	AC 800V		50									50									50
	AC 1000V		30									35									35
	AC 1140V		12																		
Rated operating short-circuit breaking capacity, Ics (kA) 50/60Hz	AC 230/240V																				
	AC 380/400/415V			70	100	150			70	100	150		70	100	150			70	100	150	
	AC 500V			50	70	85			50	70	85		50	70	85			50	70	85	
	AC 660/690V			20	30	40	55	80	20	30	40		20	30	40	55	80	20	30	40	
	AC 800V		35									50									50
	AC 1000V		15									18									18
	AC 1140V		12																		
Operating performance (times)	Electrical life	AC 230/240V																			
		AC 380/400/415V		7000									5000								
		AC 500V		5000									3000								
		AC 660/690V		3000									2000								
		AC 800V	1500									1500									1500
		AC 1000V	1500									1000									1000
		AC 1140V	1000																		
	Mechanical life	Maintenance-free life	15000	20000			15000		20000			15000	20000				15000		20000		15000
		Maintainable life	30000	40000			30000		40000			30000	40000				30000		40000		30000
Dimensions	L (mm)		200	250			250		250			250	250				250		250		250
	W (mm)		105	140			140		185			140	140				140		185		140
	H (mm)		106.5	110			130.5		110			130.5	110				130.5		110		130.5
Flashover distance (mm), without terminal cover			≤50	≤100								≤100	≤100								≤100
Flashover distance (mm), with terminal cover			0	0								0	0								0

Model			NDM5-1600L	NDM5-1600M	NDM5-1600H
Rated current of shell frame level, Inm (A)			1600		
Rated current, In (A)			800, 1000, 1250		
Rated insulation voltage, Ui (V)			1000		
Rated impulse withstand voltage, Uimp (kV)			12		
Power frequency withstand voltage, U (1 minute) (V)			3500		
Utilization category			A		
Number of Poles			3	3, 4	3
Breaking capacity level			L	M	H
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC380/400/415V		70	100	100
	AC500V		50	70	85
	AC660/690V		20	35	50
	AC800V		/	/	30
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		70	100	100
	AC500V		50	70	70
	AC660/690V		20	35	42
	AC800V		/	/	20
Operating performance (times)	Electrical life	AC415V	3000		
		AC500V	1500		
		AC690V	1000		
		AC800V	500		
	Mechanical life	Maintenance-free life	10000 (3P)/ 6000 (4P)		
		Maintainable life	20000 (3P)/ 12000 (4P)		
Dimensions 	L (mm)		268	268	268
	W (mm)		210	210 (3P)/ 280 (4P)	210
	H (mm)		152	152	152
Flashover distance (mm)			≤100		

Note: Dimensions exclude the size of the terminal cover.

NDM5 Accessories Selection

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM5-125			NDM5-160			NDM5-250			NDM5-250V	NDM5-400		NDM5-630		NDM5-400V NDM5-630V
			2	3	4	2	3	4	2	3	4	3	3	4	3	4	3
00	Nil		––	––		––	––		––	––		––	––		––		––
08	Alarm contact																
10	Shunt release																
30	Under-voltage release																
21	Single auxiliary contact		––			––			––								
61	Two sets of single auxiliary contact		––			––			––								
23	Three sets of single auxiliary contact		––			––			––								
18	Shunt release, alarm contact																
38	Under-voltage release, alarm contact																
22	Single auxiliary contact, alarm contact		––			––			––								
88	Two sets of single auxiliary contact, alarm contact		––			––			––								
26	Three sets of single auxiliary contact, alarm contact		––			––			––								
42	Shunt release, single auxiliary contact, alarm contact		––			––			––								
44	Shunt release, two sets of single auxiliary contact, alarm contact		––			––			––								
46	Shunt release, three sets of single auxiliary contact, alarm contact		––			––			––								
75	Under-voltage release, single auxiliary contact, alarm contact		––			––			––								
77	Under-voltage release, two sets of single auxiliary contact, alarm contact		––			––			––								
81	Under-voltage release, three sets of single auxiliary contact, alarm contact		––			––			––								



Legend::

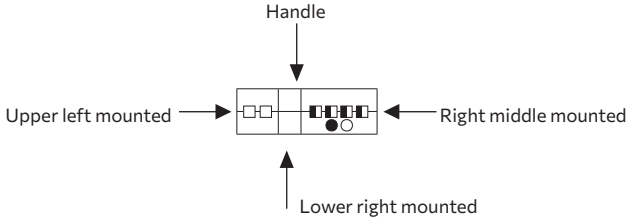
- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM5-125			NDM5-160			NDM5-250			NDM5-250V	NDM5-400		NDM5-630		NDM5-400V NDM5-630V
			2	3	4	2	3	4	2	3	4	3	3	4	3	4	3
41	Shunt release + single auxiliary contact		——			——			——								
11	Shunt release + two sets of single auxiliary contact		——			——			——								
12	Shunt release + three sets of single auxiliary contact		——			——			——								
71	Under-voltage release, single auxiliary contact		——			——			——								
72	Under-voltage release, two sets of single auxiliary contact		——			——			——								
73	Under-voltage release, three sets of single auxiliary contact		——			——			——								
50	Shunt release, under-voltage release		——	——		——	——		——	——		——					
31	Under-voltage release, shunt release, alarm contact		——	——		——	——		——	——		——					
51	Shunt release, under-voltage release, single auxiliary contact		——	——		——	——		——	——		——					
52	Shunt release, under-voltage release, two sets of single auxiliary contact		——	——		——	——		——	——		——					
53	Shunt release, under-voltage release, three sets of single auxiliary contact		——	——		——	——		——	——		——					
98	Two sets of alarm contact		——	——		——	——		——	——		——					
63	Two sets of single alarm contact, single auxiliary contact		——	——		——	——		——	——		——					
64	Two sets of single alarm contact, two sets of single auxiliary contact		——	——		——	——		——	——		——					
65	Two sets of single alarm contact, three sets of single auxiliary contact		——	——		——	——		——	——		——					
37	Shunt release, under-voltage release, two sets of alarm contact		——	——		——	——		——	——		——					
39	Shunt release, under-voltage release, single auxiliary contact, two sets of alarm contact		——	——		——	——		——	——		——					
55	Shunt release, under-voltage release, two sets of single auxiliary contact, two sets of alarm contact		——	——		——	——		——	——		——					
56	Shunt release, under-voltage release, three sets of single auxiliary contact, two sets of alarm contact		——	——		——	——		——	——		——					
32	Alarm contact + shunt release + under-voltage release + single auxiliary contact		——	——		——	——		——	——		——					
33	Alarm contact + shunt release + under-voltage release + two sets of single auxiliary contact		——	——		——	——		——	——		——					
34	Alarm contact + shunt release + under-voltage release + three sets of single auxiliary contact		——	——		——	——		——	——		——					

Note: Shunt release and under-voltage release of NDM5-400/630 products can be mounted on either side. When only shunt or under-voltage release is selected, it shall be mounted on the left side by default.

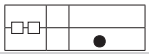
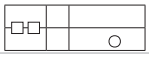
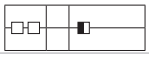
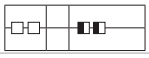
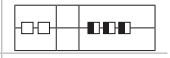
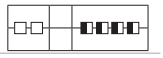
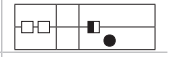
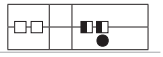
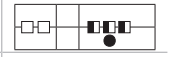
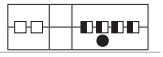
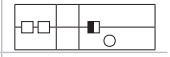
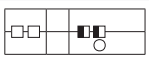
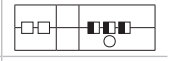
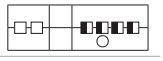
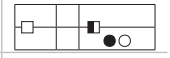
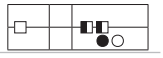
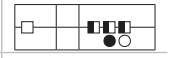
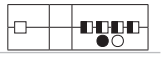
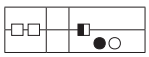
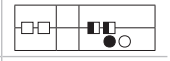
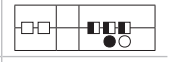
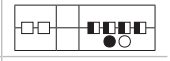
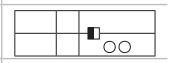
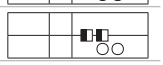
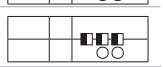
Accessory Code / Installation Position / Model / Number of Poles / Accessory Name		NDM5-1600 3P, 4P
–	Nil	––
08	One block of alarm contact	
98	Two sets of single alarm contact	
10	Shunt release	
K01	Two groups of shunt release	
30	Under-voltage release	
A01	Two groups of under-voltage release	
21	Single auxiliary contact	
61	Two sets of single auxiliary contact	
23	Three sets of single auxiliary contact	
24	Four sets of single auxiliary contact	
18	Shunt release, alarm contact	
38	Under-voltage release, alarm contact	
22	Single auxiliary contact, alarm contact	
88	Two sets of single auxiliary contact, alarm contact	
26	Three sets of single auxiliary contact, alarm contact	
25	Four sets of single auxiliary contact, alarm contact	
42	Shunt release, single auxiliary contact, alarm contact	
44	Shunt release, two sets of single auxiliary contact, alarm contact	
46	Shunt release, three sets of single auxiliary contact, alarm contact	

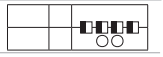
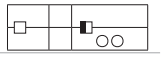
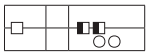
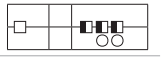
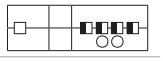
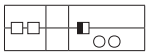
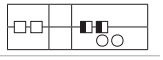
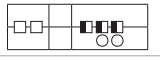
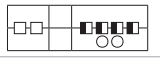
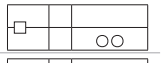
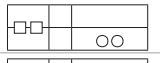
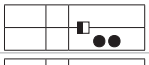
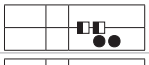
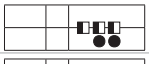
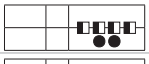
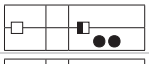
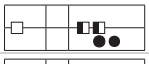
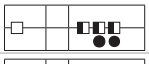
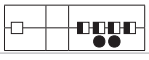
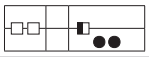
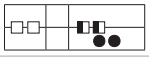
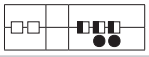
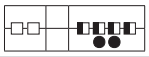
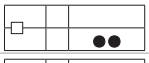
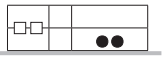
Accessory Code / Installation Position / Model / Number of Poles / Accessory Name		NDM5-1600 3P, 4P
14	Shunt release, four sets of single auxiliary contact, alarm contact	
75	Under-voltage release, single auxiliary contact, alarm contact	
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	
82	Under-voltage release, four sets of single auxiliary contact, alarm contact	
41	Shunt release, single auxiliary contact	
11	Shunt release, two sets of single auxiliary contact	
12	Shunt release, three sets of single auxiliary contact	
13	Shunt release, four sets of single auxiliary contact	
71	Under-voltage release, single auxiliary contact	
72	Under-voltage release, two sets of single auxiliary contact	
73	Under-voltage release, three sets of single auxiliary contact	
74	Under-voltage release, four sets of single auxiliary contact	
31	Under-voltage release, shunt release, alarm contact	
37	Under-voltage release, shunt release, two sets of single alarm contact	
50	Under-voltage release, shunt release	
51	Under-voltage release, shunt release, single auxiliary contact	
52	Under-voltage release, shunt release, two sets of single auxiliary contact	
53	Under-voltage release, shunt release, three sets of single auxiliary contact	
54	Under-voltage release, shunt release, four sets of single auxiliary contact	



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	NDM5-1600 3P, 4P
19	Shunt release, two sets of single alarm contact	
79	Under-voltage release, two sets of single alarm contact	
63	Single auxiliary contact, two sets of single alarm contact	
64	Two sets of single auxiliary contact, two sets of single alarm contact	
65	Three sets of single auxiliary contact, two sets of single alarm contact	
66	Four sets of single auxiliary contact, two sets of single alarm contact	
43	Shunt release, single auxiliary contact, two sets of single alarm contact	
45	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
47	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
15	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
76	Under-voltage release, single auxiliary contact, two sets of single alarm contact	
80	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
83	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
84	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
32	Under-voltage release, shunt release, single auxiliary contact, alarm contact	
33	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact	
34	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact	
35	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact	
39	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact	
55	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
56	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
36	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
A02	Two groups of under-voltage release, single auxiliary contact	
A07	Two groups of under-voltage release, two sets of single auxiliary contact	
A08	Two groups of under-voltage release, three sets of single auxiliary contact	

Accessory Code	Accessory Name	NDM5-1600 3P, 4P
A09	Two groups of under-voltage release, four sets of single auxiliary contact	
A10	Two groups of under-voltage release, single auxiliary contact, alarm contact	
A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact	
A14	Two groups of under-voltage release, three sets of single auxiliary contact, alarm contact	
A16	Two groups of under-voltage release, four sets of single auxiliary contact, alarm contact	
A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact	
A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
A05	Two groups of under-voltage release, alarm contact	
A06	Two groups of under-voltage release, two sets of single alarm contact	
K04	Two groups of shunt release, single auxiliary contact	
K06	Two groups of shunt release, two sets of single auxiliary contact	
K07	Two groups of shunt release, three sets of single auxiliary contact	
K08	Two groups of shunt release, four sets of single auxiliary contact	
K12	Two groups of shunt release, single auxiliary contact, alarm contact	
K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact	
K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact	
K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact	
K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact	
K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
K02	Two groups of shunt release, alarm contact	
K05	Two groups of shunt release, two sets of single alarm contact	

NDM5 Product Release Code Selection

Characteristics	Shell Frame Level	Rated Current (A)	Power Distribution Type		Motor Type		
			TMD	TMF	TMM	MF	MA
Conventional type	NDM5(N)-125	1.5, 2.5	/	/	/	Single-magnetic fixed: 12In	/
		6, 10, 12.5	/	/	/	/	Single-magnetic adjustable: 7-14In
		16, 20, 25, 32, 40, 50, 63, 80	Thermal adjustable: 0.8-1.0In Magnetic fixed 10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic fixed 14In	Single-magnetic fixed: 14In	/
		100, 125	Thermal adjustable: 0.8-1.0In Magnetic adjustable 5-10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic adjustable 9-14In	/	Single-magnetic adjustable: 9-14In
	NDM5(N)-160	16, 20, 25, 32, 40, 50, 63, 80	Thermal adjustable: 0.8-1.0In Magnetic fixed 10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic fixed 14In	Single-magnetic fixed: 14In	/
		100, 125, 160	Thermal adjustable: 0.8-1.0In Magnetic adjustable 5-10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic adjustable 8-14In	/	Single-magnetic adjustable: 9-14In
	NDM5(N)-250	63, 80, 100, 125	Thermal adjustable: 0.8-1.0In Magnetic fixed 10In	Thermal fixed: In Magnetic fixed: 10In	"Thermal adjustable: 0.8-1.0In Magnetic fixed 14In"	Single-magnetic fixed: 14In	/
		160, 200, 250	Thermal adjustable: 0.8-1.0In Magnetic adjustable 5-10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic adjustable 9-14In	/	Single-magnetic adjustable: 9-14In
	NDM5(N)-400	250, 320, 400	Thermal adjustable: 0.8-1.0In Magnetic adjustable 5-10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8-1.0In Magnetic adjustable 9-14In	/	Single-magnetic adjustable: 9-14In
	NDM5(N)-630	400, 500, 630	Thermal adjustable: 0.8-1.0In Magnetic adjustable 5-10In	Thermal fixed: In Magnetic fixed: 10In		/	Single-magnetic adjustable: 9-14In
	NDM5-1600	800, 1000, 1250	/	/	Thermal fixed: In Magnetic fixed: 10In	/	/
High type	NDM5-250 U R	6~25	/	/	/	Single-magnetic fixed: 14In	/
		32~40	Thermal adjustable: 0.8~1.0In Magnetic fixed 14In	Thermal fixed: In Magnetic fixed 14In	Thermal adjustable: 0.8~1.0In Magnetic fixed 14In	Single-magnetic fixed: 14In	/
		50~125	Thermal adjustable: 0.8~1.0In Magnetic fixed 10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8~1.0In Magnetic fixed 14In	Single-magnetic fixed: 14In	/
		160~250	Thermal adjustable: 0.8~1.0In Magnetic adjustable 5~10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8~1.0In Magnetic adjustable 9~14In	/	Single-magnetic adjustable: 9~14In
	NDM5-400/630 U R	250~630	Thermal adjustable: 0.8~1.0In Magnetic adjustable 5~10In	Thermal fixed: In Magnetic fixed: 10In	Thermal adjustable: 0.8~1.0In Magnetic adjustable 9~14In	/	Single-magnetic adjustable: 9~14In
	NDM5-250V	63~125	Thermal adjustable: 0.8~1.0In Magnetic fixed 10In	Thermal fixed: In Magnetic fixed: 10In	/	/	/
		160~250	Thermal adjustable: 0.8~1.0In Magnetic adjustable 5~10In	Thermal fixed: In Magnetic fixed: 10In	/	/	/
	NDM5-400V/630V	250~630	Thermal adjustable: 0.8~1.0In Magnetic adjustable 5~10In	Thermal fixed: In Magnetic fixed: 10In	/	/	/

Note: Existing protection functions can be removed for special customized products if the customer accepts that there is no certification and the label is unchanged (retaining the protection information), which shall be indicated in the application for special review.

NDM5E Series Electronic Trip Circuit Breakers - Quick Selection



ND M 5 E-250 M 250 / 3/ ETB / R0 M22 10 Z

- Other code: See note d
- Accessory code: See the List of Accessories
- Operation mode: See note c
- Installation mode + wiring method: See note b
- Release code:
  ETB: Electronic release;
  ETB-T: Electronic release of communication type;
  ETB-PT: Electronic release of communication and energy efficiency type;
  ETC: Intelligent release of LCD type;
  ETC-P: Intelligent release of energy efficiency type;
  ETC-T: Intelligent release of communication type;
  ETC-PT: Intelligent release of communication and energy efficiency type;
- Number of poles: See note a
- Rated current: See the performance parameter list
- Breaking capacity level:
  L: low type
  M: Middle type
  H: High type
- Shell frame current level: 125, 160, 250, 400, 630, 1600
- Special code for electronic type
- Design code: 5
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Note a:
3:3 pole
4A: The N-pole shall have no over-current release installed and shall be always connected.
4B: The N-pole shall have no over-current release installed and shall be opened/closed together with the other three poles.
4C: The N-pole shall have over-current release installed and shall be opened/closed together with the other three poles
4D: The N-pole shall have over-current release installed and shall be always connected.

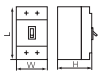
Note b:
Nil: Fixed type + front panel connection
ES: Fixed type + extended front panel connection
R0: fixed type + screw connection behind terminal
R1: fixed type + horizontal connection behind terminal
R2: fixed type + vertical connection behind terminal
Fcu: Fixed type + front bare copper cable connection
G: Rail type + front panel connection
GES: Rail type + extended front panel connection
GFcu: Rail type + front bare copper cable connection
P0FH: Plug-in type, without secondary terminal + horizontal front panel connection
P0RH: Plug-in type, without secondary terminal + horizontal rear panel connection
P0RV: Plug-in type, without secondary terminal + vertical rear panel connection
P1FH: Plug-in type, with secondary terminal + horizontal front panel connection
P1RH: Plug-in type, with secondary terminal + horizontal rear panel connection
P1RV: Plug-in type, with secondary terminal + vertical rear panel connection
W0FH: Draw-out type, without secondary terminal + horizontal front panel connection
W0RH: Draw-out type, without secondary terminal + horizontal rear panel connection
W0RV: Draw-out type, without secondary terminal + vertical rear panel connection
W1FH: Draw-out type, with secondary terminal + horizontal front panel connection
W1RH: Draw-out type, with secondary terminal + horizontal rear panel connection
W1RV: Draw-out type, with secondary terminal + vertical rear panel connection

Note c:
Nil: Direct handle-operated
Z1A150: circular center hole rotary handle + shaft length 150 mm
Z1A200: circular center hole rotary handle + shaft length 200 mm
Z1A300: circular center hole rotary handle + shaft length 300 mm
Z1A350: circular center hole rotary handle + shaft length 350 mm
Z1A650: circular center hole rotary handle + shaft length 650 mm
Z1F150: circular center hole rotary handle + shaft length 150 mm
Z1F200: circular center hole rotary handle + shaft length 200 mm
Z1F300: circular center hole rotary handle + shaft length 300 mm
Z1F350: circular center hole rotary handle + shaft length 350 mm
Z1F650: circular center hole rotary handle + shaft length 650 mm
Z2A150: circular eccentric hole rotary handle + shaft length 150 mm
Z2A200: circular eccentric hole rotary handle + shaft length 200 mm
Z2A300: circular eccentric hole rotary handle + shaft length 300 mm
Z2A350: circular eccentric hole rotary handle + shaft length 350 mm
Z2A650: circular eccentric hole rotary handle + shaft length 650 mm
Z2F150: circular eccentric hole rotary handle + shaft length 150 mm
Z2F200: circular eccentric hole rotary handle + shaft length 200 mm
Z2F300: circular eccentric hole rotary handle + shaft length 300 mm
Z2F350: circular eccentric hole rotary handle + shaft length 350 mm
Z2F650: circular eccentric hole rotary handle + shaft length 650 mm
M02: motor operating DC24V
M11: Motor operating AC110V/DC110V
M22: Motor operating AC230V/DC220V
M40: Motor operating AC400V

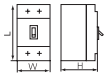
Note d:
J: Mechanical interlock
MS2: MS2 lock
Z: Terminal Cover
CZ: Long terminal cover

SN	Combination of Product Installation and Wiring Method	Applicable Shell Frame
1	Nil: Fixed type + front panel connection	125, 160, 250, 400, 630, 1600
2	ES: Fixed type + extended front panel connection	125, 160, 250, 400, 630, 1600
3	R0: fixed type + screw connection behind terminal	125, 160, 250
4	R1: fixed type + horizontal connection behind terminal	400, 630, 1600
5	R2: fixed type + vertical connection behind terminal	1600
6	Fcu: Fixed type + front bare copper cable connection	125, 160, 250
7	G: Rail type + front panel connection	125, 160, 250
8	GES: Rail type + extended front panel connection	125, 160, 250
9	GFcu: Rail type + front bare copper cable connection	125, 160, 250
10	P0FH: Plug-in type, without secondary terminal + horizontal front panel connection	125, 160, 250, 400, 630
11	P0RH: Plug-in type, without secondary terminal + horizontal rear panel connection	125, 160, 250, 400, 630
12	P0RV: Plug-in type, without secondary terminal + vertical rear panel connection	125, 160, 250
13	P1FH: Plug-in type, with secondary terminal + horizontal front panel connection	125, 160, 250, 400, 630
14	P1RH: Plug-in type, with secondary terminal + horizontal rear panel connection	125, 160, 250, 400, 630
15	P1RV: Plug-in type, with secondary terminal + vertical rear panel connection	125, 160, 250
16	W0FH: Draw-out type, without secondary terminal + horizontal front panel connection	400, 630
17	W0RH: Draw-out type, without secondary terminal + horizontal rear panel connection	400, 630
18	W0RV: Draw-out type, without secondary terminal + vertical rear panel connection	/
19	W1FH: Draw-out type, with secondary terminal + horizontal front panel connection	400, 630
20	W1RH: Draw-out type, with secondary terminal + horizontal rear panel connection	400, 630
21	W1RV: Draw-out type, with secondary terminal + vertical rear panel connection	/

NDM5E Main Performance Parameters

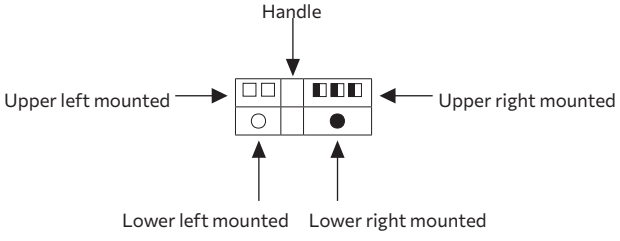
Model			NDM5E-125						NDM5E-160						NDM5E-250						NDM5E-400						NDM5E-630					
Rated current of shell frame level, Inm (A)			125						160						250						400						630					
Rated current, In (A)			32 , 63 , 125						160						40, 100, 250						400						630					
Rated insulation voltage, Ui (V)			800						800						1000						1000						1000					
Rated impulse withstand voltage, Uimp (V)			8000						8000						8000						8000						8000					
Power frequency withstand voltage, U (1 minute) (V)			3000						3000						3500						4000						4000					
Utilization category			A						A						A						B						B					
Rated short-time withstand current, Icw (kA/1s)			/						/						/						5						8					
Number of Poles			3			4			3			4			3			4			3			4			3			4		
Breaking capacity level			L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC 380/400/415V		70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150
	AC 500V		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	50	70	85	50	70	85	50	70	85	50	70	85
	AC 660/690V		/	/	/	/	/	/	/	/	/	/	/	/	8	12	15	8	12	15	20	30	40	20	30	40	20	30	40	20	30	40
Rated operating short-circuit breaking capacity, Ics (kA)	AC 380/400/415V		70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150	70	100	150
	AC 500V		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	50	70	85	50	70	85	50	70	85	50	70	85
	AC 660/690V		/	/	/	/	/	/	/	/	/	/	/	/	8	12	15	8	12	15	20	30	40	20	30	40	20	30	40	20	30	40
Operating performance (times)	Electrical life	AC 380/400/415V	10000						10000						10000						7000						5000					
		AC500V	/						/						/						5000						3500					
		AC 660/690V	/						/						4000						3000						2000					
	Mechanical life	Maintenance-free life	20000						20000						25000						20000						20000					
		Maintainable life	40000						40000						50000						40000						40000					
Dimensions	L (mm)		135			135			135			135			165			165			250			250			250			250		
	W (mm)		90			120			90			120			105			140			140			185			140			185		
	H (mm)		80			80			80			80			86			86			110			110			110			110		
Flashover distance (mm), without terminal cover			≤50						≤50						≤50						≤100						≤100					
Flashover distance (mm), with terminal cover			0						0						0						0						0					

Note: Dimensions exclude the size of the terminal cover.

Model			NDM5E-1600L	NDM5E-1600M	NDM5E-1600H
Rated current of shell frame level, Inm (A)			1600		
Rated current, In (A)			800, 1000, 1250, 1600		
Rated insulation voltage, Ui (V)			1000		
Rated impulse withstand voltage, Uimp (kV)			12		
Power frequency withstand voltage, U (1 minute) (V)			3500		
Utilization category;			B		
Rated short-time withstand current, Icw (kA)			20/1s		
Number of Poles			3	3, 4	3
Breaking capacity level			L	M	H
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	AC380/400/415V		70	100	100
	AC500V		50	70	85
	AC660/690V		20	35	50
	AC800V		/	/	30
Rated operating short-circuit breaking capacity, Ics (kA)	AC380/400/415V		70	100	100
	AC500V		50	70	70
	AC660/690V		20	35	42
	AC800V		/	/	20
Operating performance (times)	Electrical life	AC415V	2000(1600A), 3000(1250A)		
		AC500V	1500		
		AC690V	1000		
		AC800V	500		
	Mechanical life	Maintenance-free life	10000(3P)/6000(4P)		
		Maintainable life	20000(3P)/12000(4P)		
Dimensions 	L (mm)		268	268	268
	W (mm)		210	210(3P)/280(4P)	210
	H (mm)		154	154	154
Flashover distance (mm)			≤100		

NDM5E Accessories Selection

Accessory Code	Accessory Name (Installation Position / Model / Number of Poles)	NDM5E-125		NDM5E-160		NDM5E-250		NDM5E-400		NDM5E-630	
		3	4	3	4	3	4	3	4	3	4
–	Nil	––		––		––		––		––	
08	Alarm contact										
10	Shunt release										
30	Under-voltage release										
21	Single auxiliary contact										
61	Two sets of single auxiliary contact										
23	Three sets of single auxiliary contact										
18	Shunt release, alarm contact										
38	Under-voltage release, alarm contact										
22	Single auxiliary contact, alarm contact										
88	Two sets of single auxiliary contact, alarm contact										
26	Three sets of single auxiliary contact, alarm contact										
42	Shunt release, single auxiliary contact, alarm contact										
44	Shunt release, two sets of single auxiliary contact, alarm contact										
46	Shunt release, three sets of single auxiliary contact, alarm contact										
75	Under-voltage release, single auxiliary contact, alarm contact										
77	Under-voltage release, two sets of single auxiliary contact, alarm contact										
81	Under-voltage release, three sets of single auxiliary contact, alarm contact										



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM5E-125		NDM5E-160		NDM5E-250		NDM5E-400		NDM5E-630	
			3	4	3	4	3	4	3	4	3	4
41	Shunt release, single auxiliary contact		●		●		●			●		●
11	Shunt release, two sets of single auxiliary contact		●		●		●			●		●
12	Shunt release, three sets of single auxiliary contact		●		●		●			●		●
71	Under-voltage release, single auxiliary contact		○		○		○			○		○
72	Under-voltage release, two sets of single auxiliary contact		○		○		○			○		○
73	Under-voltage release, three sets of single auxiliary contact		○		○		○			○		○
50	Shunt release, under-voltage release		——		——		——		○	●	○	●
31	Under-voltage release, shunt release, alarm contact		——		——		——		□ ○	●	□ ○	●
51	Shunt release, under-voltage release, single auxiliary contact		——		——		——		○	●	○	●
52	Shunt release, under-voltage release, two sets of single auxiliary contact		——		——		——		○	●	○	●
53	Shunt release, under-voltage release, three sets of single auxiliary contact		——		——		——		○	●	○	●
98	Two sets of alarm contact		——		——		——		□□		□□	
63	Two sets of single alarm contact, single auxiliary contact		——		——		——		□□		□□	
64	Two sets of single alarm contact, two sets of single auxiliary contact		——		——		——		□□		□□	
65	Two sets of single alarm contact, three sets of single auxiliary contact		——		——		——		□□		□□	
37	Shunt release, under-voltage release, two sets of alarm contact		——		——		——		□□ ○	●	□□ ○	●
39	Shunt release, under-voltage release, single auxiliary contact, two sets of alarm contact		——		——		——		□□ ○	●	□□ ○	●
55	Shunt release, under-voltage release, two sets of single auxiliary contact, two sets of alarm contact		——		——		——		□□ ○	●	□□ ○	●
56	Shunt release, under-voltage release, three sets of single auxiliary contact, two sets of alarm contact		——		——		——		□□ ○	●	□□ ○	●
32	Alarm contact + shunt release + under-voltage release + single auxiliary contact		——		——		——		□ ○	●	□ ○	●
33	Alarm contact + shunt release + under-voltage release + two sets of single auxiliary contact		——		——		——		□ ○	●	□ ○	●
34	Alarm contact + shunt release + under-voltage release + three sets of single auxiliary contact		——		——		——		□ ○	●	□ ○	●

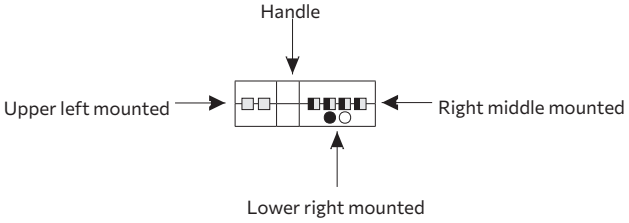
Note 1: Shunt release and under-voltage release of NDM5-400/630 products can be mounted on either side;

Note 2: For NDM5E-250, NDM5E-400 and NDM5E-630, there are no codes for three sets of single auxiliary contact for ETB-T/ETB-PT/ETC-T/ETC-P/ETC-PT.

Note 3: For NDM5E-125 and NDM5E-160, there are no codes for three sets of single auxiliary contact for ETB-T/ETB-PT.

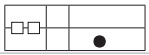
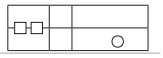
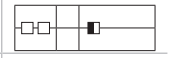
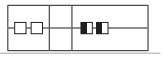
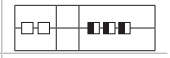
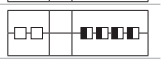
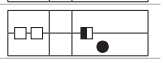
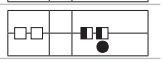
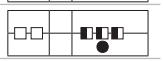
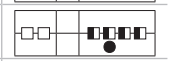
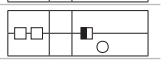
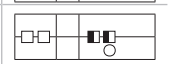
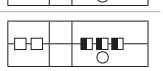
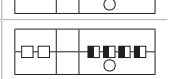
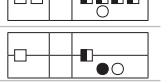
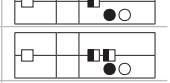
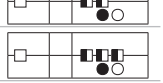
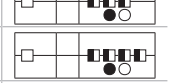
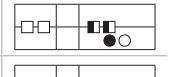
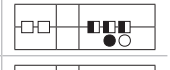
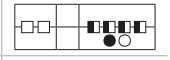
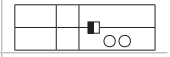
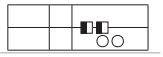
Accessory Code / Installation Position / Model / Number of Poles / Accessory Name		NDM5E-1600
		3P, 4P
–	Nil	––
08	One block of alarm contact	
98	Two sets of single alarm contact	
10	Shunt release	
K01	Two groups of shunt release	
30	Under-voltage release	
A01	Two groups of under-voltage release	
21	Single auxiliary contact	
61	Two sets of single auxiliary contact	
23	Three sets of single auxiliary contact	
24	Four sets of single auxiliary contact	
18	Shunt release, alarm contact	
38	Under-voltage release, alarm contact	
22	Single auxiliary contact, alarm contact	
88	Two sets of single auxiliary contact, alarm contact	
26	Three sets of single auxiliary contact, alarm contact	
25	Four sets of single auxiliary contact, alarm contact	
42	Shunt release, single auxiliary contact, alarm contact	
44	Shunt release, two sets of single auxiliary contact, alarm contact	
46	Shunt release, three sets of single auxiliary contact, alarm contact	

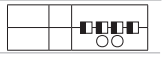
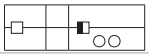
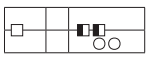
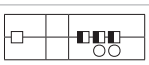
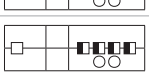
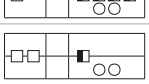
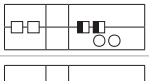
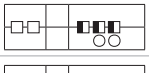
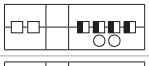
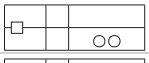
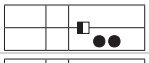
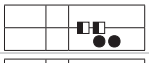
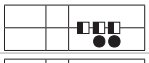
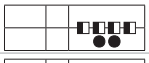
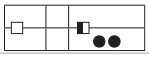
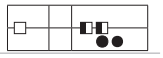
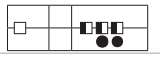
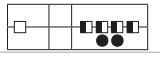
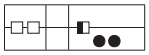
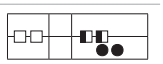
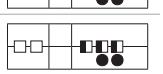
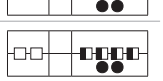
Accessory Code / Installation Position / Model / Number of Poles / Accessory Name		NDM5E-1600
		3P, 4P
14	Shunt release, four sets of single auxiliary contact, alarm contact	
75	Under-voltage release, single auxiliary contact, alarm contact	
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	
82	Under-voltage release, four sets of single auxiliary contact, alarm contact	
41	Shunt release, single auxiliary contact	
11	Shunt release, two sets of single auxiliary contact	
12	Shunt release, three sets of single auxiliary contact	
13	Shunt release, four sets of single auxiliary contact	
71	Under-voltage release, single auxiliary contact	
72	Under-voltage release, two sets of single auxiliary contact	
73	Under-voltage release, three sets of single auxiliary contact	
74	Under-voltage release, four sets of single auxiliary contact	
31	Under-voltage release, shunt release, alarm contact	
37	Under-voltage release, shunt release, two sets of single alarm contact	
50	Under-voltage release, shunt release	
51	Under-voltage release, shunt release, single auxiliary contact	
52	Under-voltage release, shunt release, two sets of single auxiliary contact	
53	Under-voltage release, shunt release, three sets of single auxiliary contact	
54	Under-voltage release, shunt release, four sets of single auxiliary contact	



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	NDM5E-1600 (Installation Position / Model / Number of Poles) 3P, 4P
19	Shunt release, two sets of single alarm contact	
79	Under-voltage release, two sets of single alarm contact	
63	Single auxiliary contact, two sets of single alarm contact	
64	Two sets of single auxiliary contact, two sets of single alarm contact	
65	Three sets of single auxiliary contact, two sets of single alarm contact	
66	Four sets of single auxiliary contact, two sets of single alarm contact	
43	Shunt release, single auxiliary contact, two sets of single alarm contact	
45	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
47	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
15	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
76	Under-voltage release, single auxiliary contact, two sets of single alarm contact	
80	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
83	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
84	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
32	Under-voltage release, shunt release, single auxiliary contact, alarm contact	
33	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact	
34	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact	
35	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact	
39	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact	
55	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
56	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
36	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
A02	Two groups of under-voltage release, single auxiliary contact	
A07	Two groups of under-voltage release, two sets of single auxiliary contact	
A08	Two groups of under-voltage release, three sets of single auxiliary contact	

Accessory Code	Accessory Name	NDM5E-1600 (Installation Position / Model / Number of Poles) 3P, 4P
A09	Two groups of under-voltage release, four sets of single auxiliary contact	
A10	Two groups of under-voltage release, single auxiliary contact, alarm contact	
A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact	
A14	Two groups of under-voltage release, three sets of single auxiliary contact, alarm contact	
A16	Two groups of under-voltage release, four sets of single auxiliary contact, alarm contact	
A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact	
A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
A05	Two groups of under-voltage release, alarm contact	
A06	Two groups of under-voltage release, two sets of single alarm contact	
K04	Two groups of shunt release, single auxiliary contact	
K06	Two groups of shunt release, two sets of single auxiliary contact	
K07	Two groups of shunt release, three sets of single auxiliary contact	
K08	Two groups of shunt release, four sets of single auxiliary contact	
K12	Two groups of shunt release, single auxiliary contact, alarm contact	
K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact	
K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact	
K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact	
K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact	
K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
K02	Two groups of shunt release, alarm contact	
K05	Two groups of shunt release, two sets of single alarm contact	

Note: For NDM5E-1600, there are no codes for four sets of single auxiliary contact for ETB-T/ETB-PT/ETC-T/ETC-P/ETC-PT.

NDM5E Release Functions

Release Code			ETB	ETC	ETB-T	ETC-T	ETB-PT	ETC-P	ETC-PT
Protection alarm	Long-time delay protection		√	√	√	√	√	√	√
	Short-time delay protection		√	√	√	√	√	√	√
	Short circuit instantaneous protection		√	√	√	√	√	√	√
	Neutral pole protection		√	√	√	√	√	√	√
	Ground protection		√	√	√	√	√	√	√
	Over-/under-voltage protection		–	–	–	–	√	√注1	√
	Overload pre-alarm		√	√	√	√	√	√	√
	Thermal simulation function (thermal memory)		√	√	√	√	√	√	√
Measurement	Current measurement		–	√	√	√	√	√	√
	Voltage measurement	Line/phase voltage	–	–	–	–	√	√	√
	Power measurement	Active power, reactive power, apparent power, power factor	–	–	–	–	√	√	√
	Electric energy measurement	Active, reactive and apparent electric energy	–	–	–	–	√	√	√
	Frequency measurement		–	–	–	–	√	√	√
Maintenance	Setting	Button setting	√	√	√	√	√	√	√
		Menu setting	–	–	–	–	–	–	–
	Fault memory (entries)	Overload, short-circuit short-time delay, short-circuit instantaneous, action time, fault phase	1注2	1	20	20	20	1	20
		Over-voltage protection, under-voltage protection, action time, fault phase	–	–	–	–			
	Number of hot-line operations		–	–	√	√	√	–	√
	Contact wear		–	–	√	√	√	–	√
	Historical record (entries)		–	1	20	20	20	1	20
Display	Real-time current		–	√	√	√	√	√	√
	Real-time voltage		–	–	–	–	√	√	√
	Power, electric energy, frequency		–	–	–	–	√	√	√
	Setting value display		–	–	–	–	√	√	√
	Type of last fault, fault current or voltage, action time, fault occurrence time		–	√	√Note3	√	√Note3	√	√
Extension module	Display module Note 4		○	○	○	○	○	○	○
	Temperature detection module Note 4		○	○	○	○	○	○	○

Note 1: ETC-P over-/under-voltage cannot be modified. It is a default parameter. Note 2: DF-MB/C3 communication adapter or DF-XS1 display unit should be configured for reading. Note 3: display through the upper computer. Note 4: "○" means additional options. All protections must meet the power supply requirements of the circuit breaker, three-phase power supply 0.2In and single-phase power supply 0.4In.

NDM5Z Series DC1500V Circuit Breakers - Quick Selection



ND M 5 Z-250 M 125/3 TMDC R1 M22 10 Z

- Other code: See note e
- Accessory code: See the accessories selection list
- Operation mode: See note d
- Installation mode + wiring method: See note c
- Release code: See note b
- Number of poles: See note a
- Rated current: See the performance parameter list
- Breaking level code: L; Low type M; Middle type, H: High type
- Shell frame current level: 160, 250, 400, 630, 1600
- DC molded case circuit breaker
- Design code: 5
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Note a:
2: two poles; 3: three poles; 4: four poles.

Note b:
Release code: TMDC: Thermal adjustable (0.8-0.9-1.0)In, magnetic adjustable (5-6-7-8-9-10)In, for power distribution.

Note c:
Nil: Fixed type + front panel connection
ES: Fixed type + extended front panel connection
R0: fixed type + screw connection behind terminal
R1: fixed type + horizontal connection behind terminal
R2: fixed type + vertical connection behind terminal
Fcu: Fixed type + front bare copper cable connection
G: Rail type + front terminal connection
GES: Rail type + extended front terminal connection
GFcu: Rail type + front bare copper cable connection
P0FH: Plug-in type, without secondary terminal + horizontal front panel connection
P0RH: Plug-in type, without secondary terminal + horizontal rear panel connection
P0RV: Plug-in type, without secondary terminal + vertical rear panel connection
P1FH: Plug-in type, with secondary terminal + horizontal front panel connection
P1RH: Plug-in type, with secondary terminal + horizontal rear panel connection
P1RV: Plug-in type, with secondary terminal + vertical rear panel connection
W0FH: Draw-out type, without secondary terminal + horizontal front panel connection
W0RH: Draw-out type, without secondary terminal + horizontal rear panel connection
W0RV: Draw-out type, without secondary terminal + vertical rear panel connection
W1FH: Draw-out type, with secondary terminal + horizontal front panel connection
W1RH: Draw-out type, with secondary terminal + horizontal rear panel connection
W1RV: Draw-out type, with secondary terminal + vertical rear panel connection

Note d:
Nil: Direct handle-operated
Z1A150: circular center hole rotary handle + shaft length 150 mm
Z1A200: circular center hole rotary handle + shaft length 200 mm
Z1A300: circular center hole rotary handle + shaft length 300 mm
Z1A350: circular center hole rotary handle + shaft length 350 mm
Z1A650: circular center hole rotary handle + shaft length 650 mm
Z1F150: circular center hole rotary handle + shaft length 150 mm
Z1F200: circular center hole rotary handle + shaft length 200 mm
Z1F300: circular center hole rotary handle + shaft length 300 mm
Z1F350: circular center hole rotary handle + shaft length 350 mm
Z1F650: circular center hole rotary handle + shaft length 650 mm
Z2A150: circular eccentric hole rotary handle + shaft length 150 mm
Z2A200: circular eccentric hole rotary handle + shaft length 200 mm
Z2A300: circular eccentric hole rotary handle + shaft length 300 mm
Z2A350: circular eccentric hole rotary handle + shaft length 350 mm
Z2A650: circular eccentric hole rotary handle + shaft length 650 mm
Z2F150: circular eccentric hole rotary handle + shaft length 150 mm
Z2F200: circular eccentric hole rotary handle + shaft length 200 mm
Z2F300: circular eccentric hole rotary handle + shaft length 300 mm
Z2F350: circular eccentric hole rotary handle + shaft length 350 mm
Z2F650: circular eccentric hole rotary handle + shaft length 650 mm
M02: motor operating DC24V
M11: Motor operating AC110V/DC110V
M22: Motor operating AC230V/DC220V
M40: Motor operating AC400V

Note e:
J: Mechanical interlock
BL: 4P parallel connection
MS2: MS2 lock

NDM5Z Main Performance Parameters

Model			NDM5Z-160									NDM5Z-250								
Rated current of shell frame level, Inm (A)			160									250								
Rated current, In (A)			16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160									160, 200, 250								
Rated insulation voltage, Ui (V)			1200									1200								
Rated impulse withstand voltage, Uimp (V)			8000									8000								
Power frequency withstand voltage, U (1 minute) (V)			3000									3500								
Utilization category			A									A								
Number of Poles			2			3			4			2			3			4		
Breaking capacity level			L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
Rated Limit Short-circuit Breaking Capacity, Icu (kA)		DC 500V (2P)	50	85	100							50	85	100						
		DC 750V (2P)												25						
		DC 750V (3P)				50	85	100							50	85	100			
		DC 1000V (3P)															25			
		DC 1000V (4P)							25	35	50							50	70	85
		DC 1200V (4P)									25									40
		DC 1500V (4P)																		
		DC600V (4P parallel connection)																		
		DC750V (4P parallel connection)																		
Rated operating short-circuit breaking capacity, Ics (kA)		DC 500V (2P)	50	85	100							50	85	100						
		DC 750V (2P)												25						
		DC 750V (3P)				50	85	100							50	85	100			
		DC 1000V (3P)															25			
		DC 1000V (4P)							25	35	50							50	70	85
		DC 1200V (4P)									25									40
		DC 1500V (4P)																		
		DC600V (4P parallel connection)																		
		DC750V (4P parallel connection)																		
Operating performance (times)	Mechanical life	DC 500V (2P)	5000									5000								
		DC 750V (2P)										5000								
		DC 750V (3P)				5000									5000					
		DC 1000V (3P)													4000					
		DC 1000V (4P)							4000									4000		
		DC 1200V (4P)							3000									3000		
		DC 1500V (4P)																		
		DC600V (4P parallel connection)																		
		DC750V (4P parallel connection)																		
	Mechanical life	Maintenance-free life	20000			25000			25000			25000			25000			25000		
		Maintainable life	40000			50000			50000			50000			50000			50000		
Dimensions		L (mm)	135			135			135			165			165			165		
		W (mm)	61			90			120			70			105			140		
		H (mm)	80			80			80			86			86			86		
Flashover distance (mm)			≤50									≤50								

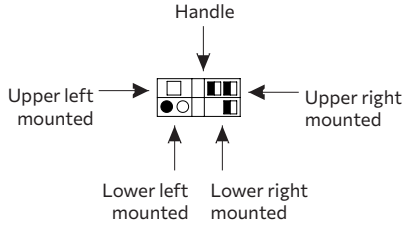
Note: Dimensions exclude the size of the terminal cover.

Model		NDM5Z-400						NDM5Z-630							NDM5Z-1600		
Rated current of shell frame level, Inm (A)		400						630							1600		
Rated current, In (A)		250, 320, 400						400, 500, 550（3P/4P）, 630 (2P)						1250 (parallel connection)	800, 1000, 1250, 1500	800, 1000, 1250, 1500*	800, 1000, 1250, 1500*
Rated insulation voltage, Ui (V)		1500						1200							1200		
Rated impulse withstand voltage, Uimp (V)		8000						8000							12000		
Power frequency withstand voltage, U (1 minute) (V)		4000						4000							3500		
Utilization category		A						A							A		
Number of Poles		3			4			2	3			4			4 parallel connection	2	3	4
Breaking capacity level		L	M	H	L	M	H	H	L	M	H	L	M	H	H	M	M	M
Rated operating voltage, Ue (V)																DC500V, DC600V	DC750V	DC1000V, DC1200V
Rated Limit Short-circuit Breaking Capacity, Icu (kA)	DC 500V (2P)															70	/	/
	DC600V (2P)															35	/	/
	DC 750V (2P)							30								/	/	/
	DC 750V (3P)	50	85	100					50	85	100					/	70	/
	DC 1000V (3P)															/	/	/
	DC 1000V (4P)				50	85	100					50	85	100		/	/	70
	DC 1200V (4P)						50							50		/	/	35
	DC 1500V (4P)						20									/	/	/
	DC600V (4P parallel connection)														50	/	/	/
	DC750V (4P parallel connection)														25	/	/	/
Rated operating short-circuit breaking capacity, Ics (kA)	DC 500V (2P)															70	/	/
	DC600V (2P)															35	/	/
	DC 750V (2P)							30								/	/	/
	DC 750V (3P)	50	85	100					50	85	100					/	70	/
	DC 1000V (3P)															/	/	/
	DC 1000V (4P)				50	85	100					50	85	100		/	/	70
	DC 1200V (4P)						50							50		/	/	35
	DC 1500V (4P)						20									/	/	/
	DC600V (4P parallel connection)														50	/	/	/
	DC750V (4P parallel connection)														25	/	/	/
Operating performance (times) Electrical life	DC 500V (2P)															1000	/	/
	DC600V (2P)															1000	/	/
	DC 750V (2P)							3000								/	/	/
	DC 750V (3P)	5000							3000							/	1000	/
	DC 1000V (3P)															/	/	/
	DC 1000V (4P)				5000							3000				/	/	1000
	DC 1200V (4P)				3000							2000				/	/	500
	DC 1500V (4P)				2000											/	/	/
	DC600V (4P parallel connection)														2000	/	/	/
	DC750V (4P parallel connection)														1000	/	/	/
Operating performance (times) Mechanical life	Maintenance-free life	20000			20000			20000	20000			20000			20000	10000	10000	6000
	Maintainable life	40000			40000			40000	40000			40000			40000	20000	20000	12000
Dimensions	L (mm)	250			250			250	250			250			250	268	268	268
	W (mm)	140			185			140	140			185			185	210	210	280
	H (mm)	110			110			110	110			110			110	152	152	152
Flashover distance (mm)		≤100						≤100								≤100		

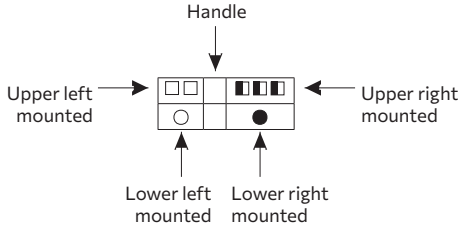
Note: 1500*: NDM5Z-1600 3P/4P maximum operating current is 1,440 A.
Dimensions exclude the size of the terminal cover.

NDM5Z Accessories Selection

Accessory Code	Accessory Name	NDM5Z-160			NDM5Z-250			NDM5Z-400		NDM5Z-630	
Installation Position / Model / Number of Poles		2	3	4	2	3	4	3	4	3	4
–	Nil	––	––		––	––		––		––	
08	Alarm contact										
10	Shunt release										
30	Under-voltage release										
21	Single auxiliary contact	––			––						
61	Two sets of single auxiliary contact	––			––						
23	Three sets of single auxiliary contact	––			––						
18	Shunt release, alarm contact										
38	Under-voltage release, alarm contact										
22	Single auxiliary contact, alarm contact	––			––						
88	Two sets of single auxiliary contact, alarm contact	––			––						
26	Three sets of single auxiliary contact, alarm contact	––			––						
42	Shunt release, single auxiliary contact, alarm contact	––			––						
44	Shunt release, two sets of single auxiliary contact, alarm contact	––			––						
46	Shunt release, three sets of single auxiliary contact, alarm contact	––			––						
75	Under-voltage release, single auxiliary contact, alarm contact	––			––						
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	––			––						
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	––			––						



Installation Diagram of Shell Frame 125/160/250 Accessories



Installation Diagram of Shell Frame 400/630 Accessories

Legend::

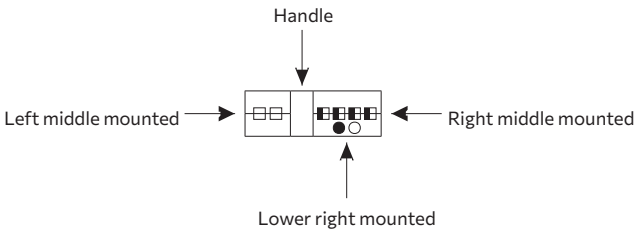
- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles	NDM5Z-160			NDM5Z-250			NDM5Z-400		NDM5Z-630	
			2	3	4	2	3	4	3	4	3	4
41	Shunt release, single auxiliary contact		—			—						
11	Shunt release, two sets of single auxiliary contact		—			—						
12	Shunt release, three sets of single auxiliary contact		—			—						
71	Under-voltage release, single auxiliary contact		—			—						
72	Under-voltage release, two sets of single auxiliary contact		—			—						
73	Under-voltage release, three sets of single auxiliary contact		—			—						
50	Shunt release, under-voltage release		—	—		—	—					
31	Under-voltage release, shunt release, alarm contact		—	—		—	—					
51	Shunt release, under-voltage release, single auxiliary contact		—	—		—	—					
52	Shunt release, under-voltage release, two sets of single auxiliary contact		—	—		—	—					
53	Shunt release, under-voltage release, three sets of single auxiliary contact		—	—		—	—					
98	Two sets of alarm contact		—	—		—	—					
63	Two sets of single alarm contact, single auxiliary contact		—	—		—	—					
64	Two sets of single alarm contact, two sets of single auxiliary contact		—	—		—	—					
65	Two sets of single alarm contact, three sets of single auxiliary contact		—	—		—	—					
37	Shunt release, under-voltage release, two sets of alarm contact		—	—		—	—					
39	Shunt release, under-voltage release, single auxiliary contact, two sets of alarm contact		—	—		—	—					
55	Shunt release, under-voltage release, two sets of single auxiliary contact, two sets of alarm contact		—	—		—	—					
56	Shunt release, under-voltage release, three sets of single auxiliary contact, two sets of alarm contact		—	—		—	—					
32	Alarm contact + shunt release + under-voltage release + single auxiliary contact		—	—		—	—					
33	Alarm contact + shunt release + under-voltage release + two sets of single auxiliary contact		—	—		—	—					
34	Alarm contact + shunt release + under-voltage release + three sets of single auxiliary contact		—	—		—	—					

Note: Shunt release and under-voltage release of NDM5Z-400/630 products can be mounted on either side.

Accessory Code	Accessory Name	NDM5Z-1600 2P, 3P, 4P
–	Nil	––
08	One block of alarm contact	
98	Two sets of single alarm contact	
10	Shunt release	
K01	Two groups of shunt release	
30	Under-voltage release	
A01	Two groups of under-voltage release	
21	Single auxiliary contact	
61	Two sets of single auxiliary contact	
23	Three sets of single auxiliary contact	
24	Four sets of single auxiliary contact	
18	Shunt release, alarm contact	
38	Under-voltage release, alarm contact	
22	Single auxiliary contact, alarm contact	
88	Two sets of single auxiliary contact, alarm contact	
26	Three sets of single auxiliary contact, alarm contact	
25	Four sets of single auxiliary contact, alarm contact	
42	Shunt release, single auxiliary contact, alarm contact	
44	Shunt release, two sets of single auxiliary contact, alarm contact	

Accessory Code	Accessory Name	NDM5E-1600 2P, 3P, 4P
46	Shunt release, three sets of single auxiliary contact, alarm contact	
14	Shunt release, four sets of single auxiliary contact, alarm contact	
75	Under-voltage release, single auxiliary contact, alarm contact	
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	
82	Under-voltage release, four sets of single auxiliary contact, alarm contact	
41	Shunt release, single auxiliary contact	
11	Shunt release, two sets of single auxiliary contact	
12	Shunt release, three sets of single auxiliary contact	
13	Shunt release, four sets of single auxiliary contact	
71	Under-voltage release, single auxiliary contact	
72	Under-voltage release, two sets of single auxiliary contact	
73	Under-voltage release, three sets of single auxiliary contact	
74	Under-voltage release, four sets of single auxiliary contact	
31	Under-voltage release, shunt release, alarm contact	
37	Under-voltage release, shunt release, two sets of single alarm contact	
50	Under-voltage release, shunt release	
51	Under-voltage release, shunt release, single auxiliary contact	
52	Under-voltage release, shunt release, two sets of single auxiliary contact	



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

Accessory Code	Accessory Name	NDM5Z-1600 (Installation Position / Model / Number of Poles: 2P, 3P, 4P)
53	Under-voltage release, shunt release, three sets of single auxiliary contact	
54	Under-voltage release, shunt release, four sets of single auxiliary contact	
19	Shunt release, two sets of single alarm contact	
79	Under-voltage release, two sets of single alarm contact	
63	Single auxiliary contact, two sets of single alarm contact	
64	Two sets of single auxiliary contact, two sets of single alarm contact	
65	Three sets of single auxiliary contact, two sets of single alarm contact	
66	Four sets of single auxiliary contact, two sets of single alarm contact	
43	Shunt release, single auxiliary contact, two sets of single alarm contact	
45	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
47	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
15	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
76	Under-voltage release, single auxiliary contact, two sets of single alarm contact	
80	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
83	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
84	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
32	Under-voltage release, shunt release, single auxiliary contact, alarm contact	
33	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact	
34	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact	
35	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact	
39	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact	
55	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
56	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
36	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
A02	Two groups of under-voltage release, single auxiliary contact	
A07	Two groups of under-voltage release, two sets of single auxiliary contact	

Accessory Code	Accessory Name	NDM5Z-1600 (Installation Position / Model / Number of Poles: 2P, 3P, 4P)
A08	Two groups of under-voltage release, three sets of single auxiliary contact	
A09	Two groups of under-voltage release, four sets of single auxiliary contact	
A10	Two groups of under-voltage release, single auxiliary contact, alarm contact	
A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact	
A14	Two groups of under-voltage release, three sets of single auxiliary contact, alarm contact	
A16	Two groups of under-voltage release, four sets of single auxiliary contact, alarm contact	
A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact	
A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
A05	Two groups of under-voltage release, alarm contact	
A06	Two groups of under-voltage release, two sets of single alarm contact	
K04	Two groups of shunt release, single auxiliary contact	
K06	Two groups of shunt release, two sets of single auxiliary contact	
K07	Two groups of shunt release, three sets of single auxiliary contact	
K08	Two groups of shunt release, four sets of single auxiliary contact	
K12	Two groups of shunt release, single auxiliary contact, alarm contact	
K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact	
K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact	
K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact	
K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact	
K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
K02	Two groups of shunt release, alarm contact	
K05	Two groups of shunt release, two sets of single alarm contact	

NDM5G Series AC Molded Case Switch Disconnector - Quick Selection



ND M 5 G – 400 V 400 / 2 / M02 10

- Accessory code: See the list of accessories
- Operation mode: See notes
- Number of poles: 2
- Conventional thermal current (A): 400
- Variety derivation code: V: High voltage
- Shell frame level: 400
- Derivation code:
  G: Switch disconnector
- Design code: 5
- Product code: Molded case circuit breaker
- Enterprise code: Nader

Notes:
Operation mode
Nil: Direct handle-operated;
Z1A150: circular center hole rotary handle + shaft length 150 mm;
Z1A200: circular center hole rotary handle + shaft length 200 mm;
Z1A300: circular center hole rotary handle + shaft length 300 mm;
Z1A350: circular center hole rotary handle + shaft length 350 mm;
Z1A650: circular center hole rotary handle + shaft length 650 mm;
Z1F150: circular center hole rotary handle + shaft length 150 mm;
Z1F200: circular center hole rotary handle + shaft length 200 mm;
Z1F300: circular center hole rotary handle + shaft length 300 mm;
Z1F350: circular center hole rotary handle + shaft length 350 mm;
Z1F650: circular center hole rotary handle + shaft length 650 mm;
M02: motor operating DC24V;
M11: Motor operating AC110V/DC110V;
M22: Motor operating AC230V/DC220V;
M40: Motor operating AC400V.

NDM5G Series AC Molded Case Switch Disconnector - Quick Selection

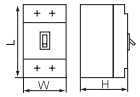


ND M 5 G – 1600 800 / 3 / M02 10 S

- Special code: S: Extended handle
- Accessory code: See the list of accessories
- Operation mode: See notes
- Number of poles: 3, 4
- Rated operating current: 800, 1000, 1250, 1600
- Shell frame level: 1600
- Derivation code:
  G: Switch disconnector
- Design code: 5
- Product code: Molded case circuit breaker
- Enterprise code: Nader

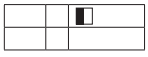
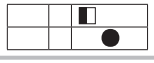
Notes:
Operation mode
Nil: Direct handle-operated
Z2A150: circular eccentric hole rotary handle + shaft length 150 mm
Z2A200: circular eccentric hole rotary handle + shaft length 200 mm
Z2A300: circular eccentric hole rotary handle + shaft length 300 mm
Z2A350: circular eccentric hole rotary handle + shaft length 350 mm
Z2A650: circular eccentric hole rotary handle + shaft length 650 mm
M02: conventional motor operating DC24V
M11: conventional motor operating AC110V/DC110V
M22: conventional motor operating AC230V/DC220V
M40: conventional motor operating AC400V
M02 low: low-level motor operating DC24V
M11 low: low-level motor operating AC110V/DC110V
M22 low: low-level motor operating AC230V/DC220V
M40 low: low-level motor operating AC400V

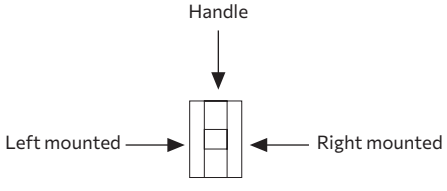
NDM5G Main Performance Parameters

Model			NDM5G-400V	NDM5G-1600
Conventional thermal current, Ith (A)			400	800, 1000, 1250, 1600
Rated voltage, Ue (V)			DC1500	AC380/400/415, AC660/690 , AC1140
Number of Poles			2 (3P outline)	3, 4
Utilization category			DC-22A, DC-PV2	AC-23A (AC690V and below), AC-22A (AC1140V)
Rated impulse withstand voltage, Uimp (V)			8000	12000
Rated insulation voltage, Ui (V)			1500	1500
Rated short-time withstand current, Icw (kA)			5/1s	20/1s
Rated short-circuit making capacity, Icm (kA)			5	40
Operating performance (times)	Electrical life	AC415V		1000
		AC690V		1000
		AC1140V		500
		DC1500V	1000	
	Mechanical life	Maintenance-free life	10000	10000
		Maintainable life	20000	20000
Dimensions 	L (mm)		250	268
	W (mm)		140	210(3P)/280(4P)
	H (mm)		131	157
Flashover distance (mm)			≤50	≤100

Note: Rated limiting short-circuit current: DC1300V/30kA, time constant: 5ms, photovoltaic fuse: IR: 30kA, DC1500V/400A.

NDM5G-400V Molded Case Circuit Breaker - Accessories Selection

Accessory Code	Accessory Name	Installation Position / Model / Number of Poles: NDM5G-400V, 2
00	No accessory	——
10	Shunt release	
21	Single auxiliary contact	
41	Shunt release + single auxiliary contact	



Legend::

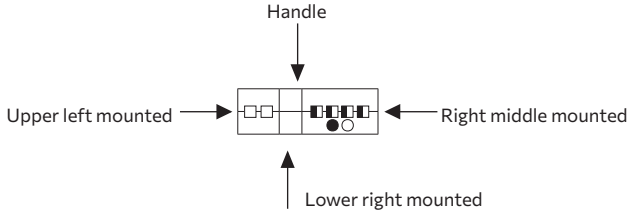
Single auxiliary contact

Shunt release

NDM5G-1600 Molded Case Switch Disconnector - Accessories Selection

Accessory Code	Accessory Name	NDM5G-1600 3P, 4P
–	Nil	––
08	One block of alarm contact	
98	Two sets of single alarm contact	
10	Shunt release	
K01	Two groups of shunt release	
30	Under-voltage release	
A01	Two groups of under-voltage release	
21	Single auxiliary contact	
61	Two sets of single auxiliary contact	
23	Three sets of single auxiliary contact	
24	Four sets of single auxiliary contact	
18	Shunt release, alarm contact	
38	Under-voltage release, alarm contact	
22	Single auxiliary contact, alarm contact	
88	Two sets of single auxiliary contact, alarm contact	
26	Three sets of single auxiliary contact, alarm contact	
25	Four sets of single auxiliary contact, alarm contact	
42	Shunt release, single auxiliary contact, alarm contact	
44	Shunt release, two sets of single auxiliary contact, alarm contact	
46	Shunt release, three sets of single auxiliary contact, alarm contact	

Accessory Code	Accessory Name	NDM5G-1600 3P, 4P
14	Shunt release, four sets of single auxiliary contact, alarm contact	
75	Under-voltage release, single auxiliary contact, alarm contact	
77	Under-voltage release, two sets of single auxiliary contact, alarm contact	
81	Under-voltage release, three sets of single auxiliary contact, alarm contact	
82	Under-voltage release, four sets of single auxiliary contact, alarm contact	
41	Shunt release, single auxiliary contact	
11	Shunt release, two sets of single auxiliary contact	
12	Shunt release, three sets of single auxiliary contact	
13	Shunt release, four sets of single auxiliary contact	
71	Under-voltage release, single auxiliary contact	
72	Under-voltage release, two sets of single auxiliary contact	
73	Under-voltage release, three sets of single auxiliary contact	
74	Under-voltage release, four sets of single auxiliary contact	
31	Under-voltage release, shunt release, alarm contact	
37	Under-voltage release, shunt release, two sets of single alarm contact	
50	Under-voltage release, shunt release	
51	Under-voltage release, shunt release, single auxiliary contact	
52	Under-voltage release, shunt release, two sets of single auxiliary contact	
53	Under-voltage release, shunt release, three sets of single auxiliary contact	
54	Under-voltage release, shunt release, four sets of single auxiliary contact	



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

NDM5GZ-1600 Molded Case Switch Disconnector - Accessories Selection

Accessory Code	Accessory Name	NDM5G-1600 3P, 4P
19	Shunt release, two sets of single alarm contact	
79	Under-voltage release, two sets of single alarm contact	
63	Single auxiliary contact, two sets of single alarm contact	
64	Two sets of single auxiliary contact, two sets of single alarm contact	
65	Three sets of single auxiliary contact, two sets of single alarm contact	
66	Four sets of single auxiliary contact, two sets of single alarm contact	
43	Shunt release, single auxiliary contact, two sets of single alarm contact	
45	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
47	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
15	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
76	Under-voltage release, single auxiliary contact, two sets of single alarm contact	
80	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
83	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
84	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
32	Under-voltage release, shunt release, single auxiliary contact, alarm contact	
33	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact	
34	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact	
35	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact	
39	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact	
55	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
56	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
36	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
A02	Two groups of under-voltage release, single auxiliary contact	
A07	Two groups of under-voltage release, two sets of single auxiliary contact	
A08	Two groups of under-voltage release, three sets of single auxiliary contact	

Accessory Code	Accessory Name	NDM5G-1600 3P, 4P
A09	Two groups of under-voltage release, four sets of single auxiliary contact	
A10	Two groups of under-voltage release, single auxiliary contact, alarm contact	
A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact	
A14	Two groups of under-voltage release, three sets of single auxiliary contact, alarm contact	
A16	Two groups of under-voltage release, four sets of single auxiliary contact, alarm contact	
A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact	
A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
A05	Two groups of under-voltage release, alarm contact	
A06	Two groups of under-voltage release, two sets of single alarm contact	
K04	Two groups of shunt release, single auxiliary contact	
K06	Two groups of shunt release, two sets of single auxiliary contact	
K07	Two groups of shunt release, three sets of single auxiliary contact	
K08	Two groups of shunt release, four sets of single auxiliary contact	
K12	Two groups of shunt release, single auxiliary contact, alarm contact	
K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact	
K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact	
K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact	
K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact	
K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
K02	Two groups of shunt release, alarm contact	
K05	Two groups of shunt release, two sets of single alarm contact	

NDM5GZ Series DC Molded Case Switch Disconnector



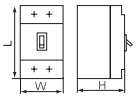
ND M 5 G Z – 1600 800 / 3 / M02 10 S

- S: Special code: S: Extended handle
- 10: Accessory code: See the list of accessories
- M02: Operation mode: See notes
- 3: Number of poles: 2 (three-pole outline), 3, 4
- 800: Rated operating current: 800, 1000, 1250, 1500, 1600*
- 1600: Shell frame level: 1600
- Z: Derivation code: Z: DC
- G: Derivation code: G: Switch disconnector
- 5: Design code: 5
- M: Product code: Molded case circuit breaker
- ND: Enterprise code: Nader

Notes:
Operation mode
Nil: Direct handle-operated
Z2A150: circular eccentric hole rotary handle + shaft length 150 mm
Z2A200: circular eccentric hole rotary handle + shaft length 200 mm
Z2A300: circular eccentric hole rotary handle + shaft length 300 mm
Z2A350: circular eccentric hole rotary handle + shaft length 350 mm
Z2A650: circular eccentric hole rotary handle + shaft length 650 mm
M02: conventional motor operating DC24V
M11: conventional motor operating AC110V/DC110V
M22: conventional motor operating AC230V/DC220V
M40: conventional motor operating AC400V
M02 low: low-level motor operating DC24V
M11 low: low-level motor operating AC110V/DC110V
M22 low: low-level motor operating AC230V/DC220V
M40 low: low-level motor operating AC400V

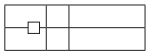
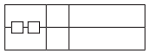
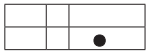
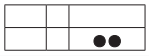
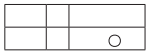
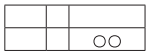
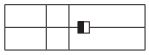
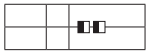
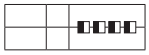
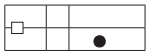
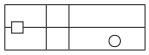
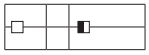
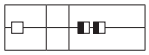
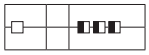
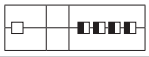
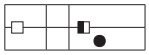
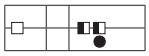
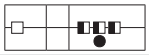
Note: * three-pole and four-pole products have the maximum rated current of 1,500 A, while two-pole products have the maximum rated current of 1,600 A.

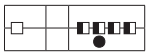
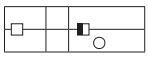
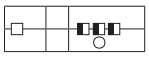
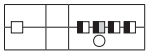
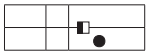
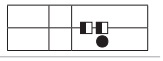
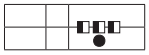
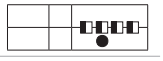
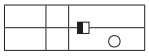
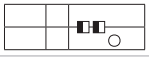
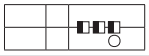
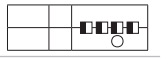
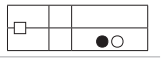
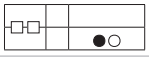
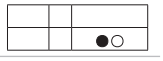
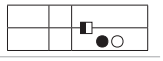
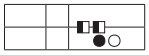
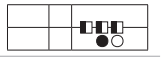
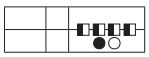
NDM5GZ Main Performance Parameters

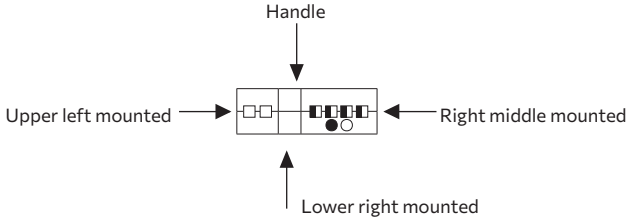
Model		NDM5GZ-1600		
Conventional thermal current, Ith (A)		800, 1000, 1250, 1600	800, 1000, 1250, 1500	
Rated voltage, Ue (V)		DC750	DC1000	DC1500
Number of Poles		2 (three-pole outline)	3	4
Utilization category		DC-22B, DC-PV2		
Rated impulse withstand voltage, Uimp (V)		12000		
Rated insulation voltage, Ui (V)		1500		
Rated short-time withstand current, Icw (kA)		20/1s		
Rated short-circuit making capacity, Icm (kA)		20		
Operating performance (times)	Mechanical life（Maintenance-free）	10000		
	Mechanical life（With maintenance）	20000		
	Electrical life	500	500	500
Dimensions 	L (mm)	268		
	W (mm)	210(2P, 3P)/280(4P)		
	H (mm)	152		

Note: Rated limiting short-circuit current: DC1300V/30kA, time constant: 5ms, photovoltaic fuse: IR: 30 kA, DC1500V/400A. Dimensions exclude the size of the terminal cover.

NDM5GZ Accessories Selection

Accessory Code / Installation Position / Model / Number of Poles / Accessory Name	NDM5GZ-1600
	2P, 3P, 4P
– Nil	––
08 One block of alarm contact	
98 Two sets of single alarm contact	
10 Shunt release	
K01 Two groups of shunt release	
30 Under-voltage release	
A01 Two groups of under-voltage release	
21 Single auxiliary contact	
61 Two sets of single auxiliary contact	
23 Three sets of single auxiliary contact	
24 Four sets of single auxiliary contact	
18 Shunt release, alarm contact	
38 Under-voltage release, alarm contact	
22 Single auxiliary contact, alarm contact	
88 Two sets of single auxiliary contact, alarm contact	
26 Three sets of single auxiliary contact, alarm contact	
25 Four sets of single auxiliary contact, alarm contact	
42 Shunt release, single auxiliary contact, alarm contact	
44 Shunt release, two sets of single auxiliary contact, alarm contact	
46 Shunt release, three sets of single auxiliary contact, alarm contact	

Accessory Code / Installation Position / Model / Number of Poles / Accessory Name	NDM5GZ-1600
	2P, 3P, 4P
14 Shunt release, four sets of single auxiliary contact, alarm contact	
75 Under-voltage release, single auxiliary contact, alarm contact	
77 Under-voltage release, two sets of single auxiliary contact, alarm contact	
81 Under-voltage release, three sets of single auxiliary contact, alarm contact	
82 Under-voltage release, four sets of single auxiliary contact, alarm contact	
41 Shunt release, single auxiliary contact	
11 Shunt release, two sets of single auxiliary contact	
12 Shunt release, three sets of single auxiliary contact	
13 Shunt release, four sets of single auxiliary contact	
71 Under-voltage release, single auxiliary contact	
72 Under-voltage release, two sets of single auxiliary contact	
73 Under-voltage release, three sets of single auxiliary contact	
74 Under-voltage release, four sets of single auxiliary contact	
31 Under-voltage release, shunt release, alarm contact	
37 Under-voltage release, shunt release, two sets of single alarm contact	
50 Under-voltage release, shunt release	
51 Under-voltage release, shunt release, single auxiliary contact	
52 Under-voltage release, shunt release, two sets of single auxiliary contact	
53 Under-voltage release, shunt release, three sets of single auxiliary contact	
54 Under-voltage release, shunt release, four sets of single auxiliary contact	



Legend::

- Single auxiliary contact
- Alarm contact
- Shunt release
- Under-voltage release

NDM5GZ Accessories Selection

Accessory Code	Accessory Name	NDM5GZ-1600 2P, 3P, 4P
19	Shunt release, two sets of single alarm contact	
79	Under-voltage release, two sets of single alarm contact	
63	Single auxiliary contact, two sets of single alarm contact	
64	Two sets of single auxiliary contact, two sets of single alarm contact	
65	Three sets of single auxiliary contact, two sets of single alarm contact	
66	Four sets of single auxiliary contact, two sets of single alarm contact	
43	Shunt release, single auxiliary contact, two sets of single alarm contact	
45	Shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
47	Shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
15	Shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
76	Under-voltage release, single auxiliary contact, two sets of single alarm contact	
80	Under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
83	Under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
84	Under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
32	Under-voltage release, shunt release, single auxiliary contact, alarm contact	
33	Under-voltage release, shunt release, two sets of single auxiliary contact, alarm contact	
34	Under-voltage release, shunt release, three sets of single auxiliary contact, alarm contact	
35	Under-voltage release, shunt release, four sets of single auxiliary contact, alarm contact	
39	Under-voltage release, shunt release, single auxiliary contact, two sets of single alarm contact	
55	Under-voltage release, shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
56	Under-voltage release, shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
36	Under-voltage release, shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
A02	Two groups of under-voltage release, single auxiliary contact	
A07	Two groups of under-voltage release, two sets of single auxiliary contact	
A08	Two groups of under-voltage release, three sets of single auxiliary contact	

Accessory Code	Accessory Name	NDM5GZ-1600 2P, 3P, 4P
A09	Two groups of under-voltage release, four sets of single auxiliary contact	
A10	Two groups of under-voltage release, single auxiliary contact, alarm contact	
A12	Two groups of under-voltage release, two sets of single auxiliary contact, alarm contact	
A14	Two groups of under-voltage release, three sets of single auxiliary contact, alarm contact	
A16	Two groups of under-voltage release, four sets of single auxiliary contact, alarm contact	
A11	Two groups of under-voltage release, single auxiliary contact, two sets of single alarm contact	
A13	Two groups of under-voltage release, two sets of single auxiliary contact, two sets of single alarm contact	
A15	Two groups of under-voltage release, three sets of single auxiliary contact, two sets of single alarm contact	
A17	Two groups of under-voltage release, four sets of single auxiliary contact, two sets of single alarm contact	
A05	Two groups of under-voltage release, alarm contact	
A06	Two groups of under-voltage release, two sets of single alarm contact	
K04	Two groups of shunt release, single auxiliary contact	
K06	Two groups of shunt release, two sets of single auxiliary contact	
K07	Two groups of shunt release, three sets of single auxiliary contact	
K08	Two groups of shunt release, four sets of single auxiliary contact	
K12	Two groups of shunt release, single auxiliary contact, alarm contact	
K09	Two groups of shunt release, two sets of single auxiliary contact, alarm contact	
K10	Two groups of shunt release, three sets of single auxiliary contact, alarm contact	
K11	Two groups of shunt release, four sets of single auxiliary contact, alarm contact	
K13	Two groups of shunt release, single auxiliary contact, two sets of single alarm contact	
K14	Two groups of shunt release, two sets of single auxiliary contact, two sets of single alarm contact	
K15	Two groups of shunt release, three sets of single auxiliary contact, two sets of single alarm contact	
K16	Two groups of shunt release, four sets of single auxiliary contact, two sets of single alarm contact	
K02	Two groups of shunt release, alarm contact	
K05	Two groups of shunt release, two sets of single alarm contact	

Charter 4
Final Power Distribution

Thermal-Magneti MCB Products - Quick Selection

Product Type	Product Name	Product Standard	Rated voltage (V)	Breaking Capacity, Icu/ Icn (kA)	Tripping Curve	Rated Current (A)	Number of Poles	Accessories	Residual Current Action Type	Rated residual operating current (mA)	Modulus (multiple of 9 mm)
NDB1 series	NDB1-32	IEC60898-1	AC230	4.5	C	6,10,16,20,25,32	1P+N	Nil			2
	NDB1-40	IEC60898-1	AC230/240	6	B,C,D	2,4,6,10,16,20,25,32,40	1P+N	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1			2
	NDB1-63	IEC60898-1 IEC60898-2	AC230/240/400/415(1P) AC230/240(1P+N) AC400/415(2P,3P,3P+N,4P) DC60/80(1P,2P)	6:AC230/240/400/415V 10:DC60/80V	B, C, D (type D not available for DC60 DC80V)	1,2,3,4,5,6,10,16,20,25,32,40,50,63	1P,1P+N,2P,3P, 3P+N,4P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1			2,4,4,6,8,8
	NDB1T-63	IEC60947-2	AC230/240/400/415(1P) AC230/240(1P+N) AC400/415(2P,3P,3P+N,4P) DC60/80(1P,2P)	6 10(DC60V)	B,C,D	1,2,3,4,5,6,10,16,20,25,32,40,50,63	1P,1P+N,2P,3P, 3P+N,4P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1			2,4,4,6,8,8
	NDB1-125	IEC60898-1 IEC60947-2	AC230/240(1P) AC400/415(2P,3P,4P) DC60/80V(1P) DC80/125V(2P)	10 5(UL1077 AC240/480V)	C,D	50,63,80,100,125	1P,2P,3P,4P	OF,SD,MX+OF			3,6,9,12
NDB2 series	NDB2-40	IEC60898-1	AC230,240	6	B,C,D	2,4,6,10,16,20,25,32,40	1P+N	OF2,SD2,SDD2,MX+OF2			2
		UL1077	AC120V	6	B,C,D	2,4,6,10,16,20,25,32,40	1P+N	OF2,SD2,SDD2,MX+OF2			2
	NDB2-63	IEC60898-1	AC230,240,400,415(1P) AC400,415(2P,3P,4P) DC80(1P,2P)	10	B,C,D	1,2,3,4,5,6,8, 10,12,13,16,20, 25,32,40,50,63	1P 2P ,3P 4P	OF2, SD2, SDD2, MX+0F2, Tm2, Tm2GQNGQ2(A), JS1-11Y, B2-63 mechanical interlock			2,4,6,8
		UL1077	AC240,277(1P) AC480(2P,3P,4P) DC60(1P) DC125(2P)	7.5(AC240,480 DC60,120) 5 (AC277)	B,C,D	1,2,3,4,5,6,8,10,12,13,16,20, 25,32,40,50,63	1P 2P,3P 4P	OF2, SD2, SDD2, MX+OF2, Tm2, Tm2GQ, NGQ2(A), JS1-11Y, B2-63 mechanical interlock			2,4,6,8
	NDB2T-63	IEC60947-2	AC230,240(1P) AC400,415(2P,3P,4P) DC60,80(1P) DC80,125(2P)	10	B,C,D	1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35 (to be specially reviewed),40,50,60,63	1P 2P 3P 4P	OF2, SD2, SDD2, MX+OF2, Tm2, Tm2GQNGQ2(A), JS1-11Y, B2-63 mechanical interlock			2,4,6,8
		UL1077	AC240,277(1P) AC480(2P,3P,4P) DC60(1P) DC125(2P)	7.5(AC240,480 DC60,125) 5 (AC277)	B,C,D	1,1.2,1.5,1.6,2, 3,4,5,6,7,8,10,12,13,15,16, 20,25,30, 32,40,50,60,63	1P 2P 3P 4P	OF2, SD2, SDD2, MX+OF2, Tm2, Tm2GQ, NGQ2 (A), JS1-11Y, B2-63 mechanical interlock			2,4,6,8
		UL489	AC120(1P) AC240(2P,3P) AC277(1P 1~32A) AC480Y,277V(2P,3P 1~32A) DC60(1P,2P) DC125(2P)	10	B,C,D	1,1.2,1.5,1.6,2, 3,4,5,6,7,8,10,12,13,15,16,20,25,30, 32,35,40,50,60,63	1P 2P 3P	Nil			2,4,6
	NDB2N-125A	IEC60947-2	DC60/80(1P) AC230/240(1P,2P) AC400/415(3P,4P)	4.5(AC230,240,400,415) 10(DC60,80)	C	80,100,125	1P,2P,3P,4P	OF2,OFS2,SD2,SDD2,MX+OF2			2,4,6,8
	NDB2Z-63	IEC60947-2	DC125,220,250(1P) DC250,440,500(2P) DC750(3P) DC1000(4P)	10(DC125,220,250,440,500) 5(DC750,DC1000)	B,C	1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 40, 50, 60 (to be specially reviewed),63	1P 2P ,3P 4P	OF2, SD2, SDD2, MX+OF2, Tm2, JS1-11Y, B2-63 mechanical interlock			2,4,6,8
	NDB2Z-63H	IEC60947-2	DC250V	20	B,C	1,2,3,4,6,10,16,20,25,32,40,50,63	2P	OF2, SD2, SDD2, MX+0F2, Tm2, JS1-11Y, B2-63 mechanical interlock			4
	NDB2NZ-80H	IEC60947-2	DC250V (1P) DC500V (2P) DC750V (3P) DC1000V (4P)	80A:4.5kA 63A and below: 6kA	B,C	6,10,16,20,25,32,40,50,63,80	1P,2P,3P,4P	OF2,OF2S,SD2,MX+OF2	/	/	2,4,6,8
		UL1077	DC250V (1P) DC500V (2P) DC600V (3P) DC600V (4P)	80A:4.5kA 63A and below: 6kA	B,C	6,10,16,20,25,32,40,50,63,80	1P,2P,3P,4P	OF2,OF2S,SD2,MX+OF2	/	/	2,4,6,8
NDB6 series	NDB6-125	IEC60947-2	AC230/240V,DC60/80/125V(1P) AC400/415(2P,3P,4P)	15	C, D	Type C: 63, 80, 100,125, type D: 63, 80, 100	1P, 2P, 3P, 4P	Nil			3, 6, 9, 12
	NDB6Z-125	IEC60947-2	DC60/80/125/250/300V(1P) DC500/600V(2P) DC750/1000V(3P) DC1000/1200V(4P)	6:DC250/300V, DC500/600V, DC750/1000V, DC1000/1200V 15:DC60/80/125V	C	63, 80, 100, 125	1P, 2P , 3P, 4P	Nil			3, 6, 9, 12
NDB6A series	NDB6A-63H	IEC60947-2	AC230/240V(1P/1PN/2P) AC400/415V(3P/3PN/4P)	6	8In	6,10,16,20,25,32,40,50,63	1P,1P+N,2P,3P, 3P+N,4P	Nil			1U
	NDB6A-125H	IEC60947-2	AC230/240V(1P/1PN/2P) AC400/415V(3P/3PN/4P)	6	8In	80,100,125	1P,1P+N,2P,3P, 3P+N,4P	Nil			1U
NDB6AZ series	NDB6AZ-63H	IEC60947-2,UL1077	DC80V	10	11In	4,6,10,16,20,25,32,40,50,63	1PN	Nil			1U
	NDB6AZ-125H	IEC60947-2,UL1077	DC80V	10	11In	80,100,125	1PN	Nil			1U
	NDB6AZ-200H	IEC60947-2,UL1077	DC80V, AC230/240V	10:80VDC, 4.5:AC230V	11In	200	1PN	Nil			1U

RCBO/RCCB Products - Quick Selection

Product Type	Product Name	Rated voltage (V)	Breaking Capacity, Icu/ Icn (kA)	Tripping Curve	Rated Current (A)	Number of Poles	Accessories	Residual Current Action Type	Rated residual operating current (mA)	Product Standard	Modulus (multiple of 9 mm)
NDB1 series	NDB1L(G)-32	AC230/240	4.5：6(UL1053 120V)	C	6,10,16,20,25,32	1P+N	Nil	AC, A, Electronic	10, 30mA (only 30mA for G, no type A for 10mA)	IEC 61009-1 UL1053	4
	NDB1LE-32	AC110/230/240	6kA	C	6,10,16,20,25,32	1P+N	Nil	AC, A Electronic	30	IEC 61009-1	2
	NDB1LE-40	AC230/240	6	B,C,D	2,4,6,10,16,20,25,32,40	1P+N	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	AC, A, Electronic	30,100,300mA	IEC 61009-1	4
	NDB1LE-40Z	AC230/240(1P+N)	6kA	B,C,D	6,10,16,20,25,32,40	1P+N	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	AC, Electronic	30,50, 100,300	IEC 61009-1	4
	NDB1LE-63	AC230/240（1PN,2P） AC400/415（3P,3PN,4P）	6	B,C,D	1,2,3,4,5,6,10,16,20,25,32,40,50,63	1PN,2P,3P,3PN,4P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	AC, A, Electronic	30,50,100,300mA	IEC 61009-1	5,7,10,11,13(1~32A) 6,8,12,13,15(40~63A)
	NDB1LE-63Z	AC230/240(1PN,2P)	6kA	B,C,D	1,2,3,4,5,6,10,16,20,25,32,40,50,63	1PN,2P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	AC, Electronic	30,50, 100,300	IEC 61009-1	4,8
	NDB1LE-63X(G)	AC230/240V	6kA	B,C,D	6,10,16,20,25,32,40,50,63	1P+N	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	NDB1LE-63X: AC, A, Electronic NDB1LE-63XG: AC, Electronic	NDB1LE-63X:30,50,100,300 NDB1LE-63XG:30	IEC 60947-2	4
	NDB1LE-63 B	AC230/240V(1PN,2P) AC400/415(3P,3PN,4P)	6kA	C(6A~63A), D(6A~40A)	6,10,16,20,25,32,40,50,63	1PN,2P,3P,3PN,4P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	B, electronic type	30mA	IEC62423 EN62423	6,8,12,13,15
	NDB1TLE-63	AC230/240(1PN,2P) AC400/415(3P,3PN,4P)	6	B,C,D	1,2,3,4,5,6,8,10,16,20,25,30,32,40,50,63	1PN,2P,3P,3PN,4P	OF1,SD1,SDD1,MX+OF1,GQ1A,FF1,FS1	AC, A Electronic	30,50,100,300	IEC 60947-2	5,7,10,11,13(1~32A) 6,8,12,13,15(40~63A)
	NDB1LE-100	AC230 (1PN,2P) AC400 (3P,3PN,4P)	10	C,D	50,63,80,100	1PN,2P,3P, 3PN,4P	OF,SD	AC, A, Electronic	30,100,300	IEC60947-2	9,12,17,19,22
NDB2 series	NDB2LE-32	AC110/120, AC230/240	4	C	6,10,16,20,25,32	1P+N	Nil	AC,A Electronic	30	IEC 61009-1	2
	NDB2LE-40	AC230/240	6	B,C,D	2,4,6,10,16,20,25,32,40	1P+N	OF2,SD2,SDD2,MX+OF2,Tm2, Tm2GQ,NGQ2(A)	AC, A, Electronic	30, 100,300	IEC61009-1 GB/T16917.1	4
	NDB2LE-63	AC230,240(1PN, 2P) AC380,400,415(3P, 3P+N, 4P)	10	B,C,D	1,2,4,6,10,16,20,25,32, 40,50,63	1PN,2P 3P,3P+N,4P	OF2,SD2,SDD2,MX+OF2,Tm2,Tm2GQ, NGQ2(A),FS2,FF2	AC, A, Electronic	30,50, 100,300	IEC61009-1 GB/T16917.1	6,8,13, 15,15
	NDB2TLE-63	AC230/240 (1PN 2P) AC380/400/415(3P, 3P+N, 4P)	10	B,C,D	1,2,3,4,5,6,7,8,10,12,13,15,16,20, 25,30,32,35,40,50,60,63	1PN,2P 3P,3P+N,4P	OF2,SD2,SDD2,MX+OF2,Tm2, Tm2GQ,FS2,FF2	AC, electronic type	30,50,100,300	IEC60947-2	6,8,13,15,15
	NDB2LM-40	AC230/240	10	B,C	Conventional type: 2, 4, 6, 10, 1316, 20, 25, 32, 40 Delay type: 25, 32, 40	1P+N	OF2,SD2,SDD2,MX+OF2,Tm2,Tm2GQ, NGQ2(A),FS2,FF2	AC, A, electromagnetic type S - delay type	Conventional type 30, 100, 300 Delay type 100, 300	IEC61009-1	4
	NDB2LM-63	AC230,240 (1PN 2P) AC400,415(3P, 3P+N, 4P)	10	B,C,D	1,2,3,4,5,6,10,16,20, 25,32,40,50,63	1PN,2P 3P,3P+N,4P	OF2,SD2,SDD2,MX+OF2,Tm2, Tm2GQ,NGQ2(A)	AC, A, electromagnetic type	Conventional type 30, 100, 300 Delay type 100, 300	IEC61009-1 GB/T16917.1	6,8,13,15,15
	NDL2M-100	AC230/240(2P), AC400/415(4P)			16, 25, 40, 63 (general type) 25, 40, 63 (S type)	2P,4P	OF2,SD2	AC, A, Electronic	General type: 30, 100, 300 Delay S type: 100, 300	IEC61008-2-1	4,8
NDB6 series	NDB6LM-40	AC230V	10	B, C	6, 10, 16, 20, 25, 32, 40	1P+N	Nil	A, AC electromagnetic type	30, 100, 300	IEC61009-1	4
	NDL6M-100	AC230/400V			16, 25, 40, 63, 80, 100	2P, 4P	Nil	A, AC electromagnetic type	30, 100, 300	IEC61008-1	4, 8

NDB1-32 Miniature Circuit Breaker - Quick Selection



ND B 1 - 32 C 16 / 1P+N

- Number of poles: 1P+N
- Rated current (A): 6, 10, 16, 20, 25, 32
- Tripping characteristics: Type C: 5In~10In
- Shell frame level: 32
- Design number: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes:
1. NDB1-32 products are 1P+N combination, C-shape tripping curve. The breaking capacity of all of products is 4.5kA.
2. NDB1-32 products cannot have accessories assembled.
3. NDB1-32 products are 18 mm wide.

Example:
Product model: NDB1-32 C16/1P+N
Means: NDB1-32C miniature circuit breaker has 4.5kA breaking capacity, C-shaped curve, rated current 16A, number of poles 1P+N.

NDB1-40 Miniature Circuit Breaker - Quick Selection



ND B 1 – 40 C 20 / 1P+N + OF1

- OF1: Optional electrical and protection accessories:
  OF1: auxiliary contact
  SD1: Alarm contact
  FF1: double auxiliary contacts
  FS1: auxiliary alarm contact
  MX+OF1: Shunt release
  GQ1A: Over-voltage release
  G1A: Over-voltage release
  Q1A: Under-voltage release
- 1P+N: Number of poles: 1P+N
- 20: Rated current (A): 2, 4, 6, 10, 16, 20, 25, 32, 40
- C: Tripping characteristics:
  Type B: 3In ~ 5In
  Type C: 5In~10In
  Type D: 10In ~ 14In
- 40: Shell frame level: 40
- 1: Design code: 1
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Breaking capacity of all of NDB1-40 products is 6 kA.
2. Except for the leakage protection accessories that are assembled on the right side, all the others shall be assembled on the left side.
3. Each product can have 3 accessories assembled on its left side at the most. It is recommended that no more than 2 should be assem-bled.
4. NDB1-40 products have passed 3C, TUV, CB and CE certifica-tions.

Example:
Product model: NDB1-40C32/1P+N+GQ1A+SD1+OF1
Means: NDB1-40 miniature circuit breaker has 6kA breaking ca-pacity, C-shaped curve, rated current 32A, 1P+N, with over-/under-voltage protection accessories assembled and addi-tionally equipped with alarm and auxiliary contacts.

NDB1-63 Miniature Circuit Breaker - Quick Selection



ND B 1 - 63 C 32 / 1P + OF1

- OF1: Optional electrical and protection accessories:
  OF1: auxiliary contact
  SD1: Alarm contact
  FF1: double auxiliary contacts
  FS1: auxiliary alarm contact
  MX+OF1: Shunt release
  GQ1A: Over-voltage release
  G1A: Over-voltage release
  Q1A: Under-voltage release
- 1P: Number of poles:
  1P, 1P+N, 2P
  3P, 3P+N, 4P
- 32: Rated current: 1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- C: Tripping characteristics:
  Type B: 3In-5In
  Type C: 5In-10In
  Type D: 10In-14In
- 63: Shell frame level: 63
- 1: Design number: 1
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:

1. Breaking capacity of all of NDB1-63 products is 6kA.
2. Except for the leakage protection accessories that are assembled on the right side, all the others shall be assembled on the left side.
3. Each product can have 3 accessories assembled on its left side at the most. It is recommended that no more than 2 should be assem-bled.
4. NDB1-63 products have passed 3C, TUV, CB and CE certifica-tions.

Example:

Product model: NDB1-63 C32/1P+GQ1A+ SD1+OF1

Means: NDB1-63 miniature circuit breaker has 6kA breaking ca-pacity, C-shaped curve, rated current 32A, 1-pole, with over-/under-voltage protection accessories assembled and addi-tionally equipped with alarm and auxiliary contacts.

NDB1-125 Miniature Circuit Breaker - Quick Selection



ND B 1 - 125 C 63 / 3P + OF

- OF: Optional electrical and protection accessories:
  OF: Auxiliary contact
  SD: Alarm contact
  MX+OF: Shunt release
  NGQ1A: Over-/under-voltage protection
  NG1A: Over-voltage protection
- 3P: NQ1A: Number of poles for under-voltage protection: 1P, 2P, 3P, 4P
- 63: Rated operating current (A): 50, 63, 80, 100, 125
- C: Tripping characteristics:
  Type C: 8In（1±20%）
  Type D: 12In（1±20%）
- 125: Shell frame level: 125
- 1: Design number: 1
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:

1. NDB1-125 products have two types of tripping curve, i.e. C and D
2. NDB1-125 products have passed IEC 60898-1 and IEC60947.2. All of the products have the rated short-circuit capac-ity Icn = 10kA and the operating short-circuit capacity Ics = 7.5kA.
3. Each product can have 3 OF or SD assembled on its left side at the most. It is recommended that no more than 2 should be assem-bled. On the right side, at most one of MX+OF, NGQ1A, NG1A or NQ1A can be assembled.

Example:

Product model: NDB1-125 C80/3P+SD

Means: NDB1-125 miniature circuit breaker has 10kA rated short-circuit breaking capacity, C-shaped curve, rated current 80A, 3-pole, with alarm contacts accessories.

NDB1T-63 Miniature Circuit Breaker - Quick Selection



ND B 1 T - 63 C 32 / 4P

- Number of poles:
  1P, 1P+N, 2P
  3P, 3P+N, 4P
- Rated current: 1A, 2A, 3A, 4A, 5A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- Tripping characteristics:
  Type B: 4In (1±20%)
  Type C: 8In (1±20%)
  Type D: 12In (1±20%)
- Shell frame level: 63
- Conform to:
- Design number: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes:
1. Breaking capacity of all of NDB1T-63 products is 6kA.
2. NDB1T-63 products have passed CCC, CE and TUV certifica-tions.

Example:
Product model: NDB1T-63 C63/2P+NDB1TLE-63/2P/30mA/AC
Means: NDB1T-63 miniature circuit breaker has 6kA breaking capacity, C-shaped curve, rated current 63A, 2-pole, with electronic type residual current protection accessories, rated residual operat-ing current 30mA and type AC residual current operating charac-teristics.

NDB1L(G)-32 Miniature Residual Current Circuit Breaker (with Over-voltage Protection) - Quick Selection



ND B 1 L(G) - 32 C 32 / 1P+N / AC 30mA

- Rated residual operating current: 10mA, 30mA (see Note 4)
- Type of residual release current: AC, A
- Number of poles: 1P+N
- Rated current (A): 6, 10, 16, 20, 25, 32
- Tripping characteristics: Type C: 5In~10In
- Shell frame level: 32
- L: Current leakage protection
  G: Over-voltage protection available
- Design number: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes:
1. NDB1L(G)-32 products are 1P+N combination, C-shape trip-ping curve. The breaking capacity of all of products is 4.5KA. The residual current action characteristics are types AC and A.
2. NDB1L(G)-32 products cannot have accessories assembled.
3. NDB1L(G)-32 products are 36 mm wide.
4. Residual operating current is 10mA and 30mA (only 30mA for type G, no type A for 10mA).
5. Over-voltage action value: 280V ± 12V, 260V±12V ,break time: 0.3s.

Example:
Product model: NDB1LG-32C16/1P+N/AC 30mA
Means: NDB1LG-32 miniature circuit breaker has 4.5kA breaking capacity, C-shaped curve, rated current 16A, 1P+N, rated residual operating current 30mA and type AC residual tripping current with current leakage and over-voltage protection.

NDB1LE-32 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 1 L E – 32 C 32 / 1P+N / 30mA / AC

- Residual current action characteristics: Type AC/ type A
- Rated residual operating current: 30mA
- Number of poles: 1P+N
- Rated current (A): 6, 10, 16, 20, 25, 32
- Tripping characteristics: Type C: 5In~10In
- Shell frame level: 32A
- Electronic type
- Leakage protector
- Design code: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

NDB1LE(G)-40 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 1 L E (G) – 40 C 32 / 1P+N / 30mA / AC + OF1

- OF1: Optional electrical and protection accessories:
  OF1: auxiliary contact
  SD1: Alarm contact
  FF1: double auxiliary contacts
  FS1: auxiliary alarm contact
  MX+OF1: Shunt release
  GQ1A: Over-voltage release
  G1A: Over-voltage release
  Q1A: Under-voltage release
- AC: Type of residual release current: A, AC
- 30mA: Rated residual operating current: 30mA, 100mA, 300mA
- 1P+N: Number of poles: 1P+N
- 32: Rated current (A): 2, 4, 6, 10, 16, 20, 25, 32, 40
- C: Tripping characteristics:
  Type B: 3In ~ 5In
  Type C: 5In~10In
  Type D: 10In ~ 14In
- 40: Shell frame level: 40
- G: G: Over-voltage protection available
- E: Electronic release
- L: Current leakage
- 1: Design number: 1
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Breaking capacity of all of NDB1LE(G)-40 products is 6kA.
2. Except for the leakage protection accessories that are assembled on the right side, all the others shall be assembled on the left side.
3. Each product can have 3 accessories assembled on its left side at the most. It is recommended that no more than 2 should be assem-bled.

Example:
Product model: NDB1LE-40C32/1P+N/30mA /AC+GQ1A+SD1+OF1
Means: NDB1LE-40 miniature residual current action circuit breaker has 6kA breaking capacity, C-shaped curve, rated current 32A, 1P+N, rated residual operating current 30mA and type AC residual tripping current. With over-/under-voltage protection ac-cessories assembled and auxiliary & alarm contacts installed addi-tionally.

NDB1LE-63X (G) Miniature Residual Current Action Circuit Breaker - Quick Selection



ND B 1 L E – 63 X G C 16 1P+N 30mA AC

- Rated residual operating current I△n (mA): 30mA, 50mA, 100 mA, 300mA
- Type of residual current release (mA): Type A, Type AC
- Number of poles: 1P+N
- Rated current (A): 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
- Tripping characteristics: B, C, D
  Type B: 3In ~ 5In
  Type C: 5In~10In
  Type D: 10In ~ 14In
- G: Over-voltage protection (optional)
- X: Small volume
- Shell frame level (A): 63
- Electronic
- Current leakage function code
- Design code: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

NDB1TLE-63 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 1 T LE - 63 C 16 / 2 30mA / AC

- Type of residual release current: AC, A, electromagnetic type
- Rated residual current (mA): 30, 50, 100, 300
- Number of poles: 1PN, 2=2P, 3=3P, 3PN, 4=4P
- Rated current: 1A, 2A, 3A, 4A, 5A, 6A, 8A, 10A, 12A, 13A, 16A, 20A, 25A, 30A, 32A, 40A, 50A, 63A
- Release type: B: Instantaneous tripping range 4In (1±20%) C: Instantaneous tripping range 8In (1±20%) D: Instantaneous tripping range 12In (1±20%)
- Shell frame level: 63A
- Current leakage type: LE: Electronic leakage
- Current leakage standard: T: Conform to standards / IEC60947-2
- Design number: 1
- Product code: B: Miniature circuit breaker
- Enterprise code: Nader

NDB1LE-63 Type B Residual Current Action Circuit Breaker - Quick Selection



ND B 1 L E – 63 □ □ / □ / □ / □

- Type of residual release current: B
- Rated residual operating current: 30Ma
- Number of poles: 1=1P, 2=2P, 3=3P, 3PN, 4=4P
- Rated current (A): 6, 10, 16, 20, 25, 32, 40, 50, 63
- Instantaneous release type: C, D
- Shell frame level (A): 63
- Derivation code 2: E: Electronic
- Derivation code 1: L: Residual current action circuit breaker
- Design code: 1
- Product code: Miniature circuit breaker
- Enterprise code: Nader

NDB1LE-100 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 1 L E – 100 C 80 / 3PN 30mA A + OF

- OF: Optional electrical and protection accessories: OF: Auxiliary contact SD: Alarm contact
- A: Type of residual release current: AC, A
- 30mA: Rated residual operating current: 30mA, 100mA, 300mA
- 3PN: Number of poles: 1PN, 2P, 3P, 3PN, 4P
- 80: Rated current (A): 50, 63, 80, 100
- C: Tripping characteristics: Type C: 8In (1±20%) I Type D: 12In (1±20%)
- 100: Shell frame level: 100
- E: Electronic release
- L: Current leakage
- 1: Design code: 1
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Breaking capacity of all of NDB1LE-100 products is 10kA.
2. Except for the leakage protection accessories that are assembled on the right side, all the others shall be assembled on the left side.
3. Each product can have 3 accessories assembled on its left side at the most. It is recommended that no more than 2 should be assem-bled.
4. Residual release current is type AC and A, and rated residual operating current is 30mA, 100mA and 300mA.

Example:
Product model: NDB1LE-100 C63/2P/100mA/AC+SD
Means: NDB1LE-100 miniature residual current action circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 63A, 2-pole, rated residual operating current 100mA, type AC residual tripping current, with alarm contact accessories assembled.

NDB1 Electrical and Protection Accessories - Quick Selection

OF Auxiliary Contact

Applications: Installed on the left side of NDB1-125 and NDB1PT-63 miniature circuit breaker, indicating the making/breaking status of the circuit breaker.

Technical parameters: Rated operating parameters

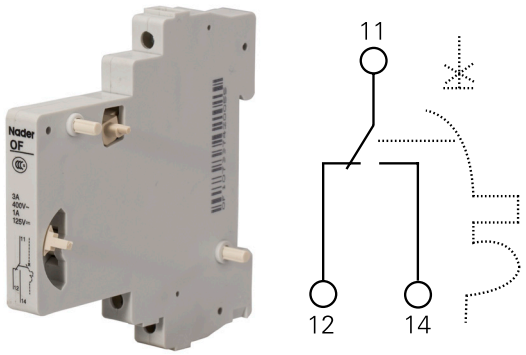
	Voltage	Current		Voltage	Current
AC	230V	6A	AC	400V	3A
DC	24V	6A	DC	48V	2A
DC	125V	1A	DC	250V	0.4A

Width (mm): 9

Note: After being assembled with the circuit breaker, 11 and 14 are connected at the time of closing. 11 and 12 are connected at the time of opening.

At most 3 OF can be installed continuously.

This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.



SD Alarm Contact

Applications: Installed on the left side of NDB1-125 and NDB1PT-63 miniature circuit breakers, indicating the fault release status of the circuit breaker

Technical parameters: Rated operating parameters

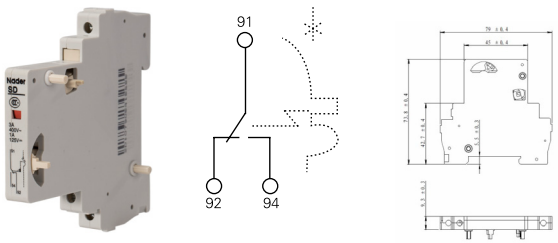
	Voltage	Current		Voltage	Current
AC	230V	6A	AC	400V	3A
DC	24V	6A	DC	48V	2A
DC	125V	1A	DC	250V	0.4A

Width (mm): 9

Note: After being assembled with the circuit breaker, 91 and 92 are connected at the time of closing. 91 and 94 are connected at the time of faulty opening.

91 and 92 are connected while 91 and 94 are disconnected at the time of manual opening. At most 3 SD can be installed.

This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.

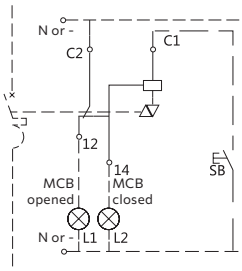


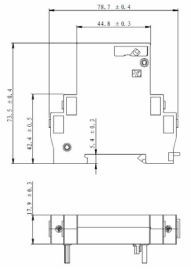
MX+OF Shunt Release

Applications: Installed on the right side of NDB1-125 and NDB1PT-63 miniature circuit breaker, indicating the mak-ing/breaking status of the circuit breaker and remote breaking con-trol.
Technical parameters: Control voltage AC230V/400V DC 24V/48V
Width (mm): 18

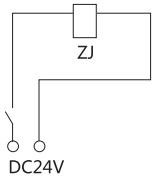
Note: Changeover contact is active type. It is prohibited to use it as a passive contact to connect to other instrument modules.

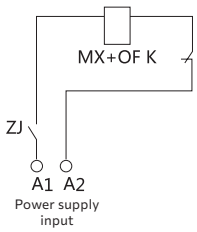






This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.
Note: When the control circuit power is DC24V, it is recommended to use the right figure for design of the shunt control circuit. ZJ: DC24V intermediate relay, contact current capacity 1A. Each cir-cuit breaker can be assembled with 1 MX+OF at the most.



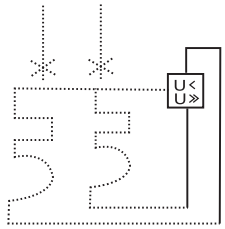


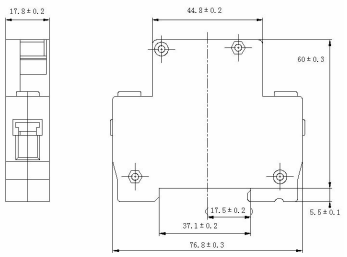
NQG1A Over-/under-voltage Release

Applications: Installed on the right side of NDB1-125 and NDB1PT-63 circuit breaker, to realize the function of single-phase over-voltage, under-voltage and over-/under-voltage protection.
Technical parameters:
Rated over-voltage action value Uover: AC280V±12V, maximum break time: 0.2S.
Rated under-voltage action value Uunder: AC170V±7V, maximum break time: 1S.
Width (mm): 18

Note: The user can choose over-voltage release (NG1A) or un-der-voltage release (NQ1A) as required.
Each circuit breaker can have one over-/under-voltage release as-sembled, to achieve single-circuit protection.







OF1 Auxiliary Contact

Applications: Installed on the left side of NDB1-40, NDB1-63, NDB1LE-40/63, NDB1T(LE)-63 and NDB1Z-63 miniature circuit breakers or NDG1-125 switch disconnector, indicating the making/breaking

Technical parameters: Rated operating parameters

	Voltage	Current		Voltage	Current
AC	415V	3A	AC	240V	6A
DC	250V	0.4A	DC	220V	1A
DC	130V	1A	DC	110V	1A
DC	48V	2A	DC	24V	6A

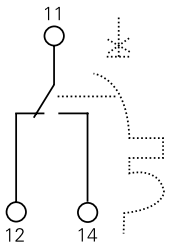
Width (mm): 9.

Note: After being assembled with NDB1-40 and NDB1-63 circuit breaker or NDG1-125 switch disconnector, terminals 11 and 14 are connected at the time of closing. Terminals 11 and 12 are con-nected at the time of opening.

At most 3 OF1 can be installed.

This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.





SD1 Alarm Contact

Applications: Installed on the left side of NDB1-40 and NDB1-63 miniature circuit breakers, indicating the making/breaking status of the circuit breaker

Technical parameters: Rated operating parameters

	Voltage	Current		Voltage	Current
AC	415V	3A	AC	240V	6A
DC	250V	0.4A	DC	220V	1A
DC	130V	1A	DC	110V	1A
DC	48V	2A	DC	24V	6A

Width (mm): 9.

Note: After being assembled with NDB1-40 and NDB1-63 circuit breaker, 91 and 92 are connected at the time of closing.

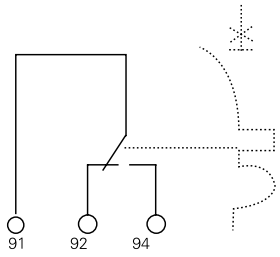
91 and 94 are connected at the time of faulty opening.

91 and 92 are connected while 91 and 94 are disconnected at the time of manual opening.

At most 3 SD1 can be installed.

This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.





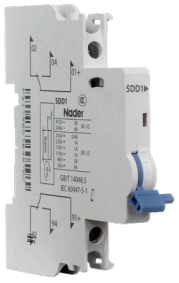
SDD1 Double Alarm Contacts

Applications: Installed on the left side of NDB1 miniature circuit breakers, indicating the fault release status of the circuit breaker

Technical parameters: Rated voltage

Rated operating voltage	AC240V	AC415	DC24V	DC48V
Rated operating voltage	6A	3A	6A	2A
Rated operating voltage	DC110V	DC130V	DC220V	DC250V
Rated operating voltage	1A	1A	1A	0.4A

Width (mm): 9.



FF1 Double Auxiliary Contact

Applications: Installed on the left side of NDB1-40, NDB1-63, NDB1LE-40/63, NDB1T(LE)-63 and NDB1Z-63 miniature circuit breakers, indicating the making/breaking status of the circuit breaker remotely.

Technical parameters: Rated operating parameters

	Voltage	Current		Voltage	Current
AC	415V	3A	AC	240V	6A
DC	250V	0.4A	DC	220V	1A
DC	130V	1A	DC	110V	1A
DC	48V	2A	DC	24V	6A

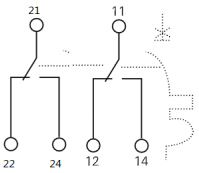
Width (mm): 9.

Note: After being assembled with NDB1-40 and NDB1-63, 11 and 14 are connected at the time of closing, while 11, 12, 21 and 22 are connected at the time of opening.

At most 3 FF1 can be installed.

This accessory can be supplied separately, but it is not recom-mended to be used in conjunction with any miniature circuit break-ers from any other manufacturer.





FS1 Auxiliary and Alarm Contact Block

Applications: FS1 auxiliary and alarm contact block shall be as-sembled on the left side of NDB1-40, NDB1-63, NDB1LE-40/63, NDB1T(LE)-63 and NDB1Z-63 products, indicating the fault and opening/closing status of the circuit breaker.

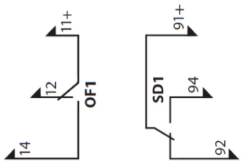
Highlights: Combine OF1 with SD1, with the width of 1 modulus (9 mm).

Rated Current of Auxiliary Contact

Rated operating voltage	Rated operating current	Use type
AC 240V	6A	AC-12
AC 415V	3A	AC-12
DC 24V	6A	DC-12
DC 48V	2A	DC-12
DC110V	1A	DC-12
DC130V	1A	DC-12
DC220V	1A	DC-12
DC250V	0.4A	DC-12

Note: After being assembled with the circuit breaker, 11 and 14 are connected at the time of closing, while 11 and 12 are connected at the time of opening. 91 and 94 are connected while 91 and 92 are disconnected at the time of faulty opening. At most 3 can be installed.





MX+OF1 Shunt release

Applications: Installed on the left side of NDB1-40, NDB1-63, NDB1LE-40/63, NDB1T(LE)-63 and NDB1Z-63 miniature circuit breakers, for remote release control of the circuit breaker.

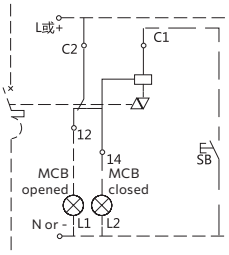
Technical parameters

Control power supply: AC240/415V AC24/48V DC12/24/48V;

Width (mm): 18

Note: Changeover contact is active type. It is prohibited to use it as a passive contact to connect to other instrument modules.

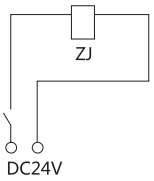


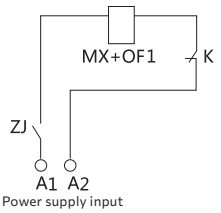


This accessory can be supplied separately, but it is not recommended to be used in conjunction with any miniature circuit breakers from any other manufacturer.

Note: When the control circuit power is DC24V, it is recommended to use the right figure for design of the shunt control circuit.

ZJ: DC24V intermediate relay, contact current capacity 1A.





GQ1A over-/under-voltage Protection Accessories



GQ 1 A

A: No under-voltage protection:

Design code: With NDB1 circuit breaker

GQ: Over-/under-voltage protection
G: Over-voltage protection
Q: Under-voltage protection

Notes:

1. Over-voltage action value AC280V±12V, maximum break time: 0.2s.
2. Under-voltage action value: AC170V±7V, maximum break time: 1s.
3. The over-/under-voltage release is only compatible with our miniature circuit breaker products.
4. Installed on the left side of NDB1-40 and NDB1-63 circuit breaker, to realize the function of single-phase over-voltage, un-der-voltage and over-/under-voltage protection. At most 3 can be installed.
5. For release that can provide either over-voltage or under-voltage protection function, over-voltage release is G1A while un-der-voltage release is Q1A.

Example:

Product model: NDB1-63 C40/4P+GQ1A

Means: NDB1-63 miniature circuit breaker has 6kA breaking ca-pacity, C-shaped curve, rated current 40A, 4-pole, one phase with electronic type over-/under-voltage protection accessories.

NDB2-40 Miniature Circuit Breaker - Quick Selection



ND B 2 - 40 C 32 / 1P+N + OF2

- Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm2: motor operating mechanism
  ATm: Auto-reclosing accessories
- Number of poles: 1P+N
- Rated current (A): 2, 4, 6, 10, 16, 20, 25, 32, 40
- Tripping characteristics:
  B: 3In ~ 5In (note: No type B release for 2A)
  C: 5In~10In
  D: 10In~14In
- Shell frame level: 40
- Design number: 2
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes:

1. For NDB2-40, phase line and neutral line can be cut simultane-ously, but the neutral line does not provide the protection function. UL1077 certified products optional All of products have the break-ing capacity of 6 kA.
2. The green mark inside the inspection window indicates that the contacts are in the open position.
3. Each product can have 3 accessories installed at the most.

Example:

Product model: NDB2-40 C32/1P+N+MX+SD2+OF2

Means: NDB2-40 miniature circuit breaker has 6kA breaking ca-pacity, C-shaped curve, rated current 32A, 1P+N, with shunt re-lease and additionally equipped with alarm contacts.

NDB2-63 Miniature Circuit Breaker - Quick Selection



ND B 2 - 63 C 63 / 4P + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm2: motor operating mechanism
  Tm2GQ: Over-/under-voltage auto-reclosing accessories
  ATm: Auto-reclosing accessories
- 4P: Number of poles: 1P, 2P, 3P, 4P
- 63: Rated operating current (A):
  1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 16, 20, 25, 32, 40, 50, 63
- C: Tripping characteristics:
  B: 3In~5In
  C: 5In~10In
  D: 10In~14In
- 63: Shell frame level: 63
- 2: Design number: 2
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
NDB2-63 have passed IEC60898-1 () UL1077 certi-fication and have the function of precise contact position indication.
All of NDB2-63 products have the breaking capacity of 10kA.
Each circuit breaker can have 3 accessories assembled on its left side at the most.
If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.

Example:
Product model: NDB2-63C16/2P+NGQ2A+SD2+OF2
Means: NDB2-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 16A, 2-pole, with over-/under-voltage protection accessories assembled (not release in case of loss of voltage) and additionally equipped with alarm and auxiliary contacts.

NDB2-63H Miniature Circuit Breaker - Quick Selection



ND B 2 - 63 H C 63 / 4P

- ND: Enterprise code: Nader
- B: Product code: Moulded Case circuit-breaker
- 2: Design number: 2
- 63: Shell frame level: 63
- H: High breaking: H: 15kA
- C: Tripping characteristics: 8In (1±20%), 12In (1±20%)
- 63: Rated operating current (A): 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- 4P: Number of poles: 1P, 2P, 3P, 4P

NDB2T-63 Miniature Circuit Breaker - Quick Selection



ND B 2 T - 63 C 63 / 4P + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm2: motor operating mechanism
  Tm2GQ: Over-/under-voltage auto-reclosing accessories
  ATm: Auto-reclosing accessories
  See notes.
- 4P: Number of poles: 1P, 2P, 3P, 4P (see notes)
- 63: Rated operating current (A):
  1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 40, 50, 60, 63 (35A for UL077 certified products to be specially reviewed)
- C: Tripping characteristics:
  B: 4In（1±20%）
  C: 8In（1±20%）
  D: 12In（1±20%）
- 63: Shell frame level: 63
- T: In line with IEC60947-2
- 2: Design number: 2
- B: Product code: Moulded Case circuit-breaker
- ND: Enterprise code: Nader

Notes:
1. NDB2T-63 products have passed IEC60947-2 certification, while UL489 certification can also be selected. All of products have the breaking capacity of 10kA. UL1077 certified products optional
2. Only 1P, 2P and 3P products are available for UL489 certified products, without accessories.
3. Each circuit breaker can have 3 accessories assembled on its left side at the most.
4. If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.

Example:
Product model: NDB2T-63 C16/2P+NGQ2A+SD2+OF2
Means: NDB2T-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 16A, 2-pole, with over-/under-voltage protection accessories assembled (not release in case of loss of voltage) and additionally equipped with alarm and auxiliary contacts.

NDB2N-125A Miniature Circuit Breaker - Quick Selection



ND B 2N - 125 A C 125 / 1

- 1 — Number of poles: 1P, 2P, 3P, 4P
- 125 — Rated operating current (A): 80, 100, 125
- C — Tripping characteristics: C
- A — Derivation code
- 125 — Shell frame level (A): 125
- 2N — Design number: 2N
- B — Product code: Circuit breaker
- ND — Enterprise code: Nader

NDB2Z-63 DC Miniature Circuit Breaker - Quick Selection



ND B 2 Z - 63 C 63 / 2P H + OF2

- Optional electrical accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  ZLC: DC leakage detection module
- Blank - conventional
  H - high breaking type
- Number of poles: 1P, 2P, 3P, 4P (see notes)
- Rated operating current (A):
  1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 40, 50, 60, 63 (see notes)
- Tripping characteristics:
  B: 6In (1 ± 20%)
  c: 12In (1 ± 20%)
- Shell frame level: 63
- DC
- Design number: 2
- Product code: Miniature circuit breaker
- Enterprise code: Nader

4

Final Power Distribution

Notes:

1. Rated operating voltage of NDB2Z-63 products: DC125/220/250V (1P), DC250/440/500V (2P), DC750V (3P), DC1000V (4P).
2. Rated breaking capacity of NDB2Z-63 products: 10 kA (DC125/220/250/440/500V); 5 kA (DC750V/DC1000V).
   H high breaking type 20kA (DC250V); for high breaking type, rated current levels are only 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63A, and the number of poles is only 2P.
3. Each product can have 3 accessories installed at the most.
4. UL1077 certified products are optional. Number of poles is only 1P and 2P.

Example:

Product model: NDB2Z-63C16/2P+MX+SD2+OF2

Means: NDB2Z-63 miniature circuit breaker has C-shaped curve, rated current 16A, 2-pole, with shunt release and additionally equipped with alarm and auxiliary contacts..

NDB2NZ-80H Miniature Circuit Breaker - Quick Selection



ND B 2N Z - 80 H □ □ / □

- Number of poles: 1P, 2P, 3P, 4P
- Rated operating current (A): 6, 10, 16, 20, 25, 32, 40, 50, 63, 80
- Tripping characteristics: B, C
- Derivation code: H
- Shell frame level current (A): 80
- Current type: Z: DC
- Design number: 2N
- Product code: B: Miniature circuit breaker
- Enterprise code: Nader

NDB2T-63/L UL489 Miniature Circuit Breaker - Quick Selection



ND B 2 T - 63 C 63 / 3P + L

- L: UL489
- Number of poles: 1P, 2P, 3P,
- Rated operating current (A):
  1, 1.2, 1.5, 1.6, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35,40, 50, 60, 63
- Tripping characteristics:
  B: 4In（1±20%）
  C: 8In（1±20%）
  D: 12In（1±20%）
- In line with IEC60947-2
- Shell frame level: 63
- Design number: 2
- Product code: Moulded Case circuit-breaker
- Enterprise code: Nader

Notes:
1. Only 1P, 2P and 3P products are available for UL489 certified products, without accessories.

NDB2LE-32 Miniature Circuit Breaker - Quick Selection



ND B 2 L E – 32 C 32 / 1P+N / 30mA / AC

- Residual current action characteristics: Type AC/type A
- Rated residual operating current: 30mA
- Number of poles: 1P+N
- Rated current (A): 6, 10, 16, 20, 25, 32
- Tripping characteristics: Type C
- Shell frame level: 32A
- Electronic
- Leakage protector
- Design code: 2
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes: NDB2LE-32 have no accessories

NDB2LE-40 Miniature Circuit Breaker - Quick Selection



ND B 2 L E - 40 C 25 / 1P+N / 30mA / AC + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm 2: remote control accessories
  ATm: Re-closing control accessories
- AC: Residual current action characteristics: AC, A, electromagnetic type
- 30mA: Rated residual operating current: 30mA, 100 mA, 300 mA
- 1P+N: Number of poles: 1P+N
- 25: Rated operating current (A): 2, 4, 6, 10, 16, 20, 25, 32, 40
- C: Tripping characteristics:
  B: 3In~5In
  C: 5In~10In
  D: 10In~14In
- 40: Shell frame level: 40
- E: Electronic release
- L: Current leakage function code
- 2: Design number: 2
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Residual operating current of NDB2LE-40 is 30mA, 100mA and 300mA, which can be defined by the user.
2. Each product can have 3 accessories assembled at the most.
3. If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.

Example:
Product model: NDB2LE-40 C40/1P+N/30mA/AC
Means: NDB2LE-40 miniature circuit breaker has 6kA breaking capacity, C-shaped curve, rated current 40A, 1P+N, residual oper-ating current 30mA and type AC residual tripping current.

NDB2LM-40 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 2 L M – 40 C 25 / 1P+N / 100mA / Type AC / S + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact;
  SD2: Alarm contact
  MX+OF2: Shunt release
  NGQ2 (A): Over-voltage release
  Tm2: motor operating mechanism
  Tm2GQ: Self-reset over-/under-voltage
- S: Operating characteristics: Transient type (non-marked), delay type (S) (see note 1)
- Type AC: Residual current action characteristics: Type AC, type A
- 100mA: Rated residual operating current: 30mA, 100mA, 300mA
- 1P+N: Number of poles: 1P+N
- 25: Rated operating current (A): 2A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A
- C: Tripping characteristics:
  B: 3In~5In
  C: 5In~10In
- 40: Shell frame level: 40
- M: Electromagnetic release
- L: Current leakage function code
- 2: Design code: 2
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Example:
Product model: NDB2LM-40 C25/1P+N/100mA/type AC/S
Means: NDB2LM-40 miniature residual current circuit breaker has 6KA breaking capacity, C-shaped curve, rated current 25A, 1P+N, rated residual operating current 100mA, type AC residual tripping current, residual current operating characteristics of delay type.

Note 1
Rated residual current operating characteristics:
Transient type: Rated current levels are: 2A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A
Residual current levels are: 30mA, 100mA, 300mA
Action time: ≤ 100ms
Delay type: Rated current levels are: 25A, 32A, 40A
Residual current levels are: 100mA, 300mA
Action time: 130ms ≤ t ≤ 500ms

NDB2LE-63 Miniature Residual Current Circuit Breaker - Quick Selection



ND B 2 L E - 63 C 25 / 2P / 30mA / A + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm2: motor operating mechanism
  Tm2GQ: Over-/under-voltage auto-reclosing accessories
  ATm: Auto-reclosing accessories
- A: Type of residual release current: AC, A, electromagnetic type
- 30mA: Rated residual operating current: 30mA，50mA，100 mA，300 mA
- 2P: Number of poles: 1PN, 2P, 3P, 3P+N, 4P
- 25: Rated operating current (A): 1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- C: Tripping characteristics: type A, type AC
  B: 3In~5In
  C: 5In~10In
  D: 10In~14In
- 63: Shell frame level: 63
- E: Electronic release
- L: Current leakage function code
- 2: Design number: 2
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Residual operating current of NDB2LE is 30mA, 50mA, 100mA and 300mA by default, which can be defined by the user.
2. Each product can have 3 accessories assembled at the most.
3. If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.
4. Main part of the 3P+N product is 4P circuit breaker.

Example:
Product model: NDB2LE-63C40/4P/30mA AC
Means: NDB2LE-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 40A, 4 poles, with the re-sidual operating current of 30mA. Residual tripping current is type AC.

NDB2TLE-63 Miniature Circuit Breaker - Quick Selection



ND B 2 T L E - 63 C 25 / 2P / 30mA + OF2

- OF2: Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm2: remote control accessories
  Tm2GQ: Over-/under-voltage auto-reclosing accessories
  ATm: Re-closing control accessories
- 30mA: Rated residual operating current: 30mA, 50mA, 100mA, 300mA
- 2P: Number of poles: 1PN, 2P, 3P, 3P+N, 4P
- 25: Rated operating current (A): 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 16, 20, 25, 30, 32, 35, 40, 50, 60, 63
- C: Tripping characteristics:
  B: 4In (1 ± 20%)
  C: 8In (1 ± 20%)
  D: 12In (1 ± 20%)
- 63: Shell frame level: 63
- E: Electronic release
- L: Current leakage function code
- T: Conform to standards IEC60947.2
- 2: Design number: 2
- B: Product code: Miniature circuit breaker
- ND: Enterprise code: Nader

Notes:
1. Residual operating current of NDB2TLE-63 is 30mA, 50mA, 100mA and 300mA by default, which can be defined by the user.
2. Each product can have 3 accessories assembled at the most.
3. If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.
4. Main part of the 3P+N product is 4P circuit breaker.

Example:
Product model: NDB2TLE-63 C40/4P/30mA
Means: NDB2TLE-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 40A, 4 poles, with the re-sidual operating current of 30mA. Residual tripping current is type AC.

NDB2LM-63 Miniature Circuit Breaker - Quick Selection



ND B 2 L M - 63 C 25 / 2P / 30mA / AC / S + OF2

- Optional electrical and protection accessories:
  OF2: auxiliary contact
  SD2: Alarm contact
  FF2: double auxiliary contact block
  FS2: auxiliary and alarm contact block
  MX+OF2: Shunt release
  NGQ2 (A): Over-/under-voltage protection
  NG2 (A): Over-voltage protection
  NQ2 (A): Under-voltage protection
  Tm 2: remote control accessories
  Tm2GQ: Over-/under-voltage auto-reclosing accessories
  ATm: Re-closing control accessories
- Blank - conventional
  Type S - delay type
- Type of residual current release: AC, A, electromagnetic type
- Rated residual operating current: 30mA, 100mA, 300mA (see notes)
- Number of poles: 1PN, 2P, 3P, 3P+N, 4P
- Rated operating current (A):
  1, 2, 3, 4, 5 , 6, 10, 16, 20, 25, 32, 40, 50, 63
- Tripping characteristics:
  B: 3In~5In
  C: 5In~10In
  D: 10In~14In
- Shell frame level: 63
- Electromagnetic release
- Current leakage function code
- Design number: 2
- Product code: Miniature circuit breaker
- Enterprise code: Nader

Notes:

1. For NDB2LM-63, the optional residual operating current levels are 30mA, 100mA and 300mA for conventional type, and 100mA and 300mA for S-delay type.
2. Each product can have 3 accessories assembled at the most.
3. If accessories are used, ATM should be used simultaneously with TM2 and SD2, while TM2 can be used alone.
4. Main part of the 3P+N product is 4P circuit breaker.

Example:

Product model: NDB2LM-63 C40/4P/30mA/A

Means: NDB2LM-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 40A, 4 poles, with the re-sidual operating current of 30mA. Residual tripping current is type A.

ND2LM-100 Residual Current operated Circuit-breaker



ND 2 L M - 100 25 / 2P / 30mA / AC / S

- S: Blank - conventional; S - delay type
- AC: Type of residual current release: AC, A,
- 30mA: Residual current: 30mA, 100mA, 300mA (normal type),100mA, 300mA (S type)
- 2P: Number of poles: 2P, 4P
- 25: Rated operating current (A): 16, 25, 40, 50, 63(normal type) 16, 25, 40, 50, 63（S type）
- 100: Shell frame level: 100
- M: Electromagnetic release
- L: Current leakage function code
- 2: Design number: 2
- ND: Enterprise code: Nader

NDB2 Accessories

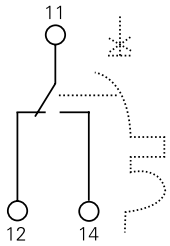
OF2 Auxiliary Contact

Applications: Installed on the left side of NDB2 miniature circuit breaker, indicating the making/breaking status of the circuit breaker.

Technical parameters: Rated operating parameters

	Voltage	Current		Voltage	Current
AC	415V	3A	AC	240V	6A
DC	250V	0.4A	DC	220V	1A
DC	130V	1A	DC	110V	1A
DC	48V	2A	DC	24V	6A





Width (mm): 9.

Note: After being assembled with NDB2 circuit breaker, 11 and 14 are connected at the time of closing. Terminals 11 and 12 are con-nected at the time of opening.

At most 3 OF2 can be installed.

This accessory can be supplied separately, but it is not recommend-ed to be used in conjunction with any miniature circuit breakers from any other manufacturer.

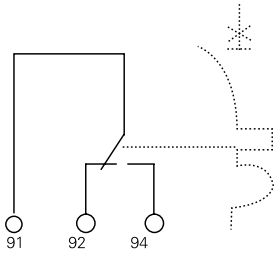
SD2 Alarm Contact

Applications: Installed on the left side of NDB2 miniature circuit breaker, indicating the making/breaking status of the circuit breaker.

Technical parameters: Rated operating parameters

	Voltage	Current		Voltage	Current
AC	415V	3A	AC	240V	6A
DC	250V	0.4A	DC	220V	1A
DC	130V	1A	DC	110V	1A
DC	48V	2A	DC	24V	6A





Width (mm): 9.

Note: After being assembled with NDB2 circuit breaker, 91 and 92 are connected at the time of closing. 91 and 94 are connected at the time of faulty opening.

91 and 92 are connected while 91 and 94 are disconnected at the time of manual opening.

At most 3 SD2 can be installed.

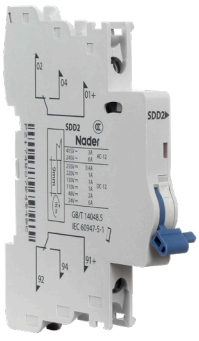
This accessory can be supplied separately, but it is not recommend-ed to be used in conjunction with any miniature circuit breakers from any other manufacturer.

SDD2 Double Alarm Contacts

Applications: Installed on the left side of NDB2 miniature circuit breaker, indicating the fault release status of the circuit breaker

Technical parameters: Rated voltage

Rated operating voltage	AC240V	AC415	DC24V	DC48V
Rated operating current	6A	3A	6A	2A
Rated operating voltage	DC110V	DC130V	DC220V	DC250V
Rated operating current	1A	1A	1A	0.4A



Width (mm): 9.

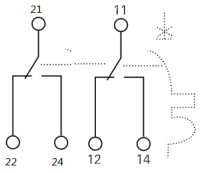
FF2 Double Auxiliary Contacts

Applications: Installed on the left side of NDB2 miniature circuit breaker, indicating the making/breaking status of the circuit breaker remotely.

Technical parameters: Rated operating parameters

Rated operating voltage	Rated operating current	Use type
AC 240V	6A	AC-12
AC 415V	3A	AC-12
DC 24V	6A	DC-12
DC 48V	2A	DC-12
DC110V	1A	DC-12
DC130V	1A	DC-12
DC220V	1A	DC-12
DC250V	0.4A	DC-12





Width (mm): 9.

Note: After being assembled with NDB2, 11 and 14, 21 and 24 are connected at the time of closing, while 11 and 12, 21 and 22 are connected at the time of opening.

At most 3 FF2 can be installed.

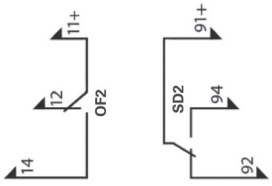
This accessory can be supplied separately, but it is not recommend-ed to be used in conjunction with any miniature circuit breakers from any other manufacturer.

FS2 Auxiliary and Alarm Contact Block

Rated current of auxiliary contact

Rated operating voltage	Rated operating current	Use type
AC 240V	6A	AC-12
AC 415V	3A	AC-12
DC 24V	6A	DC-12
DC 48V	2A	DC-12
DC110V	1A	DC-12
DC130V	1A	DC-12
DC220V	1A	DC-12
DC250V	0.4A	DC-12





Applications: FS2 auxiliary and alarm contact block shall be assem-bled on the left side of NDB2-63 products, indicating the fault and opening/closing status of the circuit breaker.

Highlights: Combine OF2 with SD2, with the width of 1 modulus (9 mm).

Note: After being assembled with NDB2, 91 and 92, 11 and 14 are connected at the time of closing; 91 and 94, 11 and 12 are connected at the time of faulty opening; 91 and 92, 11 and 12 are connected at the time of manual opening.

MX+OF2 Shunt release

Applications: Installed on the left side of NDB2 miniature circuit breakers, for remote release control of the circuit breaker.

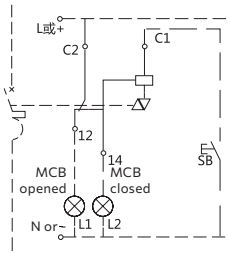
Technical parameters:

Control power supply AC/DC24, AC/DC48V, AC240/415V

Width (mm): 18

Note: Changeover contact is active type. It is prohibited to use it as a passive contact to connect to other instrument modules.

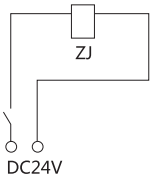


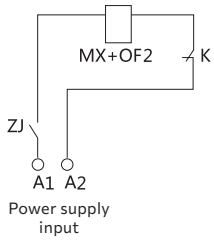


Note: When the control circuit power is DC24V, it is recommended to use the right figure for design of the shunt control circuit.

ZJ: DC24V intermediate relay, contact current capacity 1A.

This accessory can be supplied separately, but it is not recommend-ed to be used in conjunction with any miniature circuit breakers from any other manufacturer.





TM2 Remote Reclosing Equipment - Quick Selection



TM 2 / 230 / 4P

- Number of poles: 1P, 2P, 3P, 4P
- Voltage level (V): 12, 24, 48, 110, 230
- Design number: 2
- Product code: Remote control

Notes:

Tm2 remote control accessory (“Tm2”) is directly affiliated with the NDB2 accessory, used for controlling voltage levels AC230V, AC110V, DC12V, DC24V, DC48V, DC110V and DC220V, as well as AC frequency: 50 ~ 60Hz circuit, and can realize functions like remote control of the circuit breaker, local control of the circuit breaker with the handle, and locking of the circuit breaker in the open state, etc.

Example:

Product model: NDB2-63C20/4P+TM2/230/4P

NDB2-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 20A, 4P and can realize remote con-trol.

NGQ2A over-/under-voltage Protection Accessories



N GQ 2 A

- A: No under-voltage protection:
  Blank: Loss-of-voltage protection; the product cannot be closed in case of power failure
- Design code: With NDB2 circuit breaker
- GQ: Over-/under-voltage protection
  G: Over-voltage protection
  Q: Under-voltage protection
- Enterprise code: Nader

Notes:

1. Over-voltage action value AC280V ± 12V, maximum break time: 0.2s.
2. Under-voltage action value: AC170V ± 7V, maximum break time: 1s.
3. The over-/under-voltage release is only compatible with our min-iature circuit breaker products.
4. Installed on the left side of NDB2 circuit breaker, to realize the function of single-phase over-voltage, under-voltage and over-/under-voltage protection.
5. For release that can provide either over-voltage or under-voltage protection function, over-voltage release is NG2(A) while un-der-voltage release is NQ2(A).

Example:

Product model: NDB2-63 C40/4P+NGQ2A

Means: NDB2-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 40A, 4-pole, one phase with over-/under-voltage protection accessories.

TM2GQ Over-/Under-voltage Protective Device with Auto-reclosing Function - Quick Selection



TM 2 GQ / 4P AC400V

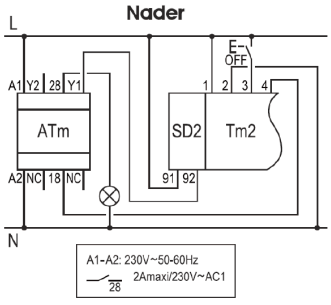
- AC400V — Rated operating voltage: AC230V, AC400V
- 4P — Number of poles: 2P, 4P
- GQ — Product code: Over-/under-voltage protection
- 2 — Design number: 2
- TM — Product code: Remote control

Notes:
Tm2GQ over-/under-voltage auto-reclosing accessory ("Tm2GQ") is directly affiliated with the NDB2 accessory, used for controlling voltage levels AC230V and AC400V (230V relative to the neutral line voltage), and frequency: 50 ~ 60Hz circuit, can automatically detect the line voltage. When over-voltage or under-voltage occurs in the line, it will automatically disconnect the faulty line. After the line voltage returns to the normal range, it can automatically close. Manual operation of the circuit breaker can also be achieved with a handle. The open state of the circuit breaker can be locked through a padlock accessory to ensure safe operation on site.

Example:
Product model: NDB2-63 C20/4P+Tm2GQ/4P AC400V
NDB2-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 20A, 4 poles, and can realize the over-/under-voltage auto-reclosing protection.

ATM Remote Reclosing Equipment - Quick Selection





ATM — Product code: Remote control

Notes:
ATm reclosing control accessory ("ATm") is installed on the left side of Tm2 remote control accessory and used with SD2, for volt-age AC230V (-15%+10%), frequency: 50 ~ 60Hz circuit. It enables the circuit breaker to re-close after a fault action. It is particularly suitable for equipment and systems that are difficult to monitor and approach and have high requirements for power supply continuity.
If accessories are used, ATM should be used simultaneously with TM2 and SD2.

Example:
Product model: NDB2-63 C20/4P+ATM+Tm2+SD2 (AC400V)
NDB2-63 miniature circuit breaker has 10kA breaking capacity, C-shaped curve, rated current 20A, 4 poles, and can realize the reclosing of circuit breaker after a fault action.

NDB3/NDB5 Series Circuit Breakers(Hydraulic Magnetic)

NDB3-30/50 Series Circuit Breakers(Hydraulic Magnetic)



- Compact size: The NDB3-30 has a height of only 40mm.
- Equipped with a hydraulic electromagnetic trip mechanism, integrating overload and short-circuit tripping.
- The tripping performance is determined solely by the magnetic flux generated by the current flowing through the coil, making it less affected by changes in ambient temperature. Therefore, derating due to high temperatures can be disregarded.
- The circuit breaker does not contain thermal elements and does not require cooling time. It can be immediately reclosed as soon as the fault current disappears.
- The viscosity of hydraulic oil is influenced by temperature changes: at low temperatures, the viscosity increases, leading to longer delay times, providing sufficient additional time when starting cold-state equipment. At high temperatures, the viscosity decreases, resulting in shorter delay times, allowing the circuit breaker to trip quickly to protect overheated loads. This "inverse time limit" characteristic is beneficial for overload protection.

NDB5 Series Circuit Breakers(Hydraulic Magnetic)



- Compact size: NDB5 has a width of 13.5mm
- · High precision in current protection, fast response, and sensitive operation
- · Wide operating temperature range: -40°C to 80°C
- · Overload thermal protection allows immediate reclosure
- · Lightning resistance up to 15kA (8/20μs)

NDB3-30 Circuit Breaker for Equipment - Quick Selection



ND B 3 - 30 Z4 4 / 1 Q H Y1 - 1 0 R XXXX

- Customer code (additional option)
- Certification code:
  Blank: 3C, TUV, CE certifications
  R: Passed 3C, TUV, CE and UL1077 certifications
  L: Passed 3C, TUV, CE and UL489A certifications
- 0: no accessories
- Shell color code:
  1: black, 2: grey
  3: black without operation protection
  4: gray without operation protection
- Operation mode code:
  Y1: black rocker key, vertical white characters
  Y2: black rocker key, horizontal white characters
  Y3: white rocker key, vertical black characters
  Y4: white rocker key, horizontal black characters
  Y5: orange rocker key, vertical black characters
  Y6: orange rocker key, horizontal black characters
  Y7: red rocker key, vertical black characters
  Y8: red rocker key, horizontal black characters
- Wiring method code: See “Note 2”.
- Installation mode code: Q: Embedded installation
- Number of poles: 1: one pole, 2: two poles
- Rated current (A), see “Note 1”
- Tripping curve code:
  Z2: DC short delay Z4: DC medium delay
  J2: AC short delay J4: AC medium delay
- Shell frame level: 30
- Design number: 3
- Product code: Circuit breaker for equipment
- Enterprise code: Nader

Notes:

1. Rated current of conventional product (A): 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.75, 0.8, 0.9, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30;
   Rated current of lightning protection product (A): 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.
2. Wiring method code: H: Welded/coupler; C: Plug-in post; E: 8-32UNC screw; J: 8-32UNC screw connection with coupler flipped up; P: M4 screw; R: M4 screw connection with coupler flipped up;

Example:

Product model: NDB3-30 Z420/2QHY1-2-0-R

Means: NDB3-30 circuit breaker for equipment, DC medium delay, 20A, 2-pole, embedded installation, welded/coupler connection, black rocker key, vertical white characters, gray shell, 3C, TUV, CE and UL1077 certified.

NDB3-30 Main Technical Parameters

Rated operating voltage: AC250V (50/60Hz), DC80V, DC65V
Mechanical and electrical life: 10,000 times (electrical life 6,000 times), operating frequency: 6 times/1 min
Power frequency withstand voltage: 2,500V
Free tripping characteristic: Completely free tripping
Certified: CCC, CE, TUV, UL1077, UL489A
Rated breaking capacity, Icn: See table below:

Rated voltage (V)	Frequency	Rated Current (A)	Number of Poles	Rated Short-circuit Breaking Capacity (A)					
				3C(GB17701)		UL1077	UL489A	TUV/CE(EN60934)	
				Inc	Icn			Inc	Icn
AC250V	50/60Hz	0.1-30	1, 2	1500	1000	1000, U1	/	1500	1000
DC80V	/	0.1-30	1, 2	1000	600	1000, U1	/	1000	600
DC80V	/	0.1-30	1	/	/	/	600	/	/
DC65V	/	0.1-30	1	/	/	/	1000	/	/

NDB3-50 Circuit Breaker for Equipment - Quick Selection



ND B 3 - 50 Z4 10 / 1 Q H A1 - A 0 R XXXX

- Customer code (additional option)
- Certification code: See “Note 4”.
- Accessory code:
  0: no accessories
  1: with auxiliary contact (installed on the far left pole based on the installation direction)
- Number of Manipulators:
  A: 1 for each pole
  B: 1 for each multiple pole (two poles and above)
- Operation mode code: See “Note 3”.
- Wiring method code: See “Note 2”.
- Installation mode code:
  L: M3 screw installation
  Q: Embedded installation
  M: 6-32UNC screw installation
- Number of poles:
  1: 1 pole
  2:2 pole
  3: 3 poles (for AC products only)
- Rated current (A): See “Note 1”.
- Tripping curve code:
  Z2/Z4/Z2 (DC short/medium/long delay)
  J2/J4/J2 (AC short/medium/long delay)
- Shell frame level: 50
- Design number: 3
- Product code: Circuit breaker for equipment
- Enterprise code: Nader

Notes:
1. Rated current levels: 0.5, 1, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 24, 25, 30, 32, 35, 40, 45, 50.

2. Wiring method code:
C plug-in post terminal (conventional ≤ 50A, UL489 ≤ 30A)
E 8-32UNC screw-type terminal (conventional ≤ 30A, UL489 ≤ 20A)
F M5 screw terminal with coupler flipped up (conventional ≤ 50A, UL489 ≤ 30A)
G 10-32UNF screw terminal (conventional ≤ 50A, UL489 ≤ 30A)
H quick coupler terminal (conventional ≤ 30A, UL489 ≤ 20A)
J 8-32UNC screw terminal with coupler flipped up (conventional ≤ 30A, UL489 ≤ 20A)
K 10-32UNF screw terminal with coupler flipped up (conventional ≤ 50A, UL489 ≤ 30A)
L M5 screw terminal (conventional ≤ 50A)
P M4 screw terminal (conventional ≤ 30A, UL489 ≤ 20A)
R M4 screw terminal with coupler flipped up (conventional ≤ 30A, UL489 ≤ 20A)

3. Operation mode code:
S1 long black handle, white characters: ON/OFF, with current levels
S2 long black handle, white characters: ON/OFF, I/O, with current levels
S3 long white handle, black characters: ON/OFF, with current levels
S4 long white handle, black characters: ON/OFF, I/O, with current levels
S5 long yellow handle, black characters: ON/OFF, with current levels
S6 long yellow handle, black characters: ON/OFF, I/O, with current levels
D1 short black handle, white characters: ON/OFF, with current levels
D2 short black handle, white characters: ON/OFF, I/O, with current levels
D3 short white handle, black characters: ON/OFF, with current levels
D4 short white handle, black characters: ON/OFF, I/O, with current levels
D5 short yellow handle, black characters: ON/OFF, with current levels
D6 short yellow handle, black characters: ON/OFF, I/O, with current levels
Y1 single color rocker key, vertical white characters: ON/OFF, I/O, with current levels
Y2 single color rocker key, horizontal white characters: ON/OFF, I/O, with current levels
Y3 single color rocker key, vertical white characters: ON/OFF, I/O
Y4 single color rocker key, horizontal white characters: ON/OFF, I/O
Y5 dual color rocker key, vertical white characters: ON/OFF, I/O, indicator ON, with current levels
Y6 dual color rocker key, horizontal white characters: ON/OFF, I/O, indicator ON, with current levels
Y7 dual color rocker key, vertical white characters: ON/OFF, I/O, indicator OFF, with current levels
Y8 dual color rocker key, horizontal white characters: ON/OFF, I/O, indicator OFF, with current levels
A1 black key, vertical white double characters: ON/OFF, I/O, indication OFF, with current levels, white indicator OFF, with protection at OFF position
A2 black key, vertical white double characters: ON/OFF, I/O, indicator OFF, with current levels, white indicator OFF
A4 black key, horizontal white double characters: ON/OFF, I/O, indicator OFF, with current levels, white indicator OFF

4. Certification code:
No code: CCC, TUV, CE certifications
R: CCC, TUV, CE, UL1077
L: CCC, TUV, CE and UL489A (for DC products only)
I: UL1500 certification
K: CCC, TUV, CE and UL489 (for AC products only)

Product certifications	3C /TUV/CE		UL1077		UL489A		UL489	
Current Level (A)	1-30	31-50	1-30	31-50	1-30	31-50	1-20	21-30
Wiring method	H, C, L, F, E, J, G, K, P, R	L, C, F, G, K	H, C, L, F, E, J, G, K, P, R	L, C, F, G, K	H , E, J, L, C, F,	L, C, F	H, C, F, E, J, G, K, P, R	C, F, G, K
Operation mode	S / Y / A / D		S / Y / A		S / Y / A / D		S / Y / A / D	
Number of Manipulators	A / B / A / B / A		A / B / A / B / A		A / B / A / B / A		A / B / A / B / A	
Installation mode	L / M / Q / L / M / L / M / Q		L / M / Q / L / M / L / M / Q		L / M / Q / L / M / L / M / Q		L / M / Q / L / M / L / M / Q	
Number of Poles	1 / 2 / 3 / 1 / 2 / 3 / 1		1 / 2 / 3 / 1 / 2 / 3 / 1		1 / 2 / 3 / 1 / 2 / 3 / 1		1 / 2 / 3 / 1 / 2 / 3 / 1	

1. All auxiliary contacts are installed on the far left pole (facing the operating surface direction).

NDB3-50 Main Technical Parameters

Conform to standards: GB/T 17701, IEC 60934, EN60934, UL1077, UL489A, UL489
Rated operating voltage: DC80V, AC240V, AC415V, AC125/250V, AC120/240V
Mechanical and electrical life: 10,000 times (electrical life 6,000 times)
Power frequency withstand voltage: Main circuit 3,000V, auxiliary circuit 1,000V
Certified: CCC, CE, TUV, UL1077, UL489A, UL489
Auxiliary contact parameters: AC250V 5A

Rated Breaking Capacity:

Model	Voltage (V)	Rated Current (A)	Number of Poles	Rated Short-circuit Breaking Capacity (A)				
				3C (GB17701)	UL1077	UL489A	UL489	TUV/CE (EN60934)
NDB3-50	DC80	1≤In≤30	1, 2	3000	3000, U1a	3000	/	3000
		30<In≤50		1500	1500, U1a			1500
	DC65	1≤In≤50	1, 2	/	3000, U1a	/	/	/
	DC32	1≤In≤50	1, 2	/	5000, U3	/	/	/
	AC240	1≤In≤30	1	4000 (L, K) 3000 (R, I)	/	/	/	/
		30<In≤50		3000 (L, K) 1500 (R, I)	/	/	/	/
	AC415	1≤In≤30	2, 3	4000 (L, K) 3000 (R, I)	/	/	/	/
		30<In≤50		3000 (L, K) 1500 (R, I)	/	/	/	/
	AC250	1≤In≤30	1	/	5000, C1a 3000, U1a	/	/	/
		30<In≤50			1000, U1a			
	AC 125/250	1≤In≤30	2	/	3000, U1a	/	/	/
		30<In≤50			2000, U3			
	AC250 3Φ	1≤In≤30	3	/	5000, U1a	/	/	/
		30<In≤50			1000, U3			
	AC120	1≤In≤30	1	/	/	/	5000	/
	AC120/240	1≤In≤30	2, 3	/	/	/	5000	/

Note: “L, K, R, I” represent the certification code. For specific details, please refer to the specification and model description.

NDB3-100 Circuit Breaker for Equipment - Quick Selection



ND B 3 - 100 Z4 10 / 1 L H A1 - A 0 R XXXX

- Customer code (additional option)
- Certification code: See notes.
- 0: no accessories
  1: with auxiliary contacts (all auxiliary contacts are installed on the far left side based on the installation direction)
- Operation mode code:
  A: 1 for each pole
  B: 1 for each multiple pole
- Operation mode code: See notes.
- Wiring method code: See notes.
- Installation mode code:
  L: M3 screw installation
  M: 6-32UNC screw installation
- Number of poles:
  1:1 pole
  2:2 pole
  3: 3 poles (for applicable current levels, see the "Rated Breaking Capacity")
  4: 4 poles (current ≥ 275A, for DC products, only S/L operation mode)
- Rated current (A): See notes.
- Tripping curve code:
  Z2/Z4/Z6 (DC short/medium/long delay)
  J2/J4/J6 (AC short/medium/long delay)
- Shell frame level: 100
- Design number: 3
- Product code: Circuit breaker for equipment
- Enterprise code: Nader

Notes:

Rated Current (A)	Conventional current levels	1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 32, 35, 36, 40, 45, 50, 60, 70, 80, 90, 100
	Multi-pole parallel connection (for DC products only)	B+ current level: Parallel connection line (3P, 4P) F+ current level: Parallel connection branch line (2P, 3P, 4P) P+ current level: Multi-pole parallel connection without parallel clip (2P, 3P, 4P) Current specification: 2P: 100A, 125A, 150A, 160A, 175A, 200A 3P: 175A, 200A, 225A, 250A, 275A, 300A 4P: 275A, 300A, 325A, 350A, 375A, 400A
Wiring Method Code	S: M6 bolt connection (double nuts) T: M6 bolt connection (double nuts) (conventional ≤ 50A, UL489 ≤ 30A) V: M6 bolt connection (single nut) (conventional ≤ 50A, UL489 ≤ 30A) L: M5 screw type (conventional ≤ 50A, UL489 ≤ 30A) U: M6 bolt connection (single nut) C: Plug-in wiring (conventional ≤ 100A, UL489 ≤ 50A) B: Plug-in wiring (conventional ≤ 100A, UL489 ≤ 50A) H: 1/4-20 UNC bolt connection (double nuts) N: 1/4-20 UNC bolt connection (single nut) P: 10-32 UNF bolt connection (double nuts) (conventional ≤ 50A, UL489 ≤ 30A) W: 10-32 UNF bolt connection (single nut) (conventional ≤ 50A, UL489 ≤ 30A) K: 10-32 UNF screw type (conventional ≤ 50A, UL489 ≤ 30A)	
Operation Mode Code	S1 long black handle, white characters: ON/OFF, with current levels S2 long black handle, white characters: ON/OFF, I/O, with current levels S3 long white handle, black characters: ON/OFF, with current levels S4 long white handle, black characters: ON/OFF, I/O, with current levels S5 long yellow handle, black characters: ON/OFF, with current levels S6 long yellow handle, black characters: ON/OFF, I/O, with current levels Y1 single color rocker key, vertical white characters: ON/OFF, I/O, with current levels Y2 single color rocker key, horizontal white characters: ON/OFF, I/O, with current levels Y3 single color rocker key, vertical white characters: ON/OFF, I/O Y4 single color rocker key, horizontal white characters: ON/OFF, I/O Y5 dual color rocker key, vertical white characters: ON/OFF, I/O, indicator ON, with current levels Y6 dual color rocker key, horizontal white characters: ON/OFF, I/O, indicator ON, with current levels Y7 dual color rocker key, vertical white characters: ON/OFF, I/O, indicator OFF, with current levels Y8 dual color rocker key, horizontal white characters: ON/OFF, I/O, indicator OFF, with current levels A1 black key, vertical white double characters: ON/OFF, I/O, indication OFF, with current levels, white indicator OFF, with protection at OFF position A2 black key, vertical white double characters: ON/OFF, I/O, indicator OFF, with current levels, white indicator OFF A4 black key, horizontal white double characters: ON/OFF, I/O, indicator OFF, with current levels, white indicator OFF L1 long black handle, white characters: ON/OFF L2 long black handle, white characters: ON/OFF, I/O L3 long white handle, black characters: ON/OFF L4 long white handle, black characters: ON/OFF, I/O L5 long yellow handle, black characters: ON/OFF L6 long yellow handle, black characters: ON/OFF, I/O	
Certification Code	Blank: CCC, TUV, CE certifications R: CCC, TUV, CE and UL1077 certifications (for AC products only) L: CCC, TUV, CE and UL489A (for DC products only) K: CCC, TUV, CE and UL489 note: AC current levels 1 ~ 70A; DC current levels 1 ~ 100A C: KC certification (South Korea), CCC, TUV, CE, UL1077 (wiring method is S/T terminal only)	

Current Level (A)	1~100		>100	
Operation Mode	S	S/Y/A	L	L/Y/A
Wiring Method	S/T/C/U/V/B/L/H/P/N/W/K	U/V/B/L/N/W/K	S/U/H//N	U/N
Number of Poles	1,2,3	2,3	2,3,4	2,3
Number of Manipulators	A	B	A	B

NDB3-100 Circuit Breaker for Equipment - Main Parameters

Conform to standards: GB/T17701, IEC60934, EN60934, IEC60947-2, EN60947-2, UL1077, UL489A, UL489, GB/T14048.2
Rated operating voltage: DC80V, DC125V, AC230/400V, AC250V, AC400/415V (see the breaking capacity)
Mechanical and electrical life: 10, 000 times (electrical life 6, 000 times)
Power frequency withstand voltage: Main circuit 3, 000V, auxiliary circuit 1, 000V
Certified: CCC, CE, TUV, UL1077, UL489A, UL489, KC
Single auxiliary contact/intermediate trigger alarm contact parameters: AC250V 5A

Rated Breaking Capacity:

Model	Voltage (V)	Rated Current (A)	Number of Poles	breaking Capacity (A)							
				CCC		UL489A	UL1077	UL489	TUV/CE		KC (South Korea)
				GB17701	GB14048.2				EN60934	EN60947-2	
NDB3-100	DC80	1≤In≤100	1,2,3	7500	/	4000	3000,U1 6000,C1	10000	7500	/	/
		100＜In≤400	2,3,4	/	/	7500	4000,U1 6000,C1	/	/	/	/
		100≤In≤350	2,3,4	/	7500	/	/	/	/	7500	/
	DC125	1≤In≤100	1,2	5000	/	/	3000,U1 6000,C1	/	/	/	/
	DC125	100≤In≤400	2,3,4	/	/	/	4000,U1 6000,C1	/	/	/	/
	AC120	1≤In≤70	1	/	/	/	/	5000	/	/	/
	AC240	1≤In≤20	1,2,3	/	/	/	/	5000	/	/	/
	AC120/240	1≤In≤70	2,3	/	/	/	/	5000	/	/	/
	AC125/250	1~100	2	/	/	/	5000,C1	/	/	/	/
	AC230/240	1~100	1	5000	/	/	/	/	5000	/	/
	AC250	1~100	1	/	/	/	5000,C1	/	/	/	/
				/	/		4000,U1		/	/	
	AC400/415	1~100	2,3	5000	/	/	/	/	5000	/	/
	AC480Y/277	1~100	3	/	/	/	5000,C1	/	/	/	/
	AC220	32,35,40,45,50	1,2	/	/	/	/	/	/	/	3000
		60,70,80,90,100	2	/	/	/	/	/	/	/	3000
	AC380	32,35,40,45,50, 60,70,80,90,100	3	/	/	/	/	/	/	/	3000

NDB5 Circuit Breaker for Equipment - Quick Selection



ND B 5 Z4 4 1 - P U 0 W R XXXX

- XXXX — Customer code (additional option)
- R — Certification code:
  R: Passed CCC, UL1077, TUV and CE certifications
  L: Passed CCC, UL489A, TUV and CE certifications
- W — Operating surface size:
  Blank: Means that the operating surface size is 45 mm
  W: Means that the operating surface size is 57 mm
- 0 — Accessory code:
  0: no accessories
  1: auxiliary alarm contact
  2: single auxiliary contact
- U — Connection mode:
  U: Means products connected in parallel (two or three poles connected in parallel)
  Blank: Means products not connected in parallel
- P — Pole type:
  P: Without neutral pole
  N: With neutral pole (1N or 3N only)
- 1 — Number of poles:
  1:1 pole
  2:2 pole
  3:3 pole
- 4 — Rated current (A): See “Note 1”.
- Z4 — Tripping curve code:
  Z2/Z4/Z2 (DC short/medium/long delay)
  J2/J4/J2 (AC short/medium/long delay)
- 5 — Design number: 5
- B — Product code: Circuit breaker for equipment
- ND — Enterprise code: Nader

Notes:

1. Rated current (A): 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 12, 15, 16, 20, 24, 25, 30, 32, 35, 40, 45, 50, 55, 60, 63, 70, 80, 90, 100, 105, 110, 120, 125, 150.
2. The maximum rated current of single pole is 63A;
3. One-pole + N-pole, three-pole and three-pole + N-pole products are only AC products.
4. The parallel bar is only applicable to DC products, and the minimum current is 20A and the maximum is 100A for two poles connected in parallel, while the minimum current is 105A and the maximum is 150A for three poles connected in parallel.
5. All NDB5 circuit breakers for equipment can be assembled with alarm and auxiliary contacts.
   The accessory products are available in two specifications: auxiliary alarm contact and single auxiliary contact.
   1): Auxiliary alarm contact is consisting of one block of auxiliary contact (1NO + 1NC) and one block of alarm contact (1NO + 1NC).
   2): Single auxiliary contact is consisting of one block of auxiliary contact (1NO + 1NC).
   The installation method of the simulated circuit breaker product is that the accessories are assembled on the far right pole of the circuit breaker.
   The auxiliary and alarm contacts are respectively used to indicate the closing and opening states and the fault tripping states of the circuit breaker.
   Auxiliary and alarm contacts are not shipped separately;
   NDB5 accessory products only pass CCC certification
6. The models listed in the table are standard. The tripping curve, current level, etc. of this product can be changed according to the user’s requirements. The changed models are special supply models and are not within the listed range.

NDB6A-63H AC Miniature Circuit Breaker - Quick Selection



ND B 6A – 63 H / 50 3

- Number of poles: 1P, 1PN, 2P, 3P, 3PN, 4P
- Rated operating current (A): 6, 10, 16, 20, 25, 32, 40, 50, 63
- Color: H: Black
- Shell frame level: 63
- Design code: 6A
- Product code: Moulded Case circuit-breaker
- Enterprise code: Nader

NDB6A-125H AC Miniature Circuit Breaker - Quick Selection



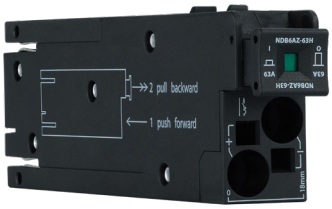
ND B 6A – 125 H / 80 /1

- Number of poles: 1P, 1PN, 2P, 3P, 3PN, 4P
- Rated operating current (A): 80，100，125
- Color: H: Black
- Shell frame level: 125
- Design code: 6A
- Product code: Moulded Case circuit-breaker
- Enterprise code: Nader

Note a:
Rated current of shell frame 63: 4, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated current:80A, 100A, 125A

Example:
Product model: NDB6AZ-63H/50B/1PN
Means: NDB6AZ-63H miniature circuit breaker has a rated current 50A, 1PN, and the auxiliary terminal is battery type.

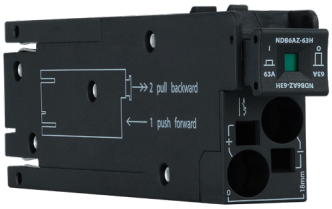
NDB6AZ Miniature Circuit Breaker - Quick Selection



ND B 6A Z – 63 H / 50 B / 1PN

- 1PN: Number of poles: 1PN (N-pole normally closed)
- B: Auxiliary signal type: B: Battery; Blank: Load
- 50: Rated operating current (A): 6,10,16,20,25,32,40,50,63
- H: Color: H: Black
- 63: Shell frame level: 63
- Z: Derivation code: DC
- 6A: Design code: 6A
- B: Product code: Moulded Case circuit-breaker
- ND: Enterprise code: Nader

NDB6AZ -125Miniature Circuit Breaker - Quick Selection



ND B 6A Z – 125 H / 50 /1PN

- 1PN: Number of poles: 1PN (N-pole normally closed)
- 50: Rated operating current (A): 80,100,125
- H: Color: H: Black
- 125: Shell frame level: 125
- Z: Derivation code: DC
- 6A: Design code: 6A
- B: Product code: Moulded Case circuit-breaker
- ND: Enterprise code: Nader

NDB6AZ Miniature Circuit Breaker - Quick Selection



ND B 6A Z – 200 H /200 /1PN

- Number of poles: 1PN (N-pole normally closed)
- Rated operating current (A): 200A
- H: high breaking capacity
- Shell frame level: 200
- Derivation code: DC
- Design code: 6A
- Product code: Moulded Case circuit-breaker
- Enterprise code: Nader

NDU1-I Surge Protection Device - Quick Selection



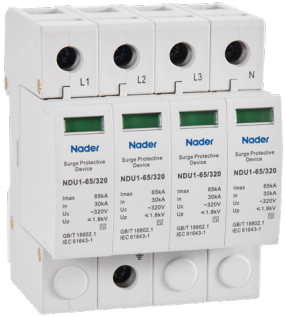
ND U 1 - I / 15 / 320 / 1 / S

- S: With remote signalling
  Blank: Without remote signalling
- Number of poles: 1P, 2P, 3P, 4P
- Maximum continuous operating voltage:
  Uc: 275V (only 50kA), 320V (only 15kA), 385V
- Impulse current: 15kA, 50kA
- Type I
- Design number: 1
- Product code: Surge protection device
- Enterprise code: Nader

NDU1-I Surge Protection Device - Main Parameters

	NDU1-I15/320	NDU1-I15/385	NDU1-I50/275	NDU1-I50/385
Maximum continuous operating voltage, Uc (VAC)	320	385	275	385
Frequency (Hz)	50/60		50/60	
Impulse current, Iimp(kA) 10/350μs	15		50	
Charge quantity, Q (As)	7.5		25	
Nominal discharge current (kA) (8/20μs)	50		50	
Voltage protection level, Up (kV)	2.2	2.5	2.5	
Response time (ns)	≤25		≤100	
Rated breaking follow current capacity (kA)	Not applicable		3	
Protection level	IP20			
Protection mode	L/N-PE			
Shell material	Flame-retardant materials, PA6			
Operating environment	Temperature: -40°C ~ +70°C; relative humidity: < 95%			
Number of ports	One port			
Over-current protection function	Nil			
Remote signalling function	Yes		Yes	
Wiring capacity (mm^2)	4-25		4-35	
Number of Poles	1, 2, 3, 4			
Backup protection	NDUH1-I 15		/	
Product certifications	Type Test Report of Beijing Lightning Protection Device Testing Center			

NDU1 (10kA ~ 65kA) Surge Protection Device - Quick Selection



ND U 1 - 65 / 275 / 1 / S

- S: Remote signalling
  Blank: Without remote signalling
  S: With remote signalling
- 1: Number of poles: 1P, 1PN, 2P, 3P, 3PN, 4P
- 275: Maximum continuous operating voltage:
  Uc: 255V, 275V, 320V, 385V, 440V, 550V
- 65: Maximum discharge current: 10kA, 20kA, 40kA, 65kA
- 1: Design number: 1
- U: Product code: Surge protection device
- ND: Enterprise code: Nader

NDU1 (80kA ~ 120kA) Surge Protection Device - Quick Selection



ND U 1 - 80 / 275 / 1 / S

- S: With remote signalling
  Blank: Without remote signalling
- 1: Number of poles: 1P, 1PN, 2P, 3P, 3PN, 4P
- 275: Maximum continuous operating voltage: Uc: 275V, 440V
- 80: Maximum discharge current: 80kA, 100kA, 120kA
- 1: Design number: 1
- U: Product code: Surge protection device
- ND: Enterprise code: Nader

NDU1 (10kA ~ 20kA) Surge Protection Device - Main Parameters

Model	NDU1-10			
Specification	NDU1-10/275	NDU1-10/320	NDU1-10/385	NDU1-10/NPE
Maximum continuous operating voltage, Uc (V)	275	320	385	255
Frequency (Hz)	50/60			
Maximum discharge current, Imax (80/20us) (kA)	10			
Nominal discharge current, In (80/20us) (kA)	5			
Voltage protection level, Up (kV)	≤1.0	≤1.2	≤1.35	≤1.2
Ambient temperature (°C)	-40 ~ +70			
Response time (ns)	≤25			
Protection level	IP 20			
Operating parameter of remote signalling contact (maximum value)	1.5A 250VAC			
Cross-sectional area of connecting conductor (mm^2)	SPD connecting line BVR-16; ground line: BVR-25			
Product certifications	Type Test Report of Beijing Lightning Protection Device Testing Center			

Model	NDU1-20				
Specification	NDU1-20/275	NDU1-20/320	NDU1-20/385	NDU1-20/440	NDU1-20/NPE
Maximum continuous operating voltage, Uc (V)	275	320	385	440	255
Frequency (Hz)	50/60				
Maximum discharge current, Imax (80/20us) (kA)	20				
Nominal discharge current, In (80/20us) (kA)	10				
Voltage protection level, Up (kV)	≤1.1	≤1.2	≤1.5	≤1.8	≤1.5
Ambient temperature (°C)	-40 ~ +70				
Response time (ns)	≤25ns				
Protection level	IP 20				
Operating parameter of remote signalling contact (maximum value)	1.5A 250VAC				
Cross-sectional area of connecting conductor (mm^2)	SPD connecting line BVR-16; ground line: BVR-25				
Product certifications	Type Test Report of Beijing Lightning Protection Device Testing Center				

NDU1 (40kA ~ 65kA) Surge Protection Device - Main Parameters

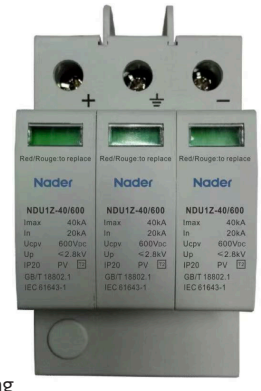
Model	NDU1-40					
Specification	NDU1-40/275	NDU1-40/320	NDU1-40/385	NDU1-40/440	NDU1-40/550	NDU1-40/NPE
Maximum continuous operating voltage, Uc (V)	275	320	385	440	550	255
Frequency (Hz)	50/60					
Maximum discharge current, Imax (80/20us) (kA)	40					
Nominal discharge current, In (80/20us) (kA)	20					
Voltage protection level, Up (kV)	≤1.3	≤1.5	≤1.8	≤2.2	≤2.8	≤1.5
Ambient temperature (°C)	-40 ~ +70					
Response time (ns)	≤25					
Protection level	IP 20					
Operating parameter of remote signalling contact (maximum value)	1.5A 250VAC					
Cross-sectional area of connecting conductor (mm^2)	SPD connecting line BVR-16; ground line: BVR-25					
Product certifications	Type Test Report of Beijing Lightning Protection Device Testing Center					

Model	NDU1-65					
Specification	NDU1-65/275	NDU1-65/320	NDU1-65/385	NDU1-65/440	NDU1-65/550	NDU1-65/NPE
Maximum continuous operating voltage, Uc (V)	275	320	385	440	550	255
Frequency (Hz)	50/60					
Maximum discharge current, Imax (80/20us) (kA)	65					
Nominal discharge current, In (80/20us) (kA)	30					
Voltage protection level, Up (kV)	≤1.5	≤1.8	≤2	≤2.5	≤3	≤1.5
Ambient temperature (°C)	-40 ~ +70					
Response time (ns)	≤25					
Protection level	IP 20					
Operating parameter of remote signalling contact (maximum value)	1.5A 250VAC					
Cross-sectional area of connecting conductor (mm^2)	SPD connecting line BVR-16; ground line: BVR-25					
Product certifications	Type Test Report of Beijing Lightning Protection Device Testing Center					

NDU1 (80kA ~ 120kA) Surge Protection Device - Main Parameters

Model	NDU1-80 275	NDU1-100 275	NDU1-120 275	NDU1-80 320	NDU1-80 440	NDU1-100 440	NDU1-120 440
Number of Poles	1P, 1PN, 2P, 3P, 3PN, 4P						
Nominal discharge current (80/20us) (kA)	40	50	60	40	40	50	60
Maximum discharge current, Imax (80/20us) (kA)	80	100	120	80	80	100	120
Voltage protection level (kV)	≤2.5	≤2.5	≤2.5	≤2.0	≤2.5	≤2.5	≤2.7
Maximum continuous operating voltage (V)	AC275			AC440			
Operating voltage (V)	≥430			≥680			
Response time (ns)	≤20			≤20			
Leakage current (μA)	≤30			≤30			
Protection mode	L-PE/N-PE			L-PE/N-PE			
Cross-sectional area of connecting conductor (mm2)	SPD connecting line BVR-16 Ground line: BVR-25			SPD connecting line BVR-16 Ground line: BVR-2			
Shell material	Flame-retardant materials			Flame-retardant materials			
Operating environment (°C)	Temperature: -40°C ~ +70°C Relative humidity < 95%			Temperature: -40°C ~ +70°C Relative humidity < 95%			
Installation position	Power inlet end of main distribution box or distribution box			Power inlet end of main distribution box or distribution box			
Number of ports	One port			One port			
Structural type	Modular design			Modular design			
Protection level	IP20			IP20			
Protection type	Voltage-limiting type						
Product certifications	Beijing Lightning Protection Device Testing Center						

NDU1Z DC Surge Protection Device - Quick Selection



ND U 1 Z - 40 / 600V / 3 / S

- S: With remote signalling
  Blank: Without remote signalling
- Number of poles: 3P
- Maximum continuous operating voltage: 600V(1P) ; 1000V(2P); 1500V(3P)
- Maximum discharge current: Imax: 40kA
- DC code
- Design number: 1
- Product code: DC Surge protection device
- Enterprise code: Nader

NDU1Z Surge Protection Device - Main Parameters

Model	NDU1Z-40 600	NDU1Z-40 1000	NDU1Z-40 1500
Number of Poles	1P	2P	3P
Nominal discharge current (80/20us) (kA)	20	20	20
Maximum discharge current, Imax (80/20us) (kA)	40	40	40
Voltage protection level (kV)	≤2.8	≤4.3	≤4.5
Maximum continuous operating voltage (V)	DC600	DC1000	DC1000
Operating voltage (V)	≥750	≥1800	≥1800
Response time (ns)	≤20	≤20	≤20
Leakage current (μA)	≤30	≤30	≤30
Protection mode	L-PE/N-PE	L-PE/N-PE	L-PE/N-PE
Cross-sectional area of connecting conductor (mm2)	SPD connecting line BVR-16 Ground line: BVR-25	SPD connecting line BVR-16 Ground line: BVR-25	SPD connecting line BVR-16 Ground line: BVR-25
Shell material	Flame-retardant materials	Flame-retardant materials	Flame-retardant materials
Operating environment (°C)	Temperature: -40°C ~ +70°C Relative humidity: < 95%	Temperature: -40°C ~ +70°C Relative humidity: < 95%	Temperature: -40°C ~ +70°C Relative humidity: < 95%
Installation position	DC combiner box	DC combiner box	DC combiner box
Number of ports	One port	One port	One port
Structural type	Plug-and-pull type	Plug-and-pull type	Plug-and-pull type
Protection level	IP20	IP20	IP20
Protection type	Voltage-limiting type		
Product certifications	Beijing Lightning Protection Device Testing Center		

Charter 5
Switch Disconnector

NDGR2 Fuse Switch Disconnector - Quick Selection



ND GR 2 - 125 / 3 / F1 H L 00/125

- 00/125: Rated current of matched fuse link, applicable to the switch disconnector with fuse.
- L: Shaft length type: L, L1, L2
- H: Handle type
  In-switchgear: Handle for operation inside the switchgear (note: For the switch disconnector with fuse with the specifications of 1000 and 1250, there are no operations in the switchgear)
  Type H: Type H handle
  Type H + interlock: Type H handle with door interlock
  Type B: Type B handle with door interlock
- F1: Type of auxiliary switch: F1 - with one auxiliary switch (one normally on and one normally off)
  F2 - with two auxiliary switches (two normally on and two normally off)
  No code - without auxiliary switch
- 3: Number of poles: 3 - three poles, 4 - four poles (note: For the switch disconnector with fuse with the specifications of 1000 and 1250, four poles are not available)
- 125: Specification of switch disconnector with fuse: 63, 125, 160, 250, 400, 630, 800, 1000, 1250
- 2: Design number: 2
- GR: Model: GR - switch disconnector with fuse
- ND: Enterprise code: Nader

NDGR2 Main Performance Parameters

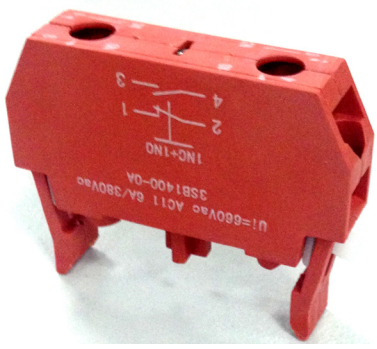
Specification	NDGR2 -63	NDGR2 -125	NDGR2 -160	NDGR2 -250	NDGR2 -400	NDGR2 -630	NDGR2 -800	NDGR2 -1000	NDGR2 -1250
Number of Poles	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3	3
Size of matched fuse link	000	00	00	1-2	1-2	3	3	4	4
Maximum fuse (A)	63	125	160	250	400	630	800	1000	1250
Rated insulation voltage, Ui (V)	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage, Uimp (kV)	12	12	12	12	12	12	12	12	12
Rated operating voltage, Ue (V)									
AC 50/60 Hz	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690
Rated operating current Ie/power AC									
400V AC-23B (A/kW)	63/30*	125/75	160/90	250/132	400/200	630/333	800/425	1000/515	1250/660
690V AC-23B (A/kW)	63/55*	125/110	160/150	250/220	400/375	630/560	800/710	1000/910	1250/1110
Rated limiting short-circuit current (kA)									
AV 400V	100	100	100	100	100	100	100	100	100
AV 690V	50	50	50	50	50	50	50	50	50
Rated limiting short-circuit current (kA)									
Rated making capacity 690VAC-23B (A)	630*	1250	1600	2500	4000	6300	8000	10000	12500
Rated breaking capacity 690VAC-23B (A)	504*	1000	1280	2000	3200	5040	6040	8000	10000
Rated making/breaking capacitive load capacity 400V (kVAr)Rated making/breaking capacitive load capacity 400V (kVAr)	131	131	251	251	251	540	540	830	830

*Note: copφ = 0.45

Specification	NDGR2 -63	NDGR2 -125	NDGR2 -160	NDGR2 -250	NDGR2 -400	NDGR2 -630	NDGR2 -800	NDGR2 -1000	NDGR2 -1250
Mechanical performance									
Mechanical life	15000	15000	12000	12000	12000	3000	3000	1000	1000
Electrical life	1000	1000	300	300	300	200	150	100	100
Operating torque (N.m)	7.5	7.5	16	16	16	30	30	38	38
Allowable load									
Ambient temperature=40°C (A)	63	125	160	250	400	630	800	1000	1250
Ambient temperature=45°C (A)	63	125	150	250	380	610	770	970	1200
Ambient temperature=50°C (A)	63	125	145	250	360	590	740	940	1150
Ambient temperature=55°C (A)	63	125	140	240	340	570	710	910	1100
Connection									
Minimum cross-sectional area of cooper cable (mm^2)	35	70	120	150	240	2x150	2x240	2x240	–
Maximum cross-sectional area of cooper cable (mm^2)	20x5	20x5	40x16	40x16	40x16	40x16	70x16	70x14	70x14
Maximum width of cooper cable (mm)	20	20	20	25	25	40	40	70	70
Terminal fastening torque (Nm)	7-10	7-10	15-22	15-22	35-45	35-45	35-45	35-45	35-45
Others									
Neutral pole current (A)/ neutral line current (A)	63/63	125/125	160/160	250/250	400/400	630/630	800/800	1000/1000	1250/1000
Operating current of Auxiliary Switch, 380VAC-15A	4	4	4	4	4	6	6	6	6
Operating current of Auxiliary Switch, 220VDC-13A	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.6

NDGR2 Accessories Selection

- Type H handle (for operation outside the switchgear, protection level IP65, used with type H rotating shaft and coupling)
- Type H rotating shaft (length L, L1 and L2, used with type H handle and coupling)
- Coupling (used with type H handle and type H rotating shaft)
- Type B handle (for operation outside the switchgear, used with type B rotating shaft)
- Type B rotating shaft (length L, L1 and L2, used with type B handle)
- In-switchgear handle (handle and shaft installed, length L, L1 and L2)
- Auxiliary switch (1 or 2 available for one product, “F1” means 1 auxiliary switch while “F2” means 2)
- Fuse link (applicable to NDGR2, one product shall be provided with 3 links)
- Flash barrier (applicable to NDGR2 and NDGR2-63 ~ 400, one product shall be provided with 5 pieces; for NDGR2-630 ~ 1250, one product shall be provided with 4 pieces)
- Shaft sleeve



Auxiliary switch

NDG3-100, 125 and 160 Switch Disconnector -

Quick Selection

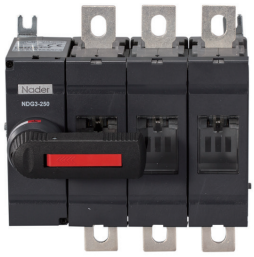


ND G 3- 125 / 3 A Z K S

- S: Derivation code:
  S: Interlocked (manual dual power supply)
  L: Interlocked (all phase poles are opened/closed simultaneously)
- K: Handle type:
  K: Handle for direct operation in switchgear
  No code: No handle (with handle for operation outside the switchgear, to be ordered separately, see "standard accessory configuration - handle + shaft")
- Z: Installation mode:
  Z: Rail and screw installation
  M: Cabinet door installation (NGSB1-B handle for operation outside the switchgear must be ordered accordingly)
- A: Pole type:
  A: with neutral pole (N pole) that is opened and closed simultaneously with the main switch.
  B: With straight-through type neutral pole (N pole)
  No code: No neutral pole
- 3: Number of poles:
  100: 3, 4, 6, 8
  125: 3, 4, 6, 8
  160: 3, 4
- 125: Specification:
  100, 125, 160
- G: Design number: 3
- ND: Product code: Switch disconnector
- Enterprise code: Nader low-voltage electrical appliances

Note: Derivation codes are applicable to 6P and 8P products of NDG3-100/125.

NDG3-100H, 125H, 160H, 200, 250, 315 and 400 Switch Disconnector - Quick Selection



ND G 3- 250 / 04 A Z K

- K: Handle type:
  P: No handle (with handle for operation outside the switchgear, to be ordered separately, see “standard accessory configuration - handle + shaft”)
  K: Handle for direct operation in switchgear
- Z: Operation mode:
  Z: Front-operated
  C: Side-operated
- A: Pole type:
  No code: No neutral pole products
  A: with neutral pole (N pole) that is opened and closed simultaneously with the main switch.
  B: With straight-through type neutral pole (N pole)
- 04: Number of poles:
  03, 12, 04, 22
  (The first digit means the number of phase poles on the left side of the operating mechanism, while the second digit is the number of phase poles on the right side of the operating mechanism)
- 250: Specification:
  100H, 125H, 160H, 200, 250, 315, 400
- 3: Design number: 3
- G: Product code: Switch disconnector
- ND: Enterprise code: Nader low-voltage electrical appliances

Note:
1. NDG3-□/□□CK products are only available in 3 poles (03) and 4 poles (04).
2. Products of type A or B pole type with neutral pole are only available in 4 poles.

NDG3-500, 630, 800, 1000 and 1250 Switch Disconnector - Quick Selection



ND G 3- 1250 / 4 / Z K

- Handle type:
  P: No handle (with handle for operation outside the switchgear, to be ordered separately)
  K: Handle for direct operation in switchgear
- Current type:
  No code: Conventional products
  Z: DC photovoltaic products
- Number of poles: 3, 4
- Switch disconnector specification: 500, 630, 800, 1000, 1250
- Design number: 3
- Product code: Switch disconnector
- Enterprise code: Nader

Note: For DC photovoltaic products, short bonding bar MX1/G3-□ should be ordered. Please contact the local distributor.

NDG3-100 ~ 1250 Switch Disconnector - Main Performance Parameters

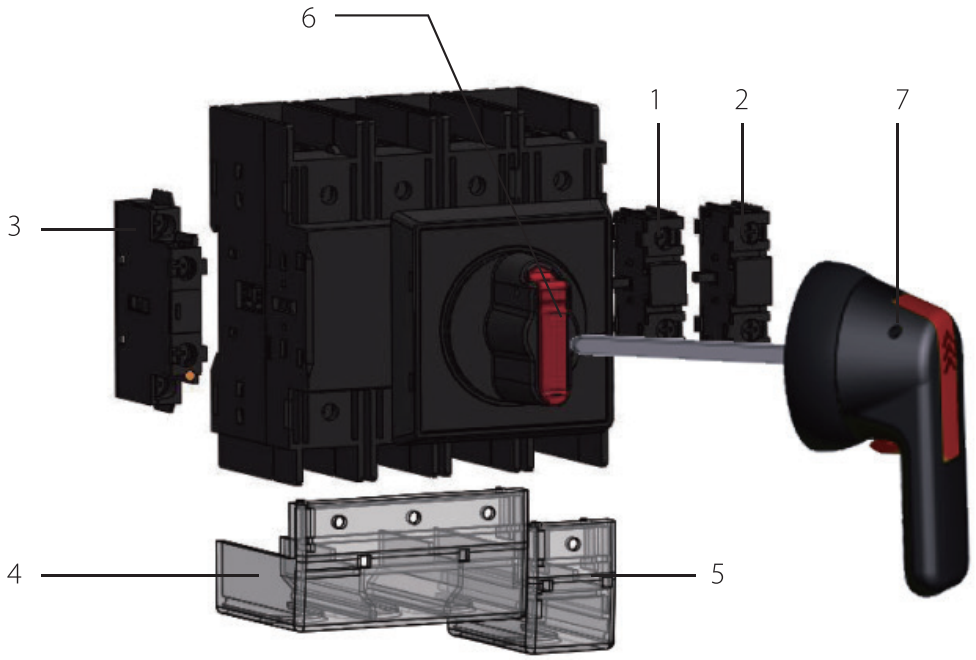
Specification	NDG3-100			NDG3-125			NDG3-160		
Number of Poles	3, 4, 6, 8						3, 4		
Rated insulation voltage (V)	750						1000		
Rated impulse withstand voltage (kV)	8						12		
Rated operating current (A)	Use type	Rated voltage	Rated current	Use type	Rated voltage	Rated current	Use type	Rated voltage	Rated current
	AC-21A AC-22A	380/400/415	100	AC-21A AC-22A	380/400/415	125	AC-21A AC-22A	380/400/415	160
		500			500			500	
		660/690			660/690			660/690	
							AC-21B	1000	
	AC-23A	380/400/415	80	AC-23A	380/400/415	90	AC-23A	380/400/415	135
		500	60		500	70		500	125
		660/690	40		660/690	50		660/690	80
	DC-22A	110	100/2	DC-22A	110	125/2	DC-21A DC-22A	500	160/3
		250	63/4		250	80/4	DC-21A	750	160/4
Rated short-time withstand current (kA·1s)	2.5						4		
Rated short-circuit making capacity (kA)	3.6						12		
Mechanical life	20000								
Electrical life	1500			1000					
Wiring capacity (mm^2) (bare copper cable)	Main products: 10 ~ 50 (shell frames 100 and 125) 10 ~ 70 (shell frame 160) Auxiliary: 0.75-2.5								
Terminal fastening torque (locking torque Nm)	Main products: 6 Auxiliary: 0.8								
Operating torque (N.m)	2.5						5		
Installation mode	Rail and screw installation; cabinet door installation								

Specification			NDG3-100H	NDG3-125H	NDG3-160H	NDG3-200	NDG3-250
Number of Poles			3, 4				
Rated insulation voltage (V)			1000				
Rated impulse withstand voltage (kV)			12				
Rated operating current (A)	Use type	Rated voltage(V)	NDG3-100H	NDG3-125H	NDG3-160H	NDG3-200	NDG3-250
	AC-22A	800/1000	100	125	160	200	250
	AC-23A	380/400/415	100	125	160	200	250
		500	100	125	160	200	250
		660/690	100	125	160	200	250
	DC-21B inter-polar connection	500	100/3	125/3	160/3	200/3	250/3
		1000	100/4	125/4	160/4	200/4	250/4
Rated short-time withstand current, Icw (kA•1s)			8				
Rated short-circuit making capacity, Icm (peak value) (kA)			30				
Electrical life			1,500 times	1,000 times			
Mechanical life			20,000 times				
Minimum cross-sectional area of cooper cable (mm^2)			100A：50 125A：50 160A：95 200A：120 250A：150				
Terminal screw specification (metric system: Diameter * length mm)			Main products: M8X25 auxiliary: M3.5X9.5				
Terminal fastening torque (locking torque Nm)			Main products: 15-22 auxiliary: 0.8				
Operating torque (N.m)			7				
Installation mode			Baseplate screw installation				

Specification	NDG3-315			NDG3-400		
Number of Poles	3, 4					
Rated insulation voltage (V)	1000					
Rated impulse withstand voltage (kV)	12					
Rated operating current (A)	Use type	Rated voltage(V)	Rated current(A)	Use type	Rated voltage(V)	Rated current(A)
	AC-23A	380/400/415	315	AC-23A	380/400/415	400
		500			500	
		660/690			660/690	
		1000			1000	
	DC-21B	500	315/3	DC-21B	500	400/3
		1000	315/4		1000	400/4
Rated short-time withstand current (kA·s)	31/0.15s, 20/0.5s, 15/1s					
Rated short-circuit making capacity (kA)	50					
Mechanical life	10000					
Electrical life	1000					
Wiring capacity (mm^2) (bare copper cable)	Main products: 240 (1 piece) - 150 (2 pieces) Auxiliary: 0.75-2.5					
Terminal fastening torque (locking torque Nm)	Main products: 30-44 Auxiliary: 0.8					
Operating torque (N.m)	15					
Installation mode	Baseplate screw installation					

Specification	Unit/Category		Specific Parameter Description				
Rated currentIn	A		500	630	800	1000	1250
Conventional thermal current	A		800			1250	
Number of Poles	Pole		3, 4				
Rated insulation voltage	V		1000				
Rated impulse withstand voltage	kV		12				
Rated operating current (A)	AC21B	800V	500	630	630	/	/
		1000V	/	/	/	1000	1250
	AC22B	415V	500	630	800	1000	1250
		690V	400	500	500	800	800
	AC23B	415V	400	500	/	800	1000
		690V	315	315	/	500	500
	DC21B	750V	500/3	630/3	800/3	/	/
		1000V	500/4	630/4	800/4	/	/
	DC22B	750V	/	/	/	1000/3	1250/3
		1000V	/	/	/	1000/4	1250/4
Rated short-time withstand current, Icw	kA·1s		AC: 16 DC: 10			AC: 35 DC: 10	
Rated short-circuit making capacity, Icw	kA		AC: 32kA DC: 17kA			AC: 50kA DC: 17kA	
Mechanical life	Times		5000				
Electrical life	Times		200		100		
Operating torque (N.m)	N.m		18			40	
Tightening torque of binding screw	N.m		10			14	
Cross-sectional area of copper busbar	mm^2		2 pieces 30X5	2 pieces 40X5	2 pieces 50X5	2 pieces 60X5	2 pieces 80X5
Installation mode			M6 screw installation			M8 Screw installation	

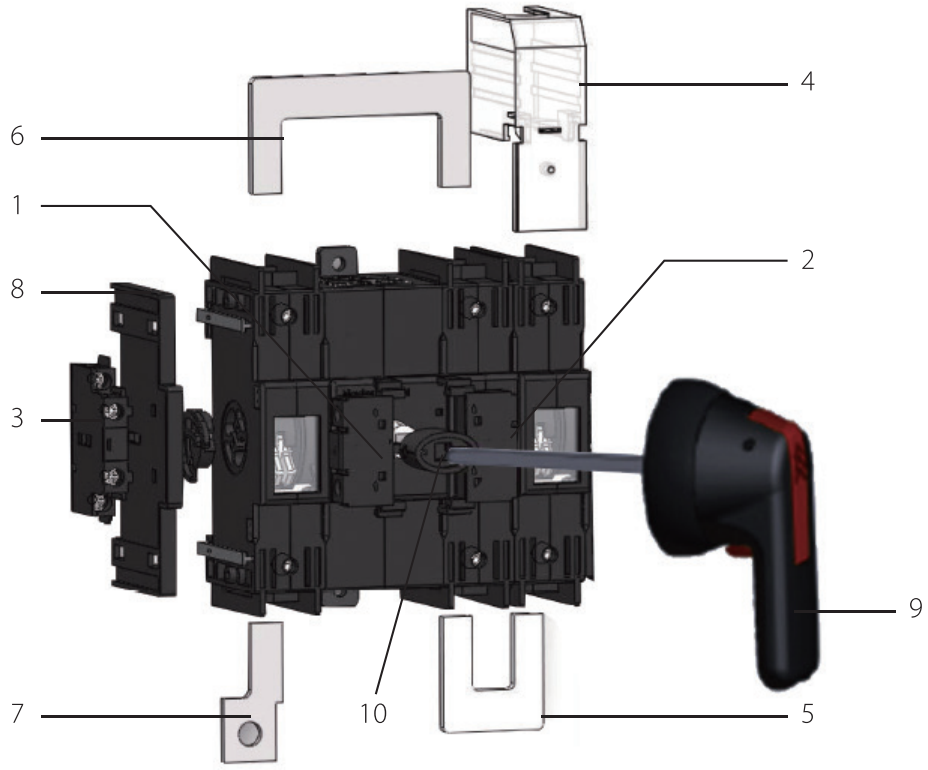
NDG3-100 ~ 1250 Switch Disconnector - Accessories Selection



NDG3-100, 125 Accessory Type

SN	Name	Remarks
1	Auxiliary switch NGF1-01	Installed on both sides of the product, 2 on each side at the most. To be installed on the cabinet door or on the same side of phase N, the auxiliary switch should be connected before installation, with the maximum wiring no more than 1 mm^2.
2	Auxiliary switch NGF1-10	Installed on both sides of the product, 2 on each side at the most. To be installed on the cabinet door or on the same side of phase N, the auxiliary switch should be connected before installation, with the maximum wiring no more than 1 mm^2.
3	Auxiliary switch NGF1-11	Installed on both sides of the product, 1 on each side. It cannot be installed on the same side of phase N. To be installed on the cabinet door, the auxiliary switch should be connected before installation, with the maximum wiring no more than 1 mm^2.
4	Terminal cover NGZ1-125/3	Installed at both ends of the incoming/outgoing line of the main switch
5	Terminal cover NGZ1-125/1	Installed at both ends of N-pole products
6	Handle for operation outside the switchgear, NGSB1-B	For cabinet door installation, 1 for each set. Select the position of mounting hole before installation and break it through
7	Handle for operation outside the switchgear, SB1-'A'/G3-125	Available shaft length 130, 150, 161, 170, 185, 210 and 290 (unit: mm)

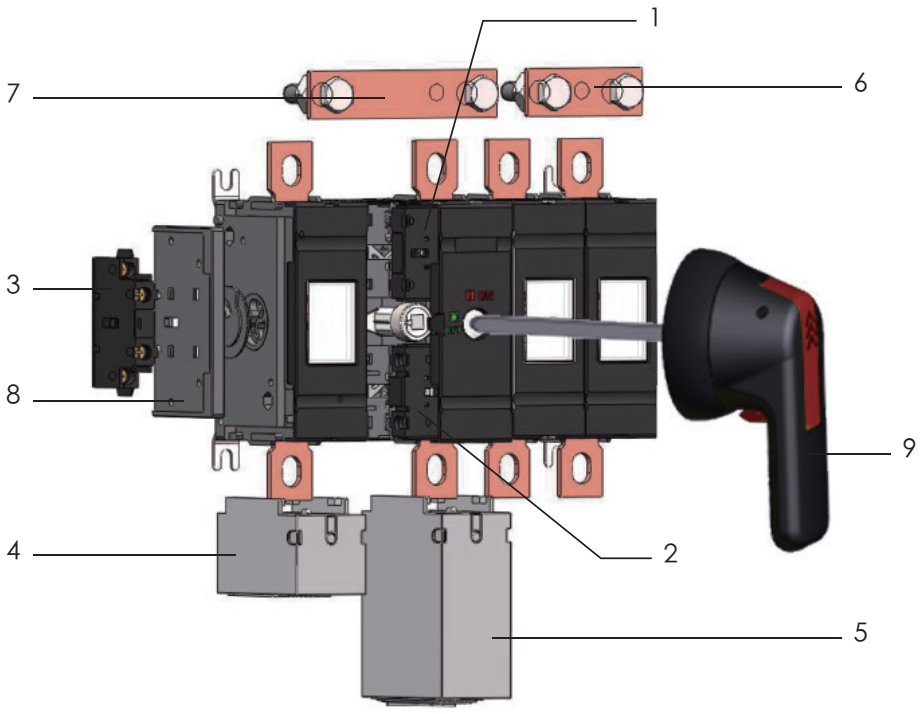
Note 1: "A" means: Shaft length



NDG3-160 Accessory Type

SN	Name	Remarks
1	Auxiliary switch NGF2-01	Must be used with NGA1-2/160, installed on the product surface, 2 on each side at the most; not available for handle for operation in the switchgear
2	Auxiliary switch NGF2-10	Must be used with NGA1-2/160, installed on the product surface, 2 on each side at the most; not available for handle for operation in the switchgear
3	Auxiliary switch NGF1-11	Must be used with NGA1-1/160, installed on both sides of the product, 2 on each side at the most; not available for screw installation
4	Terminal cover NGZ1-160/1	Installed at both ends of the incoming/outgoing line of the product; cannot be used simultaneously with the secondary terminal
5		Installed between two adjacent poles
6		Installed between two poles of intermittent operating mechanism
7	Secondary terminal NGXTG1-160	Installed at both ends of each pole of the product; cannot be used simultaneously with the terminal cover
8	Mounting base NGA1-1/160	Installed on both sides of the product, used with NGF1-11, not available for screw installation
9	Handle for operation outside the switchgear, SB1-'A'G3-125	Available shaft length 130, 150, 161, 170, 185, 210 and 290 (unit: mm), only 130 is available for cabinet door installation
10	Mounting base NGA1-2/160	Installed on the top of the product, used with NGF2-01 and NGF2-10, for operation outside the switchgear only (handle for operation outside the switchgear should be ordered)

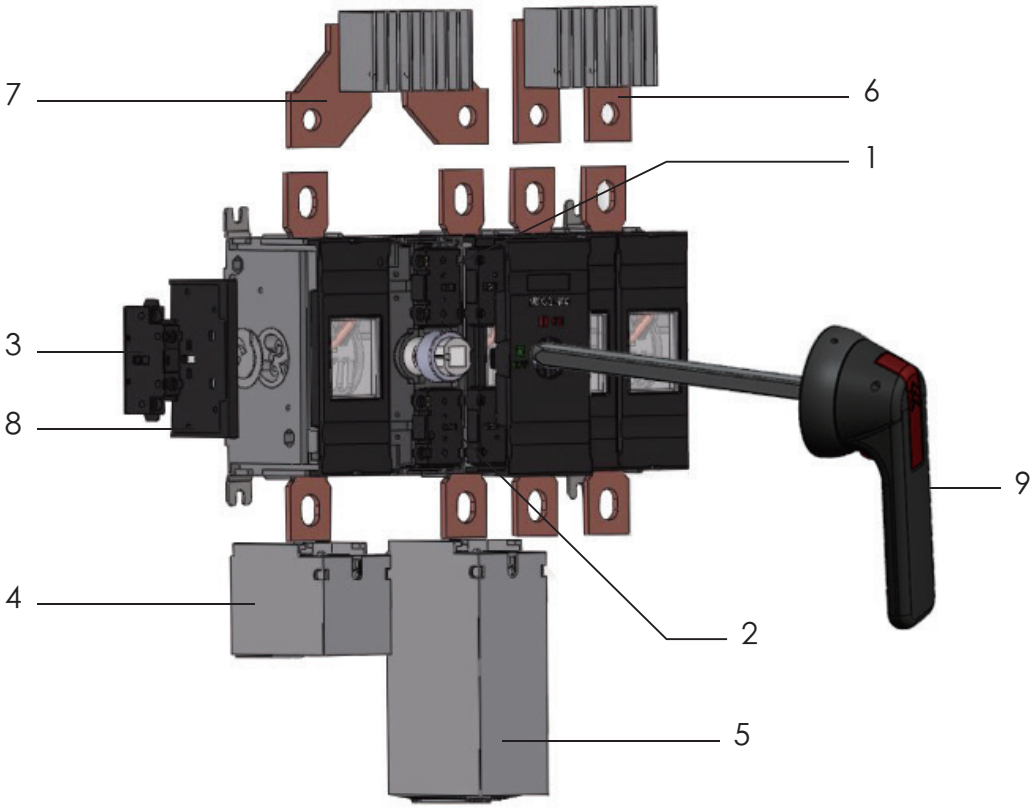
Note 1: “A” means: Shaft length



NDG3-100H, 125H, 160H, 200 and 250 Accessory Type

SN	Name	Remarks
1	Auxiliary switch NGF1-01	Installed under the surface cover of the mechanism, 1 installed at the top and one at the bottom at the most; the auxiliary switch should be connected before installation
2	Auxiliary switch NGF1-10	Installed under the surface cover of the mechanism, 1 installed at the top and one at the bottom at the most; the auxiliary switch should be connected before installation
3	Auxiliary switch NGF1-11	Must be used with NGA1-1/250, installed on both sides of the product, 2 on each side at the most
4	Terminal cover NGZ1-250/1S	Short terminal cover, installed at both ends of incoming/outgoing line of the product
5	Terminal cover NGZ1-250/1L	Long terminal cover, installed at both ends of incoming/outgoing line of the product
6		Installed between two adjacent poles
7		Installed between two poles of intermittent operating mechanism
8	Mounting base NGA1-1/250	Installed on both sides of the product, used with NGF1-11
9	Handle for operation outside the switchgear, SB1-'A'/G3-125	Available shaft length 130, 150, 161, 170, 185, 210 and 290 (unit; mm)

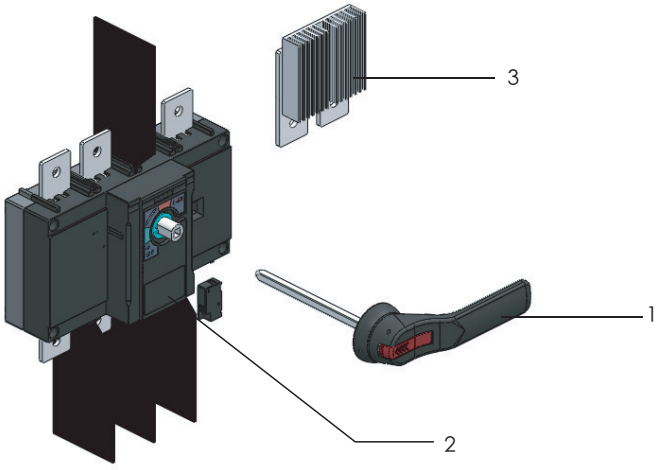
Note 1: "A" means: Shaft length



NDG3-315 and 400 Accessory Type

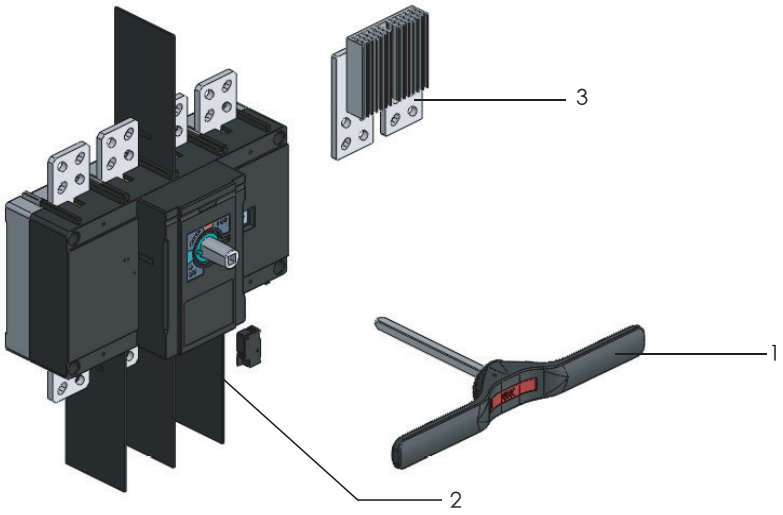
SN	Name	Remarks
1	Auxiliary switch NGF1-01	Installed under the surface cover of the mechanism, 2 installed at the top and one at the bottom at the most; the auxiliary switch should be connected before installation
2	Auxiliary switch NGF1-10	Installed under the surface cover of the mechanism, 2 installed at the top and one at the bottom at the most; the auxiliary switch should be connected before installation
3	Auxiliary switch NGF1-11	Must be used with NGA1-1/250, installed on both sides of the product, 2 on each side at the most
4	Terminal cover NGZ1-400/1	Short terminal cover, installed at both ends of incoming/outgoing line of the product
5	Terminal cover NGZ1-400/1L	Long terminal cover, installed at both ends of incoming/outgoing line of the product
6		Installed between two adjacent poles
7		Installed between two poles of intermittent operating mechanism
8	Mounting base NGA1-1/250	Installed on both sides of the product, used with NGF1-11
9	Handle SB1-'A'/G3-400	Available shaft length 135, 166, 185, 250, 280, 325, 395, 465, 535 (unit: mm)

Note 1: “A” means: Shaft length



NDG3-500, 630 and 800 Accessory Type

SN	Name	Remarks
1	Handle	Installed on the cabinet door, one for each set, available shaft length 200 mm and 400 mm (must be ordered when an order for new products is placed)
2	Auxiliary switch	Installed on the front left side of the main switch, 2 at the most
3	Short bonding bar	Installed on the wiring board of the main switch (to be ordered when DC products are purchased)



NDG3-1000 and 1250 Accessory Type

SN	Name	Remarks
1	Handle	Installed on the cabinet door, one for each set, available shaft length 200 mm and 400 mm (must be ordered when an order for new products is placed)
2	Auxiliary switch	Installed on the front left side of the main switch, 2 at the most
3	Short bonding bar	Installed on the wiring board of the main switch (to be ordered when DC products are purchased)

Function Description of Accessories

Components	Function
Auxiliary switch	Simultaneous monitoring of on-off state
Handle for operation outside the switchgear	Cabinet installation and operation outside the switchgear
Terminal Cover	Insulation protection safety
DC short bonding bar	DC use of products connected in series
Secondary terminal	Auxiliary wiring
Mounting Base	Used with auxiliary switch

Standard Configuration of Accessories




NGZ1-125/1 NGZ1-125/3



NGZ1-160




NGZ1-250/1S NGZ1-250/1L




NGZ1-400/1S NGZ1-400/1L

Terminal Cover		
Model	Applicable Switches	Number of Poles
NGZ1-125/1	NDG3-100/125	1 ~ 8 poles
NGZ1-125/3	NDG3-100/125	3, 4, 6, 8 poles
NGZ1-160/1	NDG3-160	1 ~ 4 poles
NGZ1-250/1S	NDG3-200/250	1 ~ 4 poles
NGZ1-250/1L	NDG3-200/250	1 ~ 4 poles
NGZ1-400/1S	NDG3-315/400	1 ~ 4 poles
NGZ1-400/1L	NDG3-315/400	1 ~ 4 poles


NGF1-01/10


NGF1-11


NGF2-01/10


F1-11A/G3-800

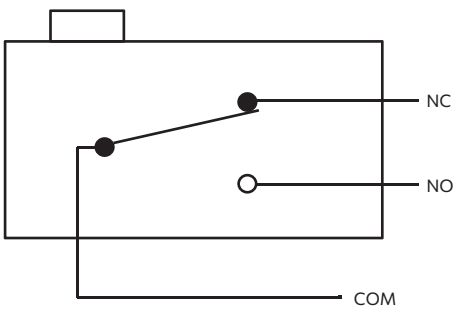

F1-11B/G3-800

Auxiliary Switch		
Model	Applicable Switches	Function
NGF1-01	NDG3-100/125/200/250/315/400	1NC
NGF1-10	NDG3-100/125/200/250/315/400	1NO
NGF1-11	NDG3-100/125/200/250/315/400	1NO+1NC
NGF2-01	NDG3-160	1NC (not available when handle for operation inside the switchgear is provided)
NGF2-10	NDG3-160	1NO (not available when handle for operation inside the switchgear is provided)
F1-11A/G3-800	NDG3-500/630/800/1000/1250	1NO + 1NC (1 block of contact)
F1-11B/G3-800	NDG3-500/630/800/1000/1250	1NO + 1NC (2 blocks of contact)
Characteristics: in line with GB 14048.5, IEC60947-5-1		

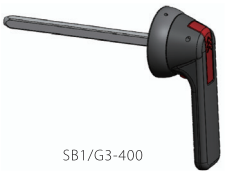
Operating Parameters of Auxiliary Switch

Model of Auxiliary Switch	Ui	Contact Type	Conventional thermal currentIth(A)	Operating Current (A)				Terminal
NGF1-01	690V	1NC	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Screw wiring
				16	4	2	0.6	
NGF1-10		1NO	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Screw wiring
				16	4	2	0.6	
NGF1-11		1NO+1NC	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Screw wiring
				16	4	2	0.6	
NGF2-01		1NC	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Screw wiring
				16	4	2	0.6	
NGF2-10		1NO	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Screw wiring
				16	4	2	–	
F1-11A(B)/G3-800		1NO+1NC	16	230Vac AC-15	400Vac AC-15	690Vac AC-15	220Vac AC-15	Type #250 pin terminal
				16	0.6	0.3	–	

Wiring Diagram of F1-11A (B)/G3-800 Auxiliary Switch




SB1/G3-125


SB1/G3-400


SB1/G3-800


SB1/G3-1250

Handle for Operation Outside the Switchgear + Square Shaft

Model	Applicable Switches	Protection Level	Length of Square Shaft (mm)
NGSB1-B	NDG3-100, 125	IP40	–
SB1-130/G3-125	NDG3-100, 125, 160, 200, 250	IP65	130
SB1-150/G3-125	NDG3-100, 125, 160, 200, 250	IP65	150
SB1-161/G3-125	NDG3-100, 125, 160, 200, 250	IP65	161
SB1-185/G3-125	NDG3-100, 125, 160, 200, 250	IP65	185
SB1-210/G3-125	NDG3-100, 125, 160, 200, 250	IP65	210
SB1-290/G3-125	NDG3-100, 125, 160, 200, 250	IP65	290
SB1-135/G3-400	NDG3-315, 400	IP65	135
SB1-166/G3-400	NDG3-315, 400	IP65	166
SB1-185/G3-400	NDG3-315, 400	IP65	185
SB1-250/G3-400	NDG3-315, 400	IP65	250
SB1-280/G3-400	NDG3-315, 400	IP65	280
SB1-325/G3-400	NDG3-315, 400	IP65	325
SB1-395/G3-400	NDG3-315, 400	IP65	395
SB1-465/G3-400	NDG3-315, 400	IP65	465
SB1-535/G3-400	NDG3-315, 400	IP65	535
SB1-200/G3-800	NDG3-500, 630, 800	IP65	200
SB1-400/G3-800	NDG3-500, 630, 800	IP65	400
SB1-200/G3-1250	NDG3-1000, 1250	IP65	200
SB1-400/G3-1250	NDG3-1000, 1250	IP65	400



NGA1-1/160



NGA1-2/160



NGA1-1/250

Mounting Base		
Model	Applicable Switches	Function
NGA1-1/160	NDG3-160	Auxiliary installation NGF1-11
NGA1-2/160	NDG3-160	Auxiliary installation NGF2-01/10
NGA1-1/250	NDG3-200/250/315/400	Auxiliary installation NGF1-11



NGXTG1-160

Secondary Terminal		
Model	Applicable Switches	Function
NGXTG1-160	NDG3-160	Easy for wiring



(Short)



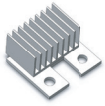
(Long)



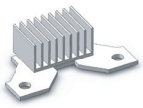
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(Long)



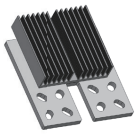
(Short)



(Long)



MX1-G3-800



MX1-G3-1250

DC Short Bonding Bar		
Model	Applicable Switches	Function
MX1-G3-800 short bonding bar	NDG3-500/630/800	DC connection
NDG3-1000/1250 short bonding bar	NDG3-1000/1250	DC connection

NDG3A-100~2000 Switch Disconnector - Quick Selection



ND G 3A – 250 / 3 Z / P 150 / C1 / Z3

- Terminal protection:
  No code: Phase partition
  Z3: 3-pole terminal cover (terminal guard)
  Z3: 4-pole terminal cover (terminal guard)
- Auxiliary contact:
  C1: one block conventional
  C2: two blocks conventional
  W1: one block micro-power
  W2: two blocks micro-power
- Specification code of square connecting shaft:
  150: shaft length 150 mm
  200: shaft length 200 mm
  250: shaft length 250 mm
  300: shaft length 300 mm
  400: shaft length 400 mm
- Handle type:
  K: Handle for operation inside the switchgear
  P: Handle for operation outside the switchgear
- Current type:
  No code: Conventional products;
  Z: DC products
- Number of poles: 3, 4
- Rated current:
  100, 125, 160, 200, 250, 250H, 315, 400, 500C, 500, 630, 800, 1000, 1250, 1600, 1800, 2000
- Design code: 3A
- Product code: Switch disconnector
- Enterprise code: Nader

Note: 1) Square connecting shaft, auxiliary contact and terminal protection are only applicable to rated current levels 100, 125, 160, 200, 250, 250H, 315, 400 (terminal protection applicable to rated current levels 1600, 1800 and 2000).
2) Rated current (A): 100, 125, 160, 200, 250, 250H, 315, 400, 500C, 1600, 1800, 2000 DC 4-pole products only
3) Handle for operation inside the switchgear not available for product 2000.
4) Available shaft length is 200 mm and 400 mm for product 2000.
5) Conventional micro-switch is only available for product 2000.

NDG3A-100~2000 Switch Disconnector - Main Performance Parameters

Switch Disconnector			NDG3A-100	NDG3A-125	NDG3A-160	NDG3A-200	NDG3A-250
Conventional thermal current, Ith (A)			250				
Number of Poles			3, 4				
Rated insulation voltage, Ui (V)			800				
Rated impulse withstand voltage, Uimp (kV)			8				
Rated short-time withstand current, Icw (1s.kA, effective value), no protective device			AC：7； DC：3				
Rated short-circuit making capacity, Icm (kA, peak value)			AC：18； DC：12Ie				
Rated current, In (A) (at+40°C)			100（A/B）	125（A/B）	160（A/B）	200（A/B）	250（A/B）
Rated operating current, Ie (A)	380VAC 400VAC 415VAC	AC-20A/AC-20B	100/100	125/125	160/160	200/200	250/250
		AC-21A/AC-21B					
		AC-22A/AC-22B					200/200
		AC-23A/AC-23B				160/160	160/160
	500VAC	AC-20A/AC-20B	100/100	125/125	160/160	200/200	250/250
		AC-21A/AC-21B				160/160	160/160
		AC-22A/AC-22B			125/125	125/125	125/125
		AC-23A/AC-23B		100/100	100/100	100/100	100/100
	660VAC 690VAC	AC-20A/AC-20B	100/100	125/125	160/160	200/200	250/250
		AC-21A/AC-21B				160/160	160/160
		AC-22A/AC-22B			125/125	125/125	125/125
		AC-23A/AC-23B	63/63				
	800VAC	AC-21B	/				
	1000VAC	AC-21B	/				
	220VDC	DC-20A/DC-20B	100/100	125/125	160/160	200/200	250/250
		DC-21A/DC-21B				160/160	160/160
		DC-22A/DC-22B					
		DC-23A/DC-23B			125/125	125/125	125/125
	400VDC	DC-20A/DC-20B	100/100	125/125	160/160	200/200	250/250
		DC-21A/DC-21B				160/160	160/160
		DC-22A/DC-22B			125/125	125/125	125/125
		DC-23A/DC-23B					
	500VDC	DC-20A/DC-20B	100/100	125/125	160/160	200/200	250/250
		DC-21A/DC-21B			125/125	125/125	125/125
		DC-22A/DC-22B					
		DC-23A/DC-23B					
	750VDC	DC-21B	/				
		DC-22B	/				
	1000VDC	DC-21B	/				
		DC-22B	/				
Mechanical life (times)			10000				
Electrical life (times)			1000				
Operating torque (N.m)			6.5				
Installation mode			Screw installation				
Overall dimensions 4P (length × width × height)			135×170×65				
Overall dimensions 3P (length × width × height)			135×140×65				
Conform to standards			GB/T 14048.1, GB/T 14048.3, IEC 60947-1, IEC 60947-3				
Product certifications			CCC, CE, TUV				
Single phase internal resistance (mΩ)			≤0.8				
Minimum cr°ss-sectional area of cooper cable (mm^2)			63A：35；100A：50；125A：50； 160A：95；200A：120；250A：150				
Minimum fastening torque (N.m) for copper cable connection			12				

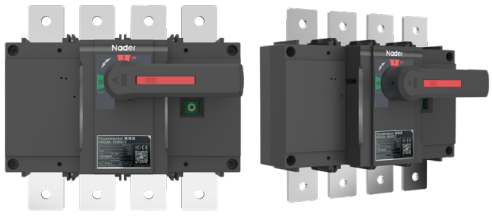
Switch Disconnector			NDG3A-250 H	NDG3A-315	NDG3A-400	NDG3A-500C
Conventional thermal current, Ith (A)			500			
Number of Poles			3, 4			
Rated insulation voltage, Ui (V)			1000			
Rated impulse withstand voltage, Uimp (kV)			8			
Rated short-time withstand current, Icw (kA·1s, effective value), no protective device			AC：9； DC：4.8			
Rated short-circuit making capacity, Icm (kA, peak value)			AC：23； DC：12Ie			
Rated current, In (A) (at+40°C)			250H（A/B）	315（A/B）	400（A/B）	500C（A/B）
Rated operating current, Ie (A)	380VAC 400VAC 415VAC	AC-20A/AC-20B	250/250	315/315	400/400	/
		AC-21A/AC-21B				500/500
		AC-22A/AC-22B				/
		AC-23A/AC-23B	250/250			/
	500VAC	AC-20A/AC-20B	250/250	315/315	400/400	/
		AC-21A/AC-21B	250/250			250/250
		AC-22A/AC-22B				/
		AC-23A/AC-23B	200/250			/
	660VAC 690VAC	AC-20A/AC-20B	250/250	315/315	400/400	/
		AC-21A/AC-21B	160/200			160/200
		AC-22A/AC-22B				/
		AC-23A/AC-23B	100/125			/
	800VAC	AC-21B	/			/
	1000VAC	AC-21B	/			/
	220VDC	DC-20A/DC-20B	250/250	315/315	400/400	/
		DC-21A/DC-21B	250/250			250/250
		DC-22A/DC-22B				/
		DC-23A/DC-23B	200/200			/
	400VDC	DC-20A/DC-20B	250/250	315/315	400/400	/
		DC-21A/DC-21B	250/250			250/250
		DC-22A/DC-22B	200/200			/
		DC-23A/DC-23B				/
	500VDC	DC-20A/DC-20B	250/250	315/315	400/400	/
		DC-21A/DC-21B	200/200			200/200
		DC-22A/DC-22B				/
		DC-23A/DC-23B				/
	750VDC	DC-21B	/			
		DC-22B	/			
	1000VDC	DC-21B	/			
		DC-22B	/			
Mechanical life (times)			5000			
Electrical life (times)			1000			
Operating torque (N.m)			14.5			
Installation mode			Screw installation			
Overall dimensions 4P (length × width × height)			230×160×75			
Overall dimensions 3P (length × width × height)			180×160×75			
Conform to standards			GB/T 14048.1, GB/T 14048.3, IEC 60947-1, IEC 60947-3			
Product certifications			CCC, CE, TUV			
Single phase internal resistance (mΩ)			≤0.8			
Minimum cr°ss-sectional area of cooper cable (mm^2)			100A：50； 125A：50； 160A：95； 200A：120； 250A：150； 315A：185； 400A：240； 500A：250			
Minimum fastening torque (N.m) for copper cable connection			20			

Switch Disconnector			NDG3A-500	NDG3A-630	NDG3A-800	NDG3A-1000	NDG3A-1250
Conventional thermal current, Ith (A)			800				
Number of Poles			3, 4				
Rated insulation voltage, Ui (V)			1000				
Rated impulse withstand voltage, Uimp (kV)			12				
Rated short-time withstand current, Icw (1s.kA, effective value), no protective device			AC：16；DC：10			AC：35；DC：10	
Rated short-circuit making capacity, Icm (kA, peak value)			AC：32；DC：17			AC：50；DC：17	
Rated current, In (A) (at+40°C)			500	630	800	1000	1250
Rated operating current, Ie (A)	380VAC 400VAC 415VAC	AC-20A/AC-20B	/				
		AC-21A/AC-21B	/				
		AC-22A/AC-22B	500	630	800	1000	1250
		AC-23A/AC-23B	400	500	/	800	1000
	500VAC	AC-20A/AC-20B	/				
		AC-21A/AC-21B	/				
		AC-22A/AC-22B	/				
		AC-23A/AC-23B	/				
	660/690VAC	AC-20A/AC-20B	/				
		AC-21A/AC-21B	/				
		AC-22A/AC-22B	400	500		800	
		AC-23A/AC-23B	315		/	500	
	800VAC	AC-21B	500	630		/	
	1000VAC	AC-21B	/			1000	1250
	220VDC	DC-20A/AC-20B	/				
		DC-21A/AC-21B	/				
		DC-22A/AC-22B	/				
		DC-23A/AC-23B	/				
	400VDC	DC-20A/AC-20B	/				
		DC-21A/AC-21B	/				
		DC-22A/AC-22B	/				
		DC-23A/AC-23B	/				
	500VDC	DC-20A/AC-20B	/				
		DC-21A/AC-21B	/				
		DC-22A/AC-22B	/				
		DC-23A/AC-23B	/				
	750VDC	DC-21B	500/3	630/3	800/3	/	
		DC-22B	/			1000/3	1250/3
	1000VDC	DC-21B	500/4	630/4	800/4	/	
		DC-22B	/	/	/	1000/4	1250/4
Mechanical life (times)			5000				
Electrical life (times)			100				
Operating torque (N.m)			40				
Installation mode			Screw installation				
Overall dimensions 4P (length × width × height)			260x290x132			331x360x190	
Overall dimensions 3P (length × width × height)			260x230x132			331x280x190	
Conform to standards			GB/T 14048.1, GB/T 14048.3, IEC 60947-1, IEC 60947-3				
Product certifications			CCC, CE, TUV				
Single phase internal resistance (mΩ)			≤0.1			≤0.05	
Minimum cross-sectional area of cooper cable (mm^2)			2 pieces 30x5	2 pieces 40x5	2 pieces 50x5	2 pieces 60x5	2 pieces 80x5
Minimum fastening torque (N.m) for copper cable connection			10			14	

Switch Disconnector			NDG3A-1600	NDG3A-1800	NDG3A-2000
Conventional thermal current, Ith (A)			1600	1800	2000
Number of Poles			3, 4		
Rated insulation voltage, Ui (V)			1000		
Rated impulse withstand voltage, Uimp (kV)			12		
Rated short-time withstand current, Icw (15.kA, effective value), no protective device			AC：50；DC：10		
Rated short-circuit making capacity, Icm (kA, peak value)			AC：75；DC：15		
Rated current, In (A) (at+40°C)			1600	1800	2000
Rated operating current, Ie (A)	380VAC 400VAC 415VAC	AC-20A/AC-20B	/		
		AC-21A/AC-21B	1600	1800	2000
		AC-22A/AC-22B	1800		
		AC-23A/AC-23B	1250		
	500VAC	AC-20A/AC-20B	/		
		AC-21A/AC-21B	1600		
		AC-22A/AC-22B	1250		
		AC-23A/AC-23B	1000		
	690VAC	AC-20A/AC-20B	/		
		AC-21A/AC-21B	1000		
		AC-22A/AC-22B	1000		
		AC-23A/AC-23B	500		
	800VAC	AC-21B	/		
	1000VAC	AC-21B	/		
	220VDC	DC-20A/DC-20B	/		
		DC-21A/DC-21B	1250		
		DC-22A/DC-22B	1250		
		DC-23A/DC-23B	1250		
	400VDC	DC-20A/DC-20B	/		
		DC-21A/DC-21B	1250		
		DC-22A/DC-22B	1250		
		DC-23A/DC-23B	1250		
	500VDC	DC-20A/DC-20B	/		
		DC-21A/DC-21B	1250		
		DC-22A/DC-22B	1250		
		DC-23A/DC-23B	1250		
	750VDC	DC-21B	/		
		DC-22B	/		
	1000VDC	DC-21B	/		
		DC-22B	/		
Mechanical life (times)			4000		
Electrical life (times)			500		
Operating torque (N.m)			56[2]		
Installation mode			Screw installation		
Overall dimensions 4P (length × width × height)			492x288x165.5		
Overall dimensions 3P (length × width × height)			372x288x165.5		
Conform to standards			GB/T 14048.1, GB/T 14048.3, IEC 60947-1, IEC 60947-3		
Product certifications			CCC, CE, TUV		
Single phase internal resistance (mΩ)			≤0.08		
Minimum cr°ss-sectional area of cooper cable (mm^2)			2 pieces 100x5	3根100x5	3根100x5
Minimum fastening torque (N.m) for copper cable connection			40		

Note: 1) Rated operating voltage (Ue) is 415V.
2) Operating torque fluctuation range is 0 ~ 20%.
3) For all other parameter requirements unmentioned herein, refer to GB/T14048.3.
4) For details about the wiring method, see the wiring diagram.

NDG3A-1000Z~3200Z Disconnector - Quick Selection



ND G 3 A - □ □ / □ /

- Handle type: P: Handle for operation outside the switchgear, K: Handle for operation inside the switchgear (note)
- Number of poles: 2: two poles
- Product category: Z: DC disconnector
- Shell frame current: In: 1000, 1600, 2000, 2500, 3200
- Derivation code: A
- Design number: 3
- Product code: Disconnector
- Enterprise code: ND

Note: NDG3A-3200Z no handle for operation inside the switchgear

NDG3A-1000Z~3200Z Disconnector - Main Performance Parameters

Switch Disconnector	NDG3A-1000Z	NDG3A-1600Z	NDG3A-2000Z	NDG3A-2500Z	NDG3A-3200Z
Applicable standards	IEC60947-1 / GB/T14048.1,IEC60947-3 / GB/T14048.3				
Certified	CCC, CE, TUV				
Number of poles	2 poles				
Rated operating voltage, Ue (V)	DC1500V				
Rated insulation voltage, Ui (V)	1500V				
Operating frequency	12				
Rated current, In (A)	1000	1600	2000	2500	3200
Rated short-time withstand current, Icw (kA/1s)	19.2 kA		30 kA		50kA
Rated limiting short-circuit current (with fuse)	85 kA		135 kA		150 kA
Use type	DC-20A/B				
Mechanical life	2500				4000
Operating torque (N.m)	18		40		56
Tightening torque of binding screw (N.m)	10		14		40
Cross-sectional area of copper busbar (mm^2)	2 pieces 80 × 5	2 pieces 100×5	3 pieces 100 × 5	4 pieces 100 × 5	4 pieces 100 × 5
Installation mode	Screw installation				
Weight (Kg)	6		14		18.5

NDG3A Switch Disconnector - Accessories Selection

Handle Model

SB 1 - 88 / G3A-400

- G3A-400: Applicable switch model:
  G3A-250: applicable to NDG3A-100, 125, 160, 200, 250
  G3A-400: applicable to NDG3A-500C, 400, 315, 250H
  G3A-800: applicable to NDG3A-500, 630, 800, 1000Z, 1600Z
  G3A-1250: applicable to NDG3A-1000, 1250,, 2000Z, 2500Z
  G3A-2000: applicable to NDG3A-2000, 1800, 1600, 3200Z
- 88: Specification code of square shaft:
  88: shaft length 88 mm 150: shaft length 150 mm 200: shaft length 200 mm 250: shaft length 250 mm 275: Shaft length 275 mm
  300: shaft length 300 mm; 400: shaft length 400 mm; 650: shaft length 650 mm
- 1: Design number: 1
- SB: Function code: SB handle

Note: Available shaft length values are only 200 and 400 for G3A-1250 and G3A-2000, and 88, 200, 275, 400 and 650 for G3A-1000Z and G3A-1600Z. Shaft lengths 88, 275 and 650 are available for G3A-1000Z/G3A-1600Z only while shaft lengths of G3A-2000Z, G3A-2500Z and G3A-3200Z are 200 and 400 only.

Square Shaft Model

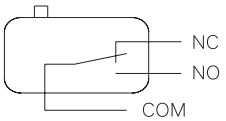
FZ 1 - 150 / G3A-400

- G3A-400: Applicable switch model:
  G3A-400: applicable to NDG3A-500C, 400, 315, 250H
  G3A-250: applicable to NDG3A-250, 200, 160, 125, 100
- 150: Specification code of square shaft:
  150: shaft length 150 mm
  200: shaft length 200 mm
  250: shaft length 250 mm
  300: shaft length 300 mm
  400: shaft length 400 mm
- 1: Design number: 1
- FZ: Function code: FZ square shaft

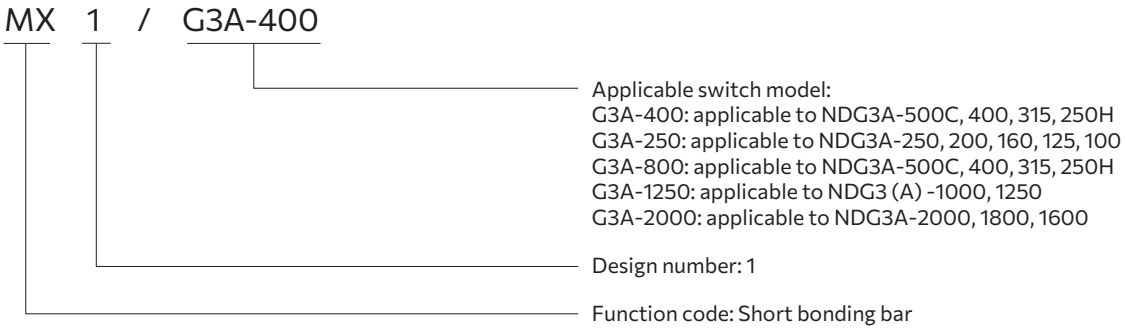
Auxiliary Contact Model

F 1 - 11 C 1 / G3A-400

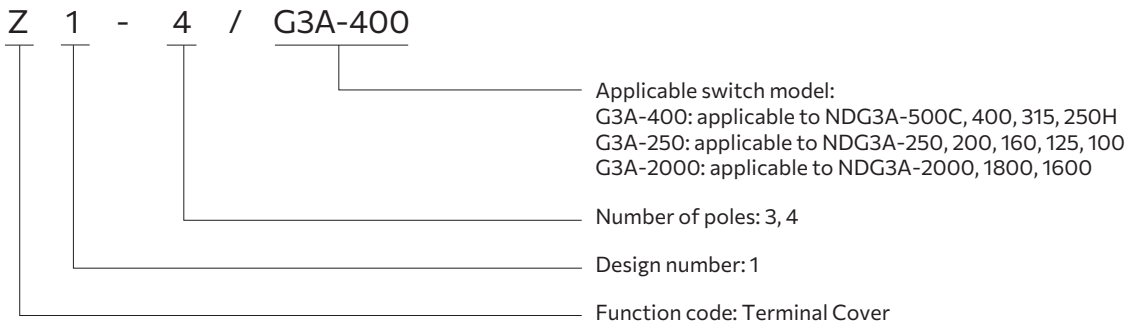
- G3A-400: Applicable switch model:
  G3A-400: applicable to NDG3A-500C, 400, 315, 250H, 250, 200, 160, 125, 100
  G3A-800: applicable to NDG3 (A) -500, 630, 800, 1000, 1250, 1600, 1800, 2000, NDG3A-1000Z, 1600Z, 2000Z, 2500Z
  G3A-2000: applicable to NDG3A-1600, 1800, 2000, 3200Z
- 1: Installed quantity:
  1/A: 1 installed for each set
  2/B: 2 installed for each set
- C: Specification:
  C: AC250V/10A, NDG3A-2000: DC250V 0.3A DC125V 0.6A
  NDG3A-2000 no micro-load
  Nil: Conventional
- 11: Number of contact pairs: One normally open and one normally closed
- 1: Design number: 1
- F: Function code: Auxiliary contact

Auxiliary Contact Specification	F1-11C	F1-11W
Voltage level/rated current	AC250V/10A DC220V/0.2A	AC125V/0.1A DC30V/0.1A
Contact materials	Silver alloy	Gold alloy
Minimum applicable load of contact	DC8V/160mA	DC5V/1mA
Internal resistance	＜30 mΩ	＜50 mΩ
Life	30,000 times	
Operating frequency	120 times/hour	
Terminal specification	NDG3A-2000 micro-switch: Terminal width 6.4 mm, thickness 0.8 mm	
Contact type: Switching type		

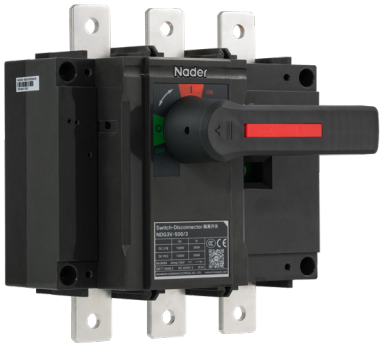
Short Bonding Bar Model



Terminal Cover Model



NDG3V-250~800 Switch Disconnector - Quick Selection



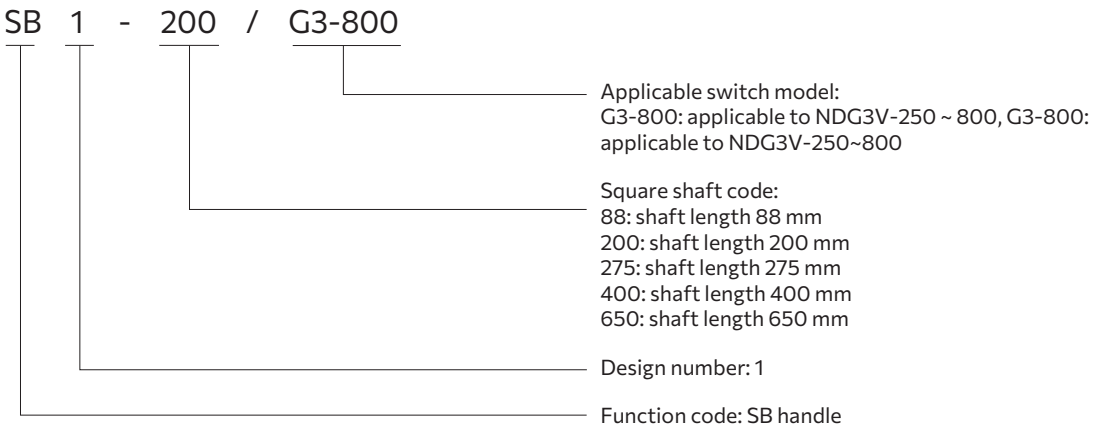
ND G 3V – 400 / 3 Z K

- Handle type:
  K: Handle for operation inside the switchgear
  P: Handle for operation outside the switchgear
- Current type:
  Z: DC products
- Number of poles:
  2: 2P
  3: 3P
- P rated current: 250A, 350A, 400A, 500A, 630A, 800A
- Design code: 3V
- Product code: Switch disconnector
- Enterprise code: Nader

NDG3V-250~800 Switch Disconnector - Main Performance Parameters

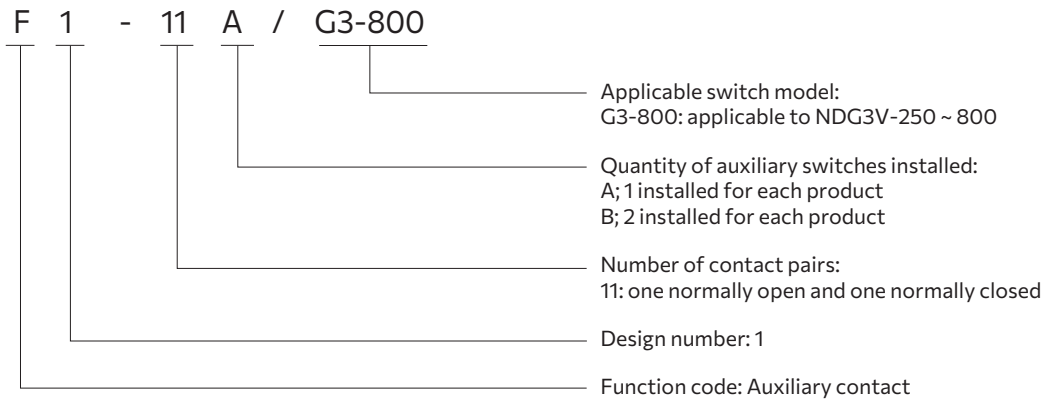
Switch Disconnector			NDG3V-250/350/400			NDG3V-500/630/800		
Conventional thermal current, Ith (A)			400			800		
Number of Poles			2, 3					
Rated insulation voltage, Ui (V)			DC1500					
Rated impulse withstand voltage, Uimp (kV)			12					
Rated short-time withstand current, Icw (1s.kA, effective value), no protective device			DC：10					
Rated short-circuit making capacity, Icm (kA, peak value)			DC：17					
Rated currentIn(A)(at +40°C)			250	350	400	500	630	800
Rated operating current, Ie (A)	DC-21B DC-PV2	DC1000V (2 poles)	250	350	400	500	630	800
		DC1500V (3 poles)	250	350	400	500	630	800
Operating performance (times)	Operating performance (times)		5000					
	Electrical life (times)		200					100
Product certifications			CCC, TUV, CE					
Operating torque (N.m)			18					
Installation mode			M6 screw installation					
Use type			DC-21B；DC-PV2					
Overall dimensions (length × width × height)	2 poles		240×230×131.5					
	3 poles		240×230×131.5					
Minimum cross-sectional area of cooper cable (mm^2)			120 (1 piece)	185 (1 piece)	240 (1 piece)	150 (2 pieces)	185 (2 piece)	240 (2 piece)
Terminal screw specification			M10×35					
Fastening torque for copper cable connection (N.m)			10-30					

NDG3V-250~800 Handle for Operation outside the Switchgear - Type Selection

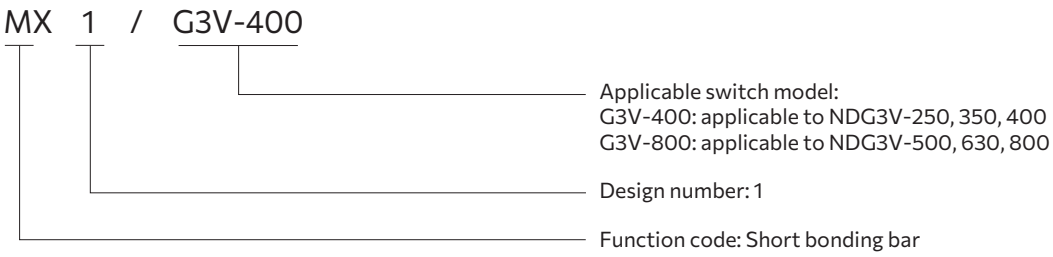


Note: Handle protection level IP65

NDG3V-250~800 Auxiliary Contact - Type Selection



NDG3V-250~800 Short Bonding Bar - Type Selection



NDG3VH-100~630 Switch Disconnector - Quick Selection



NDG3VH-□/□/□ □ □/□/□/□

1 2 3 4 5 6 7 8 9 10 11 12

- 12: Auxiliary switch (built-in accessories available; blank if not selected):
  F1-10/G1: 1 normally-open IEC auxiliary switch
  F1-10/U1: 1 normally-open UL auxiliary switch
  F1-01/G1: 1 normally-closed IEC auxiliary switch
  F1-01/U1: 1 normally-closed UL auxiliary switch
  F1-11/G1: 1 normally-open + normally-closed IEC auxiliary switch
  F1-11/U1: 1 normally-open + normally-closed UL auxiliary switch
  F1-10/G2: 2 normally-open IEC auxiliary switches
- 11: Foot installation mode:
  1: conventional 1, foot installed vertically, parallel to the direc-tion of copper bar
  2: conventional 2, foot installed transversely, perpendicular to the direction of copper bar
  3: conventional 3, foot installed vertically on the left and transversely on the right
- 10: Certification specification:
  G: Switch bodies passing CCC/CE/TUV certifications
  U: Switch bodies passing UL certification (only available for 2P)
- 9: Handle type:
  P: Handle for operation outside the switchgear + extended square shaft accessories should be selected and ordered sepa-rately.
  K: Handle for direct operation in switchgear, installed on switch directly
- 8: Operation mode:
  Z: Front-operated
  C: Side-operated (available only when the mechanism splicing type is 02)
- 7: Mechanism splicing:
  02: two poles/mechanism on the left; 11: two poles/mechanism in the middle
  22: four poles/mechanism in the middle (double circuits)
- 6: Number of poles:
  2: two poles, 4: four poles
- 5: Rated current (A):
  UL:100/200/250/275/325/400
  CCC/CE/TUV:80/100/125/160/200/225/250/275/315/325/400/500/630
- 4: Design code: H high parameter
- 3: Design number: 3V
- 2: Product code: G switch disconnector
- 1: Enterprise code: ND

NDG3VH-100~630 Switch Disconnector - Main Performance Parameters

Switch Disconnector		Specific Parameters									
Applicable standards		UL98B, GB/T 14048.1, GB/T 14048.3, IEC 60947-1, IEC 60947-3									
Certified		UL, CCC, CE, TUV									
Number of poles		UL: 2P, CCC/CE/TUV: 2P, 4P double circuit									
Shell frame level current (A)		UL：100/200/250/275/325/400 CCC/CE/TUV：160/250/315/400/500/630									
Rated current(A)	UL certified	Product shell frame	160				250			315	
		Rated current	80	100	125	160	200	225	250	275	315
	CCC/CE/TUV certified	Product shell frame	400				500			630	
		Rated current	325		400		500			630	
Rated voltage (V)	DC1000/DC1500										
Rated insulation voltage, Ui (V)	1500										
Rated short-circuit making capacity, Icm (kA)	UL：10 CCC/CE/TUV：160/250/315：10；400/500/630：20										
Rated short-time withstand current, Icw	UL：10kA/50ms CCC/CE/TUV：160/250/315：20kA/0.15s，8kA/1s 400/500/630：20kA/0.15s，10kA/1s										
Limiting short-circuit current (Iq) (fuse)①	30kA										
Rated impulse withstand voltage, Uimp (kV)	12										
Protection Level	In-switchgear IP66, out-switchgear IP20										
Operation mode	Front-operated, side-operated (extended operation mode)										
Wiring capacity (non-polarity)	UL: NDG3VH-275 two pieces of copper bars, 22 mm wide and 4 mm thick NDG3VH-400 two pieces of copper bars, 32 mm wide and 4 mm thick or equivalent cross-sectional area NDG3VH-315185 mm^2 one piece of copper conductor NDG3VH-250120 mm^2 one piece of copper conductor NDG3VH-16070 mm^2 one piece of copper conductor NDG3VH-630185 mm^2 two pieces of copper conductor or two pieces of 40 × 5 mm copper bar NDG3VH-500150 mm^2 two pieces of copper conductor or two pieces of 30 × 5 mm copper bar NDG3VH-400240 mm^2 one piece of copper conductor Auxiliary: 0.75 ~ 2.5 mm^2										
Terminal fastening torque (locking torque)	Main circuit: 100 ~ 315: 15N.m 325 ~ 630: 20N.m Auxiliary: 0.8N.m										
Electrical life	400 times (1,000 times for 200A and below, 200 times for 400A and above)										
Mechanical life	Front-operated: 10,000 times Side-operated: 100 ~ 315: 2,000 times (extended operation mode) 325 ~ 630: 2,500 times (extended operation mode)										
Use type②	UL：UL98B, CCC/CE/TUV：DC-21B/PV1										
Operating torque	100 ~ 315: front-operated: 7.5 ~ 12N.m, side-operated 4 ~ 6N.m 325 ~ 630: front-operated: 16 ~ 23N.m, side-operated 8 ~ 13N.m										

Main Parameters of Auxiliary Switch

Rated operating voltage (V)	AC125	AC250
Rated operating current (A)	20.5	20.5
Rated insulation voltage (V)	AC1000	
Conventional thermal current, Ith (A)	20.5	
Rated frequency (Hz)	50/60	
Use type	AC-15	
Protection level	IP20	
Electrical life (times)	20000	
Minimum load	DC24V，5mA	
Standard certifications	UL, conform to RoHS	

Rated operating voltage (V)	AC230	AC400	AC690	DC220
Rated operating current (A)	6A	4A	2A	0.6A
Rated insulation voltage (V)	AC690			
Rated impulse withstand voltage, Uimp (kA)	4			
Conventional thermal current, Ith (A)	16			
Rated frequency (Hz)	50/60			
Use type	AC-15，DC-13			
Protection level	IP20			
Electrical life (times)	20000			
Minimum load	DC24V，5mA			
Standard certifications	GB/T14048.5, conform to RoHS			

NDG3VH-100 ~ 630 Switch Disconnector - Accessories Selection

SN	Name	Type	Installation and Quantity of Accessories
1	Handle	In-switchgear	Installed on the cabinet door, connected to the product body through the square shaft. (To be ordered separately)
		Out-switchgear	Used in switchgear, installed on product, direct operation (standard configuration)
2	Square shaft		Connect the product body with the handle for operation outside the switchgear through the square shaft; shaft length is optional. (To be ordered separately)
3	Auxiliary contact		Installed on the front left side of the main switch, 2 at the most
4	Short bonding bar		Installed on the wiring board of the main switch
5	Radiator		Installed on the wiring board of the main switch

Type Description of Handles

SB □-□/□

1 2 3 4

- 4: Certification specification: G: CCC/CE/TUV certified handle U: UL-certified handle
- 3: Handle type: 1: outside the front-operated cabinet; 2: outside the side-operated cabinet; 3: inside the front-operated cabinet; 4: inside the side-operated cabinet
- 2: Design number:
  1: long handle, 126 mm long.
  2: G3VH-100~315: short handle, 96 mm long (out-switchgear type available, 1 for all in-switchgear types) G3VH-325~630: nil
- 1: Function code: SB handle

Type Description of Square Shafts

FZ 1-□

1 2 3

- 3: Square shaft code: 77: square shaft 77 mm long, code FZ1-77, with 70.5, 77, 88, 120, 132, 150, 182, 200, 275, 300, 350, 385, 400, 506 and 650 available
- 2: Design number: 1: 10 × 10 mm section
- 1: Function code: Square shaft

Type Description of Auxiliary Contacts

F 1-□/□ □

1 2 3 4 5

- 5: Installed quantity: 1: one installed for each product 2: two in-stalled for each product
- 4: Certification specification: G: CCC/CE/TUV certified auxiliary contact U: UL-certified auxiliary contact
- 3: Contact type:
  01: normally-closed structure
  10: normally-opened structure (recommended when 1 contact is installed)
  11: normally-open + normally-closed structure
- 2: Design number: 1
- 1: Function code: Auxiliary contact

Charter 6
Automatic Transfer Switch (Dual-power)

NDQ1 Automatic Transfer Switching Equipment - Quick Selection



ND Q 1-100 R 80/3 Z

- Structural type:
  Z: Integral
  F: Split (the default lead length of the split-type controller is 1.8 meters. All special demands shall be informed in advance)
- Number of poles: 3-3P 4-4P
- Current specification: See note a
- Control mode:
  R: Auto switch and auto recover
  S: Auto switch and non-auto recover
  F: Grid - generator
- Shell frame current level: 63, 100, 225, 400, 630, 800
- Design number: 1
- Product code: Automatic transfer switch
- Enterprise code: Nader

Note: The default lead length of the split-type controller is 1.8 meters. All special demands shall be informed in advance.

Note a:
Rated current:
Shell frame 63A: 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Shell frame 100A: 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A
Shell frame 225A: 100A, 125A, 160A, 180A, 200A, 225A
Shell frame 400A: 225A, 250A, 315A, 350A, 400A
Shell frame 630A: 400A, 500A, 630A
Shell frame 800A: 630A, 700A, 800A

Type Description
The user may choose protection characteristics or accessories of different types according to the actual conditions.

Shell Frame Level	Circuit breaker under standard configuration		Optional protection	Optional accessories
	3P	4P		
63	NDM2-63L/3300	NDM2-63/4300B	Default complex release No release Instantaneous release only Motor protection type	Shunt release Single auxiliary contact Double Auxiliary Contacts
100	NDM2-125L/3300	NDM2-125/4300B		
225	NDM2-250L/3300	NDM2-250/4300B		
400	NDM2-400H/3300	NDM2-400/4300B		
630	NDM2-630H/3300	NDM2-630/4300B		
800	NDM2-800H/3300	NDM2-800/4300B		

Note: Double auxiliary contacts can be installed on products with shell frame of 100A and above. Any optional function needed in the table shall be informed in advance.

NDQ1 ATS - Main Parameters

Technical Parameters of CB-grade Products

Model specification	NDQ1					
Conventional thermal current, Ith (A)	63	100	225	400	630	800
Number of Poles	3P, 4P					
Structural type	Integral/split type					
Actuator switch	NDM2 molded case circuit breaker					
Rated insulation voltage, Ui (V)	690					
Rated impulse withstand voltage, Uimp (kV)	8					
Rated operating voltage, Ue (V)	400					
Rated short-circuit breaking capacity, Icn (kA)	50			65		75
Rated short-circuit making capacity, Icm (peak value) (kA)	105			143		165
Use type	AC-33B					
Isolating function	■					
Contact changeover time, max (s)	≤2					
Switching action time max (s)	≤3					
Mechanical life (times)	12000			10000		
Electrical life (times)	8000	6000				
Operating voltage of controller (V)	220					
Rated frequency of controller (Hz)	50					
Operating mode	Auto switch and auto recover, auto switch and non-auto recover, power grid - generator					

NDQ1 Controller Functions

Model Specification	NDQ1
Common power supply detection	Three-phase
Backup power supply detection	Three-phase
Type of power supply detection	Over-voltage/under-voltage/phase loss
Generator frequency detection	■
Auto/manual switching	■
Manual button operation	■
Auto switch and auto recover	■
Auto switch and non-auto recover	■
Grid - generator	■
Power supply/closing status indication	■
Rated short-circuit making capacity, Ics (peak value) (kA)	■
Fault status indication	■
Fire protection status indication	■
Under-voltage adjustable	■
Delay time adjustable	■
Power supply status output	–
Closing status output	■
Non-fire power cut	■
Generator starting signal	■
Automatic stop and alarm in case of failure	■
RS485 communication	■[2]

Note 1: only stage-II integral products of NDQ3 have power status output terminals.
Note 2: only split-type controllers of NDQ1 has the function of RS485 communication. Please inform us before placing an order.
Note 3: for integral shell frame of 800 and below of NDQ3N, optional communication function can be added. For shell frame above 1250, only split type is available and communication function is provided under standard configuration. For blank type, only integral shell frame of 125 can be added with the optional communication function.

■ Standard configuration
– This function is not available.

NDQ2A-125H Automatic Transfer Switching Equipment - Quick Selection



ND Q 2A - 125 H 250 2 / R B

- Controller type:
  Shell frame 125 (no code: Basic type, D: type D)
  Shell frame 250 (no code: Standard type, B: type B)
- Control mode:
  R: auto switch and auto recover; S: auto switch and non-auto recover;
  F: Generator
- Number of poles: 2: 2P, 3: 3P, 4: 4P
- Rated current:
  Shell frame 125: 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A
  Shell frame 250: 32A, 63A, 80A, 100A, 125A, 160A, 200A, 250A
- High parameter type: H (mandatory for shell frame 125, not available for shell frame 250)
- Rated current of shell frame: 125A, 250A
- Design number: 2A
- Product code: Automatic transfer switch
- Enterprise code: Nader

Note: NDQ2A-125H and NDQ2A-250 are all PC-grade.

NDQ2A-125H ATS - Main Parameters

Model specification	NDQ2A-125H
Conventional thermal current, Ith (A)	125
Number of Poles	2P, 3P, 4P
Structural type	Integral
Electrical appliance level	PC
Actuator switch	—
Rated insulation voltage, Ui (V)	800
Rated impulse withstand voltage, Uimp (kV)	8
Rated operating voltage, Ue (V)	2P：230　3P/4P：400/415
Rated limiting short-circuit current, Ip (kA)	120
Rated short-time withstand current, Icw (kA)	10kA/30ms
Rated short-circuit making capacity, Icm (peak value) (kA)	17kA
Use type	AC-33B
Minimum operating transfer time Max	≤500mss
Isolating function	■
Mechanical life (times)	12000
Electrical life (times)	8000
Operating voltage of controller (V)	230
Rated frequency of controller (Hz)	50/60
Operating mode	Auto switch and auto recover, auto switch and non-auto recover, generator

NDQ2A-125H Controller Functions

Function		Basic Type Controller	Type D Controller
Protection Functions	Under-voltage protection	-	187V (0.7 ~ 0.85) × 230V adjustable
	Over-voltage protection	-	264V (1.05 ~ 1.3) × 230V adjustable
	Phase loss protection	■	■
	Over-frequency protection	-	■
	Under-frequency protection	-	■
	Phase sequence/phase protection	-	■
	Wiring error alarm	■	■
Measurement function	Voltage	-	■
	Frequency	-	■
	Degree of unbalance	-	■
Communication function	MODBUS-RTU protocol	-	■
	Can be connected to our power distribution management cloud.	-	■
Node input/output	Fire signal input	■	■
	Common closing output	■	■
	Standby closing output	■	■
	Generator starting output	■	■
	Fault alarm output	■	■
	Communication port	-	■
	Programmable port output	-	■
Selection of power supply mode	Grid - grid	■	■
	Grid - generator	■	■
Selection of operating mode	Auto switch and auto recover	■	■
	Auto switch and non-auto recover	■	■
Delay adjustment	Opening/switch delay	0-60s adjustable	0-1,800s adjustable
	Closing/return delay	0-60s adjustable	0-1, 800s adjustable
	Cold delay adjustment	Fixed type 30s	0-1, 800s adjustable
	Generator starting delay	Fixed type 30s	0-1, 800s adjustable
Power supply priority	Common priority	■	■
	Standby priority	■	■

Note: 1. For type NDQ2A-125H, the generator function is only available under the grid - generator function. Customers can debug by themselves.

NDQ3H -800 Automatic Transfer Switch - Quick Selection



ND Q 3H - 125 A 125 / 4 Z III /

- Function features: SF - dual-position padlock
- Switch position:
  II - two-stage
  III - three-stage
- Structural type:
  Z - integral type
  F - split type
- Number of poles: 2 - 2P, 3 - 3P, 4 - 4P, N3 - 4 poles with over-lapped conversion of neutral line
- Rated operating current: See note a
- Controller type: A - basic type, B - advanced type, C - communica-tion type, D - intelligent LCD type
- Rated current of shell frame: 63A, 125A, 250A, 400A, 630A, 800A
- Design number: 3H
- Product code: Automatic transfer switch
- Enterprise code: Nader

Note:

1. If a manually-operated changeover switch of pure mechanical type is needed, the controller type should be blank and the struc-tural type must be split.
2. For shell frames 400A and below, 2P products are available.
3. For shell frame 800A, only three-stage switch position is availa-ble; for shell frames 1250A and above, only two-stage switch po-sition is available; while for shell frames 630A and below, both two-stage and three-stage switch positions are available.
4. For shell frames 800A and below, types A, B, C & D controllers are applicable, with both integral and split type structures. For shell frames 1250A and above, type D controller is applicable, with split type structure only. Harness used for connecting the controller with the mechanism will not be provided when leaving the factory. Customers should connect according to the manual by themselves.
5. For N3 products, only five shell frames ranging from 125A to 800A are available and the rest are not available.
6. SF-dual-position padlock is limited to III products only. Both integral and split types are available.

Note a:
Rated operating current:
Shell frame 63: 16A, 20A, 25A, 32A, 40A, 50A, 63A
Shell frame 125: 16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A
Shell frame 250: 160A, 180A, 200A, 225A, 250A
Shell frame 250H: 160A, 180A, 200A, 225A, 250A
Shell frame 400: 315A, 350A, 400A
Shell frame 630: 315A, 350A, 400A, 500A, 630A
Shell frame 800: 700A, 800A
Shell frame 1250: 800A, 1000A, 1250A
Shell frame 3150: 1600A, 2000A, 2500A, 3150A
Shell frame 5000: 4000A, 5000A
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NDQ3H Automatic Transfer Switch - Main Parameters

Model Specification	NDQ3H									
Rated current of shell frame (A):	63	125	250	250H	400	630	800	1250	3150	5000
Rated insulation voltage, Ui (V)	AC800V							AC1000V		
Rated impulse withstand voltage, Uimp (kV)	8							12		
Rated operating voltage, Ue (V)	AC230V（2P） AC400V（3P, 4P, N3）									
Contact changeover time, max (ms)	II：≤50 III：≤60							≤200		
Switching action time max (ms)	II：≤100 III：≤100							≤500		
Rated limiting short-circuit current, Iq (kA)	100	120						–		
Rated short-time withstand current, Icw (kA)	5/30ms	10/30ms				13/60ms	16/60ms	32/60ms	50/60ms	
Rated short-circuit making capacity, Icm (kA)	8	17				26	32	67.2	105	
Mechanical life (times)	25000		20000			15000		10000		
Electrical life (times) Note 1	8000		6000			6000		6000		6000
Electrical appliance level	Special PC grade									
Use type	AC-33A		AC-33B	AC-33A	AC-33B/ AC-33iA	AC-33B/ AC-33A	AC-33B/ AC-33iA	AC-33iB		
Number of Poles	2P, 3P, 4P	2P, 3P, 4P, N3				3P, 4P, N3		3P, 4P		
Control voltage (V)	AC230									
Wiring method	Front panel connection							Rear panel connection		
Switch position	II stage III stage						III stage	II stage		
Structural type	Integral type, split type							Split type		

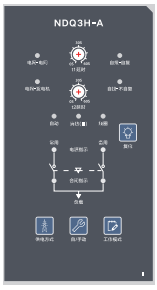
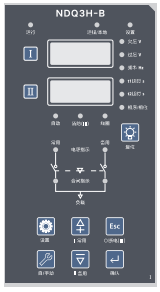
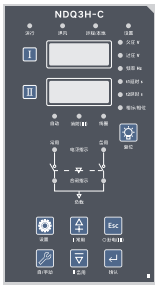
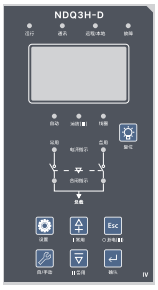
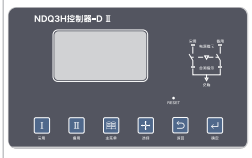
Note 1: maximum expected maintenance value
2: shell frame 250H has the shape and installation dimensions different from shell frame 250, but same as shell frame 400.

NDQ3H Automatic Transfer Switch Controller

Controller Overview

- ATSE controller runs on a continuous duty system (24h duty sys-tem).
- The controller should have the rated operating range consistent with that of the main circuit, with the normal operating range of 70%Ue ~ 130%Ue, with 70%Ue as the lower limit and 130%Ue as the upper limit.
- Effective measures shall be taken for separation between electrical and instrument systems of the controller.
- The electromagnetic interference immunity of the controller shall comply with GB 14048.1. In addition, the followings are supplemented:
  1. Its electrical fast transient burst immunity shall reach
     ATSE at the power supply position or ATSE at the power distribu-tion position:
     a. Power supply test level 4kV/5kHz
     b. Signal, I/O, data and control port test level 2kV/5kHz
     ATSE at the load position:
     a. Power supply test level 2kV/5kHz
     b. Signal, I/O, data and control port test level 1kV/5kHz
  2. Its harmonic interference immunity shall meet the requirements for the test level 3 as specified in GB/T 17626.13-2006.
- The controller connected to the main circuit shall be capable of withstanding the impact of instantaneous and temporary over-voltage from the main circuit.
- The controller shall be capable of avoiding the transient interfer-ence of power supply.
- When a controller is used at an altitude ≥ 2,000 meters, its termi-nals shall take the insulation measures, to prevent over-voltage breakdown.
- The controller has certain moisture resistance and can meet the requirements of six cycles of +25℃ ~ +55℃ cyclic damp heat test (Db).

Controller Overview and Performance Indicators

Picture					
Controller Type	NDQ3H-A	NDQ3H-B	NDQ3H-C	NDQ3H-D	NDQ3H-D
Applicable shell frames	63~800A				1250~5000A
Maximum power consumption Pmax (W)	3~3.5W				≤15W
Operating voltage range/ frequency (V/Hz)	AC（80%~115%）230V/50Hz	AC（70%~130%）230V/50Hz/60Hz Can run within the frequency range of 40Hz ~ 70Hz)			AC（85%~110%）230V/50Hz/60Hz
Rated insulation voltage, Ui (V)	AC250V				
Circuit implementation method	MCU + relay				
Structural type	Integral type, split type				Split type
Wiring method	Pluggable terminal				Conductor connection

Functional Parameters of Controller

Functional Characteristics of Controller
Function Comparison of Controller

Function Description		Type A controller	Type B controller	Type C controller	Type D Controller	Type D Controller
		63~800A				1250~5000A
Protection Functions	Over-voltage protection	√	√	√	√	√
	Under-voltage protection	√	√	√	√	√
	Phase loss protection	√	√	√	√	√
	Over-frequency protection	–	√	√	√	–
	Under-frequency protection	–	√	√	√	–
	Phase sequence/phase protection	–	√	√	√	–
	Wiring error alarm	√	√	√	√	√
Measurement function	Voltage	–	√	√	√	√
	Frequency	–	√	√	√	√
	Degree of unbalance	–	√	√	√	√
Communication function	MODBUS-RTU protocol	–	–	√	√	√
Short-circuit fault lockout	Short-circuit operation refusal	–	▽	▽	▽	
Node input/output	Fire signal input	√	√	√	√	√
	Common closing output	√	√	√	√	√
	Standby closing output	√	√	√	√	√
	Generator starting output	√	√	√	√	√
	Fault alarm output	√	√	√	√	√
	Communication port	–	–	√	√	√
	Remote switching control input	–	√	√	√	–
	Programmable port output	Generator/ unloading	√	√	√	–
Display	Common power supply (LED light)	√	√	√	√	√
	Backup power supply (LED light)	√	√	√	√	√
	Common closing (LED light)	√	√	√	√	√
	Standby closing (LED light)	√	√	√	√	√
	Automatic (LED light)	√	√	√	√	√
	Set (LED light)	–	√	√	–	–
	Fault/alarm (LED light)	–	–	–	√	–
	Run (LED light)	–	√	√	√	–
	Coil (LED light)	√	√	√	√	–
	Fire (III) (LED light)	√	√	√	√	–

Function Description		Type A controller	Type B controller	Type C controller	Type D Controller	Type D Controller
		63~800A				1250~5000A
Display	Communication (LED light)	–	–	√	√	√
	Frequency (LED light)	–	√	√	–	–
	Remote/local (LED light)	–	√	√	√	–
	Phase sequence/phase (LED light)	–	√	√	–	–
	Under-voltage (LED light)	–	√	√	–	√
	Over-voltage (LED light)	–	√	√	–	√
	Auto switch and auto recover (LED light)	√	–	–	–	√
	Auto switch and non-auto recover (LED light)	√	–	–	–	√
	Grid - grid (LED light)	√	–	–	–	√
	Grid - generator (LED light)	√	–	–	–	√
	7-segment display digital e tube	–	√	√	–	–
	LCD screen	–	–	–	√	√
Selection of power supply mode	Grid - grid	√	√	√	√	√
	Grid - generator	√	√	√	√	√
Selection of operating mode	Auto switch and auto recover	√(1)	√(1)	√(1)	√(1)	√
	Auto switch and non-auto recover	√(1)	√(1)	√(1)	√(1)	√
Power supply priority	Common priority	▽	▽	▽	√	√
	Standby priority	▽	▽	▽	√	√
Delay adjustment	Opening/switch delay (t1)	√	0 ~ 6,000s adjustable	0 ~ 6,000s adjustable	0 ~ 6,000s adjustable	√
	Closing/return delay (t2)	√	0 ~ 6,000s adjustable	0 ~ 6,000s adjustable	0 ~ 6,000s adjustable	√
	Generator stop delay	–	√	√	√	√
	Generator start delay	▽	√	√	√	√
Voltage protection threshold	Under-voltage	187V	(0.7 ~ 0.95) × 230V adjustable			165V ~ 180V adjustable
	Over-voltage	264V	(1.05 ~ 1.3) × 230V adjustable			260V ~ 275V adjustable
Button	Auto/manual	√	√	√	√	–
	I common/△	–	√	√	√	√
	Set	–	√	√	√	√
	II standby/▽	–	√	√	√	√
	Reset	√	√	√	√	√
	○Power off/Esc	–	√	√	√	Return only
	Confirm	–	√	√	√	√
	Power supply mode	√	–	–	–	–
	Operating mode	√	–	–	–	–

Function Description		Type A controller	Type B controller	Type C controller	Type D Controller	Type D Controller
			63~800A			1250~5000A
Others	Remote switching function	–	√	√	√	–
	Selection of rated frequency	–	√	√	√	–
	Buzzer	√	√	√	√	√
	III/II optional functions	▽	▽	▽	▽	–
	Two-pole switch	–	▽	▽	▽	–
	Dual-split enable [2]	–	–	–	▽	–
	Over-/under-voltage return difference	–	–	–	▽	–
	Fault record	–	–	–	√	√
	Operation record	–	–	–	√	√
	Clear fault record	–	–	–	▽	–
	Clear operation record	–	–	–	▽	–
	Common phase A voltage coefficient	–	–	–	▽	–
	Common phase B voltage coefficient	–	–	–	▽	–
	Common phase C voltage coefficient	–	–	–	▽	–
	Standby phase A voltage coefficient	–	–	–	▽	–
	Standby phase B voltage coefficient	–	–	–	▽	–
	Standby phase C voltage coefficient	–	–	–	▽	–
	Calibration voltage	–	–	–	▽	–
	Password protection	–	–	–	–	√

Functions marked with "√" means available; "▽" means adjustable within the company; "—" means not available.

Note:

[1]: If the power grid mode is selected as "grid - grid", the options "auto switch and auto recover" and "auto switch and non-auto recover" are available; if selected as "grid - generator", those options are not available and it will be set to "auto switch and auto recover" automatically. When the power supply mode of type A controller is "grid - generator", the controller will automatically detect whether the frequency of standby power supply (generator) reaches the normal operating range, which is 45Hz ~ 55Hz.

[2]: After activating the "dual-split enable" function, the automatic transfer switch will turn to the dual-split position when the common and standby power supplies fail simultaneously; after deactivating the "dual-split enable" function, the controller remains in the current state unchanged when the common and standby power supplies fail simultaneously.

◆ Controller Structure

The controller achieves the automatic switching function by detecting the voltage, frequency, phase sequence, voltage unbalance and such signals of the standby power supply.

Type A, B, C & D (NDQ3H-63 ~ 800A) controllers have integral and split structures. The integral controller is installed on the right side of the mechanism body, forming an in-line and plug-and-pull structure. The split controller is connected to the mechanism body through cable. Type D (1250 ~ 5000A) controller has the split structure only and the connecting terminals are on the upper part of the mechanism body. Type A, B, C & D integral and split controllers have the same functions and panel operations except for slight difference in their outline structures. Type B/C controller adopts LED digital tube display while type D adopts LCD display, to realize the visual man-machine interaction function. Meanwhile, type C/D controller applies RS485 communication protocol and runs MODBUS-RTU protocol, to realize the "four remote" functions, namely telemetry, remote control, remote communication, remote adjustment.

NDQ3H-4000 Automatic Transfer Switch - Quick Selection

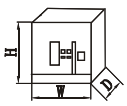


ND Q 3H - 4000/D / 08 / 3 / III /230/J3/A2/G/0

- Special notes: Special customer requirements
- Accessories:
  G - phase partition
  X - fire control module DC24V constant voltage and pulse
- Internal accessories: See note c
- Wiring method: Non-marked- horizontal wiring, J3 - vertical wiring
- Rated operating voltage: See note b
- Switch position: III - three-stage
- Number of poles: 3 - 3 poles, 4 - 4 poles, N3 - 4 poles with overlapped conversion of neutral line
- Rated operating current: See note a
- Controller type: D - LCD type
- Shell frame level current: 4000
- Design code: 3H
- Product code: Automatic transfer switching equipment
- Enterprise code: Nader

Note a:
a: Rated current: 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 31-3150A, 32-3200A, 40-4000A
b: Rated operating voltage: 230-AC220/230/240V; 380-AC380V; 400-AC400V; 415-AC415V
c: Internal accessories: SF22 - dual-position key lock (two locks and two keys), A2 - common and standby auxiliary switches, two sets for each

NDQ3H-4000 Automatic Transfer Switch - Main Parameters

Model Specification		NDQ3H-4000		
Rated operating current, Ie (A)		800, 1000, 1250, 1600, 2000	2500	3150, 3200, 4000
Rated operating voltage, Ue (V)		AC220/230/240 , AC380/400/415		
Rated frequency, f (Hz)		50/60		
Rated insulation voltage, Ui (V)		1000		
Rated impulse withstand voltage, Uimp (kV)		12		
Rated short-time withstand current, Icw (kA)		55/1s	80/1s，100/60ms	
Rated short-circuit making capacity, Icm (peak value) (kA)		121	220	
Rated limiting short-circuit current, Iq (kA)	Fuse protection	120	200	
Switching action time (ms)		≤200		
Contact changeover time (ms)		≤300		
Operating performance (times)	Mechanical life[2]	12000		
	Electrical life[2]	7000		
Electrical appliance level		Special PC grade		
Use type		AC-33A		
Number of Poles		3, 4, N3[1] (products with overlapped conversion of neutral line)		
Wiring method	Rear horizontal wiring	■	■	
	Rear vertical wiring	□	□	■
Switch position		Stage-III		
Structural type		Split type		
Operating mode		Auto switch and auto recover, auto switch and non-auto recover		
Power supply mode		Grid - grid, grid - generator		
Overall dimensions: W×H×D mm 	Number of Poles-3P	590×715×331		
	Number of Poles-4P	590×715×331		
	Number of Poles-N3	590×715×331		
Net weight (kg)	Number of Poles-3P	120	128	133
	Number of Poles-4P	132	142	149
	Number of Poles-N3	132	142	149
Product certifications		CQC certified, CB certified		

■- standard configuration; □- optional configuration

Note: 1. Products with N3 function overlapped conversion of neutral line only have in-phase conversion type.
2. All are maintainable life.

Note: Pole-N conversion of the neutral line includes two types, i.e. conventional conversion of neutral line (4P) and overlapped conversion of neutral line (N3):

1) Conventional conversion of neutral line means that its pole-N is converted together with phase lines A/B/C.

2) Overlapped conversion of neutral line means that the pole-N of at least one of two power supplies remains connected to the load in the ATSE switching process.

Functional Parameters of Controller

Function		Type D III Controller [1]
Protection Functions	Over-voltage protection	√
	Under-voltage protection	√
	Unbalanced voltage protection	√
	Phase loss protection	√
	Over-frequency protection	√
	Under-frequency protection	√
	Phase sequence protection	√
	Wiring error alarm	√
	Fault lockout	√
	Over-/under-voltage return adjustment	√
	Unloading	▽
Measurement function	Voltage	√
	Frequency	√
	Voltage unbalance factor	√
	Phase sequence	√
Communication function	MODBUS-RTU protocol	√
Node input/output	Fire signal input	√
	Remote switching control input	▽
	Fault lockout input	▽
	Auxiliary power supply input	√
	Programmable port input	√
	Common closing output	√
	Standby closing output	√
	Generator starting output	√
	Fault alarm output	√
	Communication port output	√
	Programmable port output	√
	Closing status indication output	√
Display (LED)	Common power supply status	√
	Backup power supply status	√
	Common closing status	√

Function		Type D III Controller [1]
Display (LED)	Standby closing status	√
	Auto/manual mode	√
	Fire control	√
	RS485 communication	√
	Remote/local	√
	Fault/alarm	√
Display (LCD screen)	160 × 160 dot matrix	√
	Common power supply information	√
	Backup power supply information	√
	Fault/alarm information	√
	Set parameters	√
Selection of power supply mode	Grid - grid	√
	Grid - generator	√
Selection of operating mode	Auto switch and auto recover	√
	Auto switch and non-auto recover	√
Delay adjustment	Common opening delay	√
	Common closing delay	√
	Standby opening delay	√
	Standby closing delay	√
	Auto switch and auto recover delay	√
	Under-voltage delay	√
	Over-voltage delay	√
	Under-frequency delay	√
	Over-frequency delay	√
	Voltage unbalance delay	√
	Generator starting delay	√
	Generator stop delay	√
	Generator stability delay	√
Voltage protection threshold	Under-voltage adjustable	√
	Over-voltage adjustable	√
Frequency protection threshold	Under-frequency adjustable	√
	Over-frequency adjustable	√
Phase unbalance factor threshold	Adjustable within a certain range	√

Function		Type D III Controller [1]
Button	Key lock, unlocked to enter	√
	Set key	√
	Select key	√
	Exit key	√
	Reset key	√
	Parameter + key	√
	Parameter - key	√
	Auto/manual key	√
	Common closing and standby opening key	√
	Common opening and standby closing key	√
	Common opening and standby opening key	√
Others	Generator started regularly for testing	√
	Common/standby priority selection	√
	Selection of rated frequency	√
	Fault alarm	√
	III-stage function	√
	RTC real time	√
	Chinese-English switch	√
	Event record	√
	One-click calibration	√[2]
	When two power supplies are abnormal, the product remains in the original position or the dual-split position, to be defined by the user.	√

Note: 1. Functions marked with "√" means available; "▽" optional for users;
2. Under high-precision supply voltage input, compare the calculated value of the controller with the input value and writes in the calibration coefficient directly.

NDQ3HP Bypass Isolation Automatic Transfer Switch - Quick Selection



ND Q 3H P - 3200 / S / 06 / 400 / 3P / E / O

- Special functions: O-OSS dual bypass
- Controller: E
- Number of poles: 3 - 3 poles, 4 - 4 poles, N3 - 4 poles with overlapped conversion of neutral line
- Rated operating voltage: 400-AC400V; 415-AC-415V
- Rated operating current: See note a
- Conversion type: S - same-phase conversion; D - delay conversion
- Shell frame level: 3200A, 5000A
- P: Automatic transfer switch with bypass isolation function
- Design code: 3H
- Product code: Automatic transfer switching equipment
- Enterprise code: Nader

Note:
a same-phase conversion mode is stage II, while delay conversion mode is stage III.
b N3 refers to three-phase four-line products with overlapped conversion of neutral line, for which only in-phase conversion is available.

Note a:
Shell frame 3200: 01-100A, 02-250A, 04-400A, 05-500A, 06-630A, 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 32-3200A
Shell frame 5000: 16-1600A, 20-2000A, 25-2500A, 32-3200A, 40-4000A, 50-5000A

NDQ3HP Bypass Isolation Automatic Transfer Switch - Main Parameters

Model Specification		NDQ3HP	
Shell frame level current (A)		3200	5000
Rated operating current, Ie (A)		100, 250, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3200	1600, 2000, 2500, 3200, 4000, 5000
Frequency (Hz)		50/60	
Rated insulation voltage, Ui (V)		1000	
Rated impulse withstand voltage, Uimp (kV)		12	
Rated operating voltage, Ue (V)		400/415	
Operating current (A) AC220V	Closing current	30	50
	Opening current	12	12
Contact changeover time, max (ms)		1000	1000
Switching action time max (ms)		2200	2200
Rated short-time withstand current, Icw (kA)		66	85
Rated short-circuit making capacity, Icm (kA)		145	187
Mechanical life[a] (times)		10000	10000
Electrical life[a] (times)		5000	5000
Electrical appliance level		Special PC grade	
Use type		AC-33A	
Wiring method		Rear panel connection	
Operating position[b]		Stage II, stage III	
Number of Poles[c]		3, 4, N3	

Note: a Number of maintainable times;
b In-phase conversion mode is stage II, while delay conversion mode is stage III.
c N3 refers to three-phase four-line products with overlapped conversion of neutral line, for which only in-phase conversion is available.

LAZZEN

NDQ3HP Bypass Isolation Automatic Transfer Switch Controller

Technical Specifications

Specification	Parameters
Power supply	24VDC/7.2W
Overall dimensions: W×H×D (mm)	200×140×70
Weight (kg)	1.0
Operating temperature range (℃)	-25~70
LCD display	192 × 64 pixels
LED display	High brightness LEDchop
Input voltage (V)	AC 110~300
Frequency (Hz)	50/60
Control relay	250VAC 5A 2Ea; can be selected from the menu
Generator activation relay	125VAC 1A，30VDC 2A 1c
Generator speed regulation; variable resistance	Variable resistance input
Contact input terminal	CCTS status contact 2a parameter setting; 6aEa., 24[VDC]
Communication port	RS485

Function Description

Controller Model		E
Adaptive switch structure features	Drive mode	Coil type
	Switch mode option	In-phase conversion, delay conversion
Adaptive system	Adaptive system voltage (V)	AC400/415
	Adaptive system frequency (Hz)	50/60
	Rated control voltage (V)	AC110/220
Composition	Microprocessor	Single microprocessor
	Display	192×64Graphic
Display mode	Input voltage status	LCD display and LED status display
	ATS position status	LED display
	Measurement status	LCD display
	Contact action status	LCD display
	Input action status	LCD display
	Communication action status	LED display

Controller Model		E
Conversion condition setting range	Over-voltage	105%~130%
	Under-voltage	85%~95%
	Phase loss	30% ~ 70% phase angle less than 90°
	Loss of voltage	0%~30%
	Over-frequency (Hz)	+1.0~+5.0
	Under-frequency (Hz)	-1.0~-5.0
Functional characteristics	Common power priority selection	No priority
	Selection of operating mode	Auto switch and auto recover/auto switch and non-auto recover
	Button operation	Yes
	Cascade control	Settable software
	Electrical parameter display	Voltage
	Functional communication	RS485 wired/wireless communication
	Event record	1,024
	Locking device	Use password
	Use language	English
	Generator start-stop control	Yes
	Sampling line breakage detection	Yes
	Long-term single power operation	Yes (either side of Phase A is powered on)
	Linkage control of upper and lower levels	Yes
	Fault alarm function	Light alarm
	Auxiliary power supply	Yes
	Phase sequence error detection	Yes
	Programmable input	6 ports
	Programmable output	2 ports
Parameter setting input terminal	Switch delay (min)	0-90
	Return delay (min)	0-90
	Generator cold-start delay (min)	0-90
	Voltage sampling line	Line voltage/phase voltage
	Cascade control input	Yes
	Auxiliary power supply input	Yes
	Other programmable input	Yes
Output terminal	Fault alarm output	Yes
	Generator control output	Yes
	Communication output	Yes
	Other programmable output	Yes

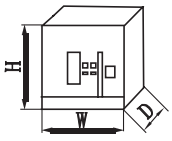
NDQ5 Automatic Transfer Switch - Quick Selection



NDQ5 – 4000 / S / 04 / 230 / 3 / WF / A3 / SF22 / J3 Special demand

- Wiring method:
  Non-marked - horizontal wiring
  J3 - vertical wiring
- Internal accessories:
  SF22- dual-position key lock
  HZ - body closing indicator light (two locks and two keys)
- Auxiliary switch:
  Non-marked - one-group conversion
  A3 - three-group conversion
- Optional functions of controller:
  WF - wifi (wireless communication)
  WD - temperature alarm protection device
  BS - fault lockout input
- Number of poles: 3 - 3 poles, 4 - 4 poles, N3 - 4 poles with overlapped conversion of neutral line
- Rated operating voltage:
  230-AC220/230/240V, 380-AC380V, 400-AC400V, 415-AC415V
- Rated operating current: 04-400A, 05-500A, 06-630A, 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 32-3200A, 40-4000A
- Conversion type:
  S - in-phase conversion
  D - delay conversion
  C - parallel conversion
- Shell frame level: 4000-4000A
- Design code: 5
- Product code: Automatic transfer switch
- Enterprise code: Nader

NDQ5 Automatic Transfer Switch - Main Parameters

ATSE Model		NDQ5-4000			
Rated operating current, Ie (A)		400, 500, 630	800, 1000, 1250, 1600	2000, 2500	3200, 4000
Rated operating voltage, Ue (V)		AC220/230/240 , AC380/400/415			
Rated frequency, f (Hz)		50/60			
Rated insulation voltage, Ui (V)		1000			
Rated impulse withstand voltage, Uimp (kV)		12			
Number of Poles		3, 4, N3[1] (products with overlapped conversion of neutral line)			
Use type		AC-33A			
Rated short-time withstand current, Icw (kA)	AC380/400/415V	66/3s 85/1s 100/60ms			
Rated short-circuit making capacity, Icm (peak value) (kA)	AC380/400/415V	220			
Switching action time (ms)		≤500			
Contact changeover time (ms)		≤300			
Operating performance (number of times)	Electrical life[2]	10000	10000	8000	8000
	Mechanical life[2]	20000			
Electrical appliance level		Special PC grade			
Conversion category		In-phase conversion/delay conversion/parallel conversion			
Main contact position		Three-position			
Wiring method	Rear horizontal wiring	■	■	■	
	Rear vertical wiring	□	□	□	■
Overall dimensions: W×H×D 	Number of Poles-3P	590×840×330			
	Number of Poles-4P	590×840×330			
	Number of Poles-N3	590×840×330			
Weight (kg)	Number of Poles-3P	128			133
	Number of Poles-4P	142			149
	Number of Poles-N3	142			149

■- standard configuration; □- optional configuration

Note: 1. Products with N3 function overlapped conversion of neutral line only have in-phase conversion type.
2. All are maintainable life.

Pole-N conversion of the neutral line includes two types, i.e. conventional conversion of neutral line (4P) and overlapped conversion of neutral line (N3):

1) Conventional conversion of neutral line means that its pole-N is converted together with phase lines A/B/C.

2) Overlapped conversion of neutral line means that the pole-N of at least one of two power supplies remains connected to the load in the ATSE switching process.

NDQ5 Automatic Transfer Switch Controller

Controller Functions

Controller Overview and Conversion Type

Rated control supply voltage, Ue	AC220/230/240V, AC380/400/415V
Rated operating frequency	50/60Hz
Applicable grounding system	TN/TT/IT
Auxiliary power supply	DC24V
Adaptive conversion type	In-phase/delay/parallel conversion

Function Description

Function Description		Controller[1]
Protection Functions	Over-voltage protection	√
	Under-voltage protection	√
	Unbalanced voltage protection	√
	Phase loss protection	√
	Over-frequency protection	√
	Under-frequency protection	√
	Phase sequence protection	√
	Wiring error alarm	√
	Fault lockout	▽
	Over-/under-voltage return adjustment	√
	Unloading	√
Measurement function	Voltage	√
	Frequency	√
	Phase angle difference	√
	Voltage unbalance factor	√
	Phase sequence	√
Communication function	MODBUS-RTU protocol	√
Node input/output	Fire signal input	√
	Controller emergency stop lock input	√
	Remote switching control input	√

Function Description		Controller[1]
Node input/output	Fault lockout input	▽
	Auxiliary power supply input	√
	Programmable port input	√
	Common closing output	√
	Standby closing output	√
	Generator starting output	√
	Fault alarm output	√
	Communication port output	√
	Programmable port output	√
	Closing status indication output	√[2]
Display (LED)	Common power supply status	√
	Backup power supply status	√
	Common closing status	√
	Standby closing status	√
	Auto/manual mode	√
	Parallel/non-parallel connection mode	√
	Fire control	√
	RS485 communication	√
	Remote/local	√
	Fault/alarm	√
	Controller emergency stop lock	√
Display (LCD screen)	160 × 160 dot matrix	√
	Common power supply information	√
	Backup power supply information	√
	Fault/alarm information	√
	Set parameters	√
Selection of power supply mode	Grid - grid	√
	Grid - generator	√
Selection of operating mode	Auto switch and auto recover	√[3]
	Auto switch and non-auto recover	√[3]

Function Description		Controller[1]
Delay adjustment	Common opening delay	√
	Common closing delay	√
	Standby opening delay	√
	Standby closing delay	√
	Auto switch and auto recover delay	√
	Voltage unbalance delay	√
	Under-voltage delay	√
	Over-voltage delay	√
	Under-frequency delay	√
	Over-frequency delay	√
	Generator starting delay	√
	Generator stop delay	√
	Generator stability delay	√
	Parallel waiting delay	√
Voltage protection threshold	Under-voltage adjustable	√
	Over-voltage adjustable	√
Frequency protection threshold	Under-frequency adjustable	√
	Over-frequency adjustable	√
Phase unbalance factor threshold	Adjustable within a certain range	√
Button	Key lock, unlocked to enter	√
	Set key	√
	Select key	√
	Exit key	√
	Reset key	√
	Parameter + key	√
	Parameter - key	√
	Controller emergency stop lock key	√
	Auto/manual key	√
	Parallel/non-parallel connection key	√
	Common closing and standby opening key	√
	Common opening and standby closing key	√
	Common opening and standby opening key	√

Function Description		Controller[1]
Others	Generator started regularly for testing	√
	Common/standby priority selection	√
	Selection of rated frequency	√
	Fault alarm	√
	Resistant to harmonics of the 3 order (included) and above	√
	III-stage function	√
	Conversion second reading	√
	RTC real time	√
	Chinese-English switch	√
	Event record	√
	One-click calibration	√[4]
	NFC communication module	√
	Wifi communication module	▽
	Temperature detection module	▽
	When two power supplies are abnormal, the product remains in the original position or the dual-position, to be defined by the user.	√

Note: 1. Functions marked with "√" means available; "▽" op-tional for users;
2. The micro-switch output signal of the switch body is adopted, and the relay output mode is not used;
3. If the power grid mode is selected as "grid - grid", the options "auto switch and auto recover" and "auto switch and non-auto recover" are available; if selected as "grid - generator", those options are not available and it will be set to "auto switch and auto recover" by default. When the grid is normal, it must return to the grid side.
4. Under high-precision supply voltage input, compare the calculated value of the controller with the input value and writes in the calibration coefficient directly.

NDQ5W Automatic Transfer Switch - Quick Selection



ND Q 5 W - 1600 C / 16 / 4 / K1 / 2L

- 2L: Controller type (related to rated operating current):
  2L: Dual power conversion
  2LB: Dual power conversion, with manual parallel operation function
  3L: Three power conversion
  3LB: Three power conversion, with manual parallel operation function
  QL: Two incoming lines and one busbar conversion
  QLB: Two incoming lines and one busbar conversion, with manual parallel operation function
- K1: Rated operating voltage: K1-AC380/400/415V
- 4: Number of poles: 3-3P, 4-4P
- 16: Rated operating current: See note a
- C: Installation mode of actuating circuit breaker: C - drawout type
- 1600: Rated current of shell frame: 1600A, 2500A, 4000A, 6300A
- W: Actuating circuit breaker: W: NDW2/NDW3 Air Circuit Break-ers
- 5: Design number: 5
- Q: Product code: Automatic transfer switch
- ND: Enterprise code: Nader

Example and notes: The same or different rated current levels can be selected for the same shell frame. For details, please consult the after-sales engineer.

- NDQ5W-1600 C/16/4/K1/2L (indicate one for the same rated current)
- NDQ5W-2500 C/252020/4/K1/3L (indicate separately for all different rated current levels)
- NDQ5W-4000 C/403240/4/K1/QL (indicate separately for all different rated current levels)
- NDQ5W-4000 C/40/4/K1/QL (indicate one for the same rated current)
- For shell frame 2500 with the current of 2500A, only NDW3 is optional.

Note a:
Rated operating current:
Shell frame 1600: 02-200A, 04-400A, 06-630A, 08-800A, 10-1000A, 12-1250A, 16-1600A
Shell frame 2500: 06-630A, 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A
Shell frame 4000: 08-800A, 10-1000A, 12-1250A, 16-1600A, 20-2000A, 25-2500A, 32-3200A, 40-4000A
Shell frame 6300: 40-4000A, 50-5000A, 63-6300A

NDQ5W Automatic Transfer Switch Controller

Controller Model			2L	2LB	3L	3LB	QL	QLB
Rated control supply voltage, Us			AC230V					
Auxiliary power supply			DC24V					
Suitable application mode		Grid - Generator	■	■			■	■
		Grid - Generator	■	■			■	■
		Grid - grid - Generator			■	■		
		Grid - oil engine - Generator			■	■		
Applicable type		Dual power conversion	■	■				
		Three power conversion			■	■		
		Two incoming lines and one busbar conversion					■	■
Automatic transfer	Under-voltage protection	Detecting power supply	S1/S2 three-phase		S1/S2/S3 three-phase		S1/S2 three-phase	
		Under-voltage	OFF+(75%～95%)*Us					
		Return value	AC230V（4～30V）					
	Over-voltage protection	Detecting power supply	S1/S2 three-phase		S1/S2/S3 three-phase		S1/S2 three-phase	
		Over-voltage	OFF+（105%～125%）*Us					
		Return value	AC230V（4～30V）					
	Phase loss protection	Detecting power supply	S1/S2 three-phase		S1/S2/S3 three-phase		S1/S2 three-phase	
		Phase loss	25%*Us					
	Under-frequency protection	Under-frequency starting value	OFF + rated frequency × (90% ~ 98%)					
		Under-frequency return value	Rated frequency× (95%~99%)					
	Over-frequency protection	Over-frequency starting value	OFF + rated frequency × (102% ~ 110%)					
		Over-frequency return value	Rated frequency× (101%~105%)					
	Unbalanced voltage protection	Voltage unbalance starting value	OFF+（3～30%）					
		Voltage unbalance return value	（2%-10%）					
	Phase sequence protection	Phase sequence mode	OFF, A-B-C, A-C-B					
Power supply priority		Mode selection	Qs1, Qs2		Qs1, Qs2, Qs3		Qs1+Qs2, Qs1+Qql, Qs2+Qql	
Energy storage setting			Energy storage before closing, energy storage after closing					
Operation mode			Auto switch and auto recover, auto switch and non-auto recover					
Manual button conversion		Manual conversion	■	■	■	■	■	■
		Parallel conversion		■		■		■
Display		Supply voltage/frequency/ unbalance factor display	■	■	■	■	■	■
		Power supply phase loss/ abnormal/normal display	■	■	■	■	■	■
		Circuit breaker closing/opening status indication	■	■	■	■	■	■
		Circuit breaker tripping indication	■	■	■	■	■	■
		Fault/alarm indication	■	■	■	■	■	■
		Parameter setting display	■	■	■	■	■	■
		Running status indication	■	■	■	■	■	■
		Local/remote indication	■	■	■	■	■	■
		Manual/auto indication	■	■	■	■	■	■
		Operating mode display	■	■	■	■	■	■
		Communication indication	■	■	■	■	■	■
Communication function		Communication function	■	■	■	■	■	■
		Modbus protocol	■	■	■	■	■	■

Note: ■Standard Configuration

Controller model		2L	2LB	3L	3LB	QL	QLB
Delay time	Qs1 power closing delay (T1)	0.1S~640S					
	Qs1 power opening delay (T2)	0.1S~640S					
	Qs2 (QqL) power closing delay (T3)	0.1S~640S					
	Qs2 (QqL) power opening delay (T4)	0.1S~640S					
	Qs3 power closing delay (T5)	0.1S~640S					
	Qs3 power opening delay (T6)	0.1S~640S					
	Auto switch and auto recover delay	0.1S~360S					
	Under-voltage alarm delay	0.1S~120S					
	Over-voltage alarm delay	0.1S~120S					
	Under-frequency alarm delay	0.1S~120S					
	Over-frequency alarm delay	0.1S~120S					
	Unbalance alarm delay	0.1S~120S					
	Generator start delay	0S~3600S					
	Generator stop delay	0S~3600S					
	Startup stability delay	0S~3600S					
Auxiliary function	RTC real time	■	■	■	■	■	■
	Key locking function	■	■	■	■	■	■
	Generator start-stop control/ unloading	■	■	■	■	■	■
	Unloading (optional)	■	■	■	■	■	■
	Fault lock	■	■	■	■	■	■
	Event record	96 entries	96 entries	96 entries	96 entries	96 entries	96 entries
	Alarm function	■	■	■	■	■	■
	Controller Chinese-English switch	■	■	■	■	■	■
	Adaptive frequency sampling	■	■	■	■	■	■
Extended function	Load monitoring [3]	■	■	■	■	■	■
	Intelligent unloading [3]	■	■	■	■	■	■
	Local control [3][4]	■	■	■	■	■	■
	Busbar overcurrent interlock [3]					■	■
	Overload busbar unloading [3]					■	■
	Automatic parallel return		■		■		■
	Remote parallel conversion		■		■		■

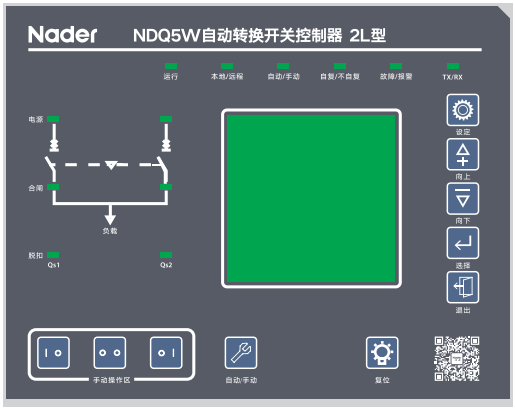
Note:

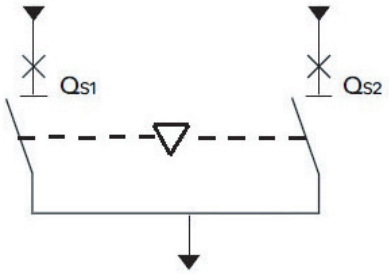
1. ■It is a function under standard configuration;
2. T5 or T6 delay is not available for type 2L and 2LB control-lers;
3. For load monitoring, intelligent unloading, local control, busbar overcurrent interlock and overload busbar unloading, the controller of dual communication type should be selected;
4. Frame-type circuit breaker with digital markings in the ex-tended functions should have 485 communication function and the communication port should be occupied internally;
5. Frame-type circuit breaker with local control function must be added with S3-2DI2DO signal unit.

Introduction to Controller Functions

Type 2L Controller

Type 2L controllers are mainly applied in the auto/manual conversion scheme of the dual power supply system. It is ca-pable of automatically judging the power status and performing the automatic operation of the circuit breaker. Meanwhile, it is equipped with both electrical and mechanical interlocks, which can ensure that the two power supplies will not be closed sim-ultaneously.

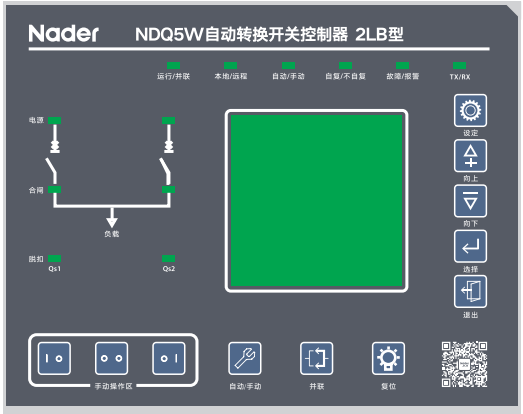


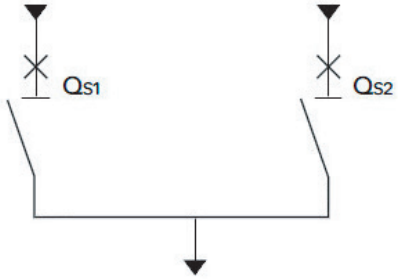


Type 2L controller interface

Type 2LB Controller

Type 2LB controllers are mainly applied in the auto/manual conversion scheme of the dual power supply system. It is ca-pable of automatically judging the power status and performing the automatic operation of the circuit breaker. When operated manually, type 2LB controller has the function of parallel power conversion.

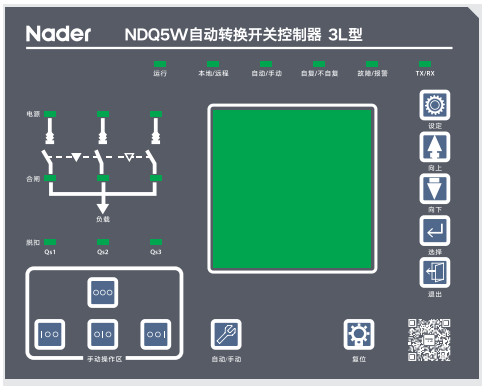


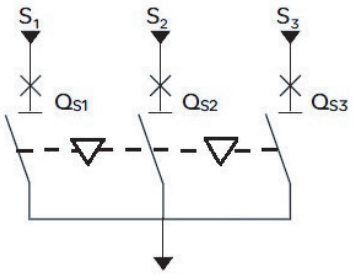


Type 2LB controller interface

Type 3L Controller

Type 3L controllers are mainly applied in the auto/manual conversion scheme of the three power supply system. It is ca-pable of automatically judging the power status and performing the automatic opening, energy storage and closing operations of the circuit breaker. Meanwhile, it is equipped with electrical or mechanical interlocks, which can ensure that only one power supply can be reliably closed.

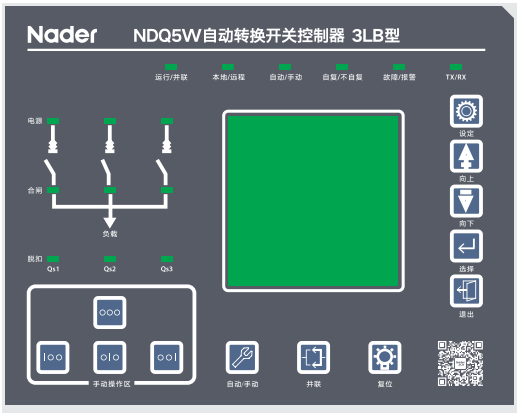


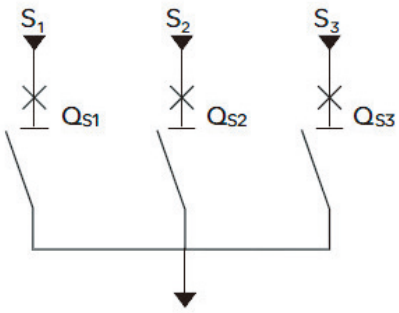


Type 3L controller interface

Type 3LB Controller

Type 3L controllers are mainly applied in the auto/manual conversion scheme of the three power supply system. It is ca-pable of automatically judging the power status and performing the automatic opening, energy storage and closing operations of the circuit breaker. When operated manually, type 3LB con-troller has the function of parallel conversion.

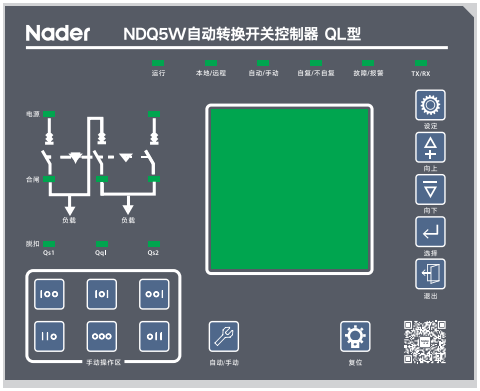


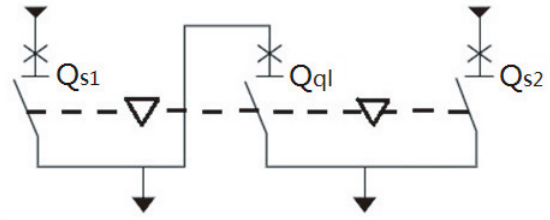


Type 3LB controller interface

Type QL Controller

Type QL controllers are mainly applied in the auto/manual conversion scheme of the two incoming line and one busbar system. It is capable of automatically judging the power status and performing the automatic opening, energy storage and closing operations of the circuit breaker. Meanwhile, it is equipped with electrical or mechanical interlocks, which can ensure that the two power supplies cannot be closed simulta-neously.

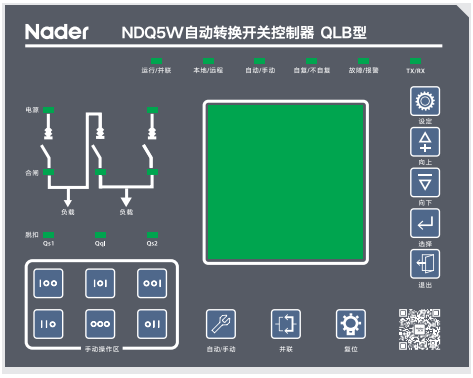


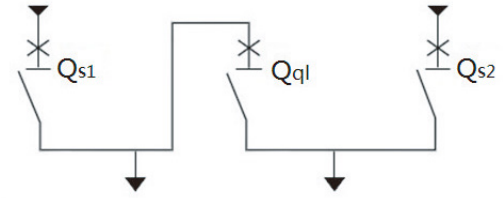


Type QL controller interface

Type QLB Controller

Type QLB controllers are mainly applied in the auto/manual conversion scheme of the two incoming line and one busbar system. It is capable of automatically judging the power status and performing the automatic opening, energy storage and closing operations of the circuit breaker. When operated manu-ally, type QLB controller has the function of parallel conversion.





Type QLB controller interface

Charter 7
Motor Control and Protection

NDC1(Z)-9~95 AC Contactor - Quick Selection



ND C 1 Z - 09 10 DC 220

- 220 — Coil voltage level:
  AC (50/60Hz) : 24, 36, 48, 110, 220, 380, 415
  DC: 24, 48, 110, 220
- DC — Coil type code: AC, DC
- 10 — Number of contacts:
  The number code of the auxiliary contacts of the three-pole contactor is represented by two digits, and the tens digit is the number of the normally open contact pairs; The units digit represents the number of the normally closed contact pairs; Code for the number of main contacts of a four-pole contactor: “40” means that there are four pairs of normally open main contacts; “08” means that there are two pairs of normally open and two pairs of normally closed main contacts
- 09 — Basic specification: Expressed by the Ie values at AC-3 at 415V, in ampere
- Z — Derivation code:
  No code: AC operation
  Z: DC operation
- 1 — Design number: 1
- C — Product code: AC contactor
- ND — Enterprise code: Nader

Example: NDC1Z-0910 DC220V indicates a three-stage AC contactor with a main circuit of 9A DC operation, the control coil voltage DC220V, and a pair of normally open auxiliary contacts.

NDC1-115~2650 AC Contactor - Quick Selection



ND C 1 - 115 3 AC 220

- 220 — Coil voltage level:
  Means the rated operating voltage level of the coil. For example, 220V stands for a rated voltage of 220V
- AC — Coil type:
  AC: AC operating coil (conventional)
  DC: DC operating coil (conventional)
  AC/DC: AC/DC universal, wide-voltage coil
- 3 — Number of poles:
  3: three poles (default, no notes required)
  4: four poles (not available for 1250A and above)
- 115 — Rated current:
  NDC1-115~800: Ie value under AC-3 conditions at a rated voltage of 415V, expressed in amperes
  NDC1-1250~2650: Ie value under AC-1 conditions at a rated voltage of 690V, expressed in amperes
- 1 — Design number: 1
- C — Product code: AC contactor
- ND — Enterprise code: Nader

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NDC1 (Z) -09~95 Main Performance Parameters

Parameters \ Model			NDC1(Z) -09	NDC1(Z) -12	NDC1(Z) -18	NDC1(Z) -25	NDC1(Z) -32	NDC1(Z) -38	NDC1(Z) -40	NDC1(Z) -50	NDC1(Z) -65	NDC1(Z) -80	NDC1(Z) -95
Rated operating current, Ie (A)	AC-3	415V	9	12	18	25	32	38	40	50	65	80	95
		690V	6.6	8.9	12	18	21	21.5	34	39	42	49	49
	AC-4	415V	3.5	5	7.7	8.5	12	13.9	18.5	24	28	37	44
		690V	1.5	2	3.8	4.4	7.5	8	9	12	14	17.3	21.3
Control power KWAC-3	220/230V		2.2	3	4	5.5	7.5	9	11	15	18.5	22	25
	380/400V		4	5.5	7.5	11	15	18.5	18.5	22	30	37	45
	415 V		4	5.5	9	11	15	18.5	22	25	37	45	45
	440 V		4	5.5	9	11	15	18.5	22	30	37	45	45
	500 V		5.5	7.5	10	15	18.5	18.5	22	30	37	55	55
	600/690V		5.5	7.5	10	15	18.5	18.5	30	33	37	45	45
Agreed free air heating current, Ith (A) (θ ≤ 60°C)			25	25	32	40	50	50	60	80	80	125	125
Rated insulation voltage, Ui (V)			1000										
Impulse withstand voltage/kV			8										
Rated operating voltage, Ue (V)			380/415 660/690										
AC-3 (6Ie, Ie)	Electrical life (times)		100×10^4	100×10^4	100×10^4	100×10^4	80×10^4	80×10^4	80×10^4	60×10^4	60×10^4	60×10^4	60×10^4
	Operating frequency (h^{-1})		1200	1200	1200	1200	600	600	600	600	600	600	600
AC-4 (6Ie, 6Ie)	Electrical life (times)		20×10^4	20×10^4	20×10^4	20×10^4	20×10^4	15×10^4	15×10^4	15×10^4	15×104	10×10^4	10×10^4
	Operating frequency (h^{-1})		300										
Allowable short-time withstand current, from cold state, ambient temperature ≤ 40°C, duration without current 30min/A	1s		210	210	240	380	430	430	720	810	900	990	1100
	10s		105	105	145	240	260	310	320	400	520	640	800
	60s		61	61	84	120	138	150	165	208	260	320	400
	10min		30	30	40	50	60	60	72	84	110	135	135
Impedance per pole (Max, mΩ) Ith 50Hz			2.5	2.5	2.5	2.5	2	2	1.5	1.5	1	0.8	0.8
Auxiliary contact	Agreed free air heating current, Ith (A)		10										
	Electrical life/times	AC-15 (360VA)	100×10^4				80×10^4			60×10^4			
		DC-13 (33W)											
	Minimum accessible load		17 V 5mA										

IX

Motor Control and Protection

Parameters \ Model			NDC1(Z) -09	NDC1(Z) -12	NDC1(Z) -18	NDC1(Z) -25	NDC1(Z) -32	NDC1(Z) -38	NDC1(Z) -40	NDC1(Z) -50	NDC1(Z) -65	NDC1(Z) -80	NDC1(Z) -95
Coil	Rated control voltage, Us (V)		AC(50/60Hz): 24, 36, 48, 110, 220, 380, 415 DC: 24, 48, 110, 220										
	Pick-up voltage (V) Note1		65%Uc~120%Uc (AC), 85%Uc~110%Uc (DC)						75%Uc~110%Uc (AC), 85%Uc~110%Uc (DC)				
	Drop-out voltage (V)		20%Uc~60%Uc (AC), 10%Uc~75%Uc (DC)										
	50Hz AC coil power VA	Starting	65	65	65	100	100	100	200	200	200	200	200
		Holding	8	8	8	11	11	11	20	20	20	20	20
	DC coil power W	Starting	Z: 11 ZE: 3.6	Z: 11 ZE: 3.6	11	13	13	13	13	22	22	22	22
		Holding											
Mechanical life (times)			1000×10⁴				800×10⁴					600×10⁴	
Contact changeover time, ms (1)	AC control	Closing "C"	12~22				12~22		20~26			20~35	
		Opening "O"	4~19				4~19		8~12			6~20	
	DC control	Closing "C"	55				55						
		Opening "O"	20				20						
Wiring capacity of terminal, mm² (min/max)	Non-prefabricated end flexible wire	1 piece	1/4		1.5/6	1.5/10	2.5/10		2.5/25			4/50	
		2 pieces	1/4		1.5/6	1.5/6	2.5/10		2.5/16			4/25	
	Prefabricated end flexible wire	1 piece	1/4		1/6	1/6	1/10		2.5/25			4/50	
		2 pieces	1/2.5		1/4	1/4	1.5/6		2.5/10			4/16	
	Non-prefabricated end rigid wire	1 piece	1/4		1.5/6	1.5/6	1.5/10		2.5/25			4/50	
		2 pieces	1/4		1.5/6	1.5/6	2.5/10		2.5/16			4/25	

Note 1: The content is: "the pick-up voltage is 65%Uc~120%Uc (AC) at 20°C, and 85%Uc~110%Uc (AC) at 40°C."

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NDC1-115~2650 Main Performance Parameters

Parameters			Model	NDC1-115	NDC1-150	NDC1-185	NDC1-225	NDC1-265	NDC1-330	NDC1-400	NDC1-500	NDC1-630	NDC1-800
Rated operating current, Ie (A)	AC-3	415V		115	150	185	225	265	330	400	500	630	800
		690V		86	107	118	135	170	225	305	335	460	470
	AC-4	415V		52	60	79	85	105	117	138	147	188	195
		690V		49	57	69	82	98	107	135	145	170	175
	AC-1	690V		200	250	275	315	350	500	600	750	900	1050
Agreed free air heating current, Ith (A)				200	250	275	315	350	500	600	750	900	1050
Rated impulse withstand voltage, Uimp (kV)				12									
Rated insulation voltage, Ui (V)				1000									
Rated operating voltage, Ue (V)				380/415 660/690									
Rated power/ kWAC-3	220/240V			30	40	55	63	75	100	110	147	200	250
	380/400V			55	75	90	110	132	160	200	250	335	450
	415V			59	80	100	110	140	180	220	280	375	450
	440V			59	80	100	110	140	200	250	295	400	450
	500V			75	90	110	129	160	200	257	355	400	450
	660/690V			80	100	110	129	160	220	280	355	450	475
Rated making capacity	AC-3, AC-4 Ue≤415V AC-1 Ue≤690V			10×Ie (AC-3) , 12×Ie (AC-4) , 1.5×Ie (AC-1)									
Rated breaking capacity				8×Ie (AC-3) , 10×Ie (AC-4) , 1.5×Ie (AC-1)									
Short-time withstand current, A (from cold state, no current for the previous 60 minutes, θ ≤ 40°C)	1s			1100	1200	1500	1800	2200	2650	3600	4200	5050	5500
	10s			640	700	920	1000	1230	1800	2400	3200	4400	4600
	30s			520	600	740	850	950	1300	1700	2400	3400	3600
	1min			400	450	500	560	620	900	1200	1500	2200	2600
	10min			320	350	400	440	480	750	1000	1200	1600	1700
Mechanical life	Life/times			1000×10⁴						500×10⁴			
	Operating frequency (h⁻¹)			≤1200								≤600	
Electrical life	AC-1/time			55×10⁴	55×10⁴	55×10⁴	45×10⁴	45×10⁴	50×10⁴	50×10⁴	40×10⁴	35×10⁴	40×10⁴
	Operating frequency (h⁻¹)			200	200	200	200	150	150	150	100	100	100
	AC-3/time			110×10⁴	110×10⁴	110×10⁴	100×10⁴	100×10⁴	100×10⁴	95×10⁴	100×10⁴	60×10⁴	60×10⁴
	Operating frequency (h⁻¹)			300				150					
	AC-4/time			15×10⁴						8×10⁴		5×10⁴	3×10⁴
	Operating frequency (h-1)			100									
Average impedance per pole Ith at 50Hz (mΩ)				0.37	0.35	0.33	0.32	0.3	0.28	0.26	0.18	0.12	0.12
Main circuit wiring capacity	Cable	Qty.		1	1	1	1	1	2	2	2	\	\
		Size (mm²)		95	120	150	185	240	150	185	240	\	\
	Copper bar	Qty.		2	2	2	2	2	2	2	2	2	2
		Size (mm)		20×3	25×3	25×3	32×4	32×4	30×5	30×5	40×5	60×5	60×5
Impact resistance performance 1/2 sine wave = 11ms	Contactor open (gn)			9		7		6		6	9		6
	Contactor closed (gn)			15		15		15		15	15		15
Seismic resistance 8...300Hz	Contactor open (gn)			2		2		2		1.5	2		2
	Contactor closed (gn)			6		6		5		5	4		4

Parameters \ Model			NDC1-1250	NDC1-1350	NDC1-1450(L)	NDC1-1700(L)	NDC1-2100(L)	NDC1-2300	NDC1-2650
Rated operating current, Ie (A)			1260	1350	1450	1700	2100	2300	2650
Load type			AC-1						
Agreed free air heating current, Ith (A)			1260	1350	1450	1700	2100	2300	2650
Rated insulation voltage, Ui (V)			1000		1000				1000
Rated operating voltage, Ue (V)			660/690		660/690				660/690
Rated impulse withstand voltage, Uimp (kV)			12						
Rated making capacity/A (Ue≤690V)			5000						
Rated breaking capacity/A (Ue≤690V)			4000						
Short-time withstand current, A (from cold state, no current for the previous 60 minutes, θ ≤ 40°C)		1s	8000	8000	10000	13000	13000	13000	13500
		10s	8000	8000	8000	10000	10000	10000	12000
		30s	5200	5200	6000	7500	7500	7500	9000
		1min	4000	4000	4500	5500	5500	5500	7000
		3min	3000	3000	4000	4200	4200	4200	6000
		10min	2000	2000	2600	3000	3000	3000	4000
Mechanical life		Lifetime/10,000 times	80						40
		Operating frequency/ times.h^{-1}	≤600						
Electrical life	Ue≤440V	Lifetime/10, 000 times	20	20	15	15	10	10	10
		Operating frequency/ times.h^{-1}	≤150						50
	Ue≤690V	Lifetime/10, 000 times	15	9	8	7	5	5	3
		Operating frequency/ times.h^{-1}	≤150						50
Average impedance per pole Ith at 50Hz (mΩ)			0.12	0.1					
SCPD	Model		RT-17		RS-17				RSK-2800A
	Rated current (A)		1250	1350	1450	1700	2100	2400	2800
Recommended main circuit wiring	Quantity of wiring blocks		2	2	2	3	4	4	6
	Conductor size	Area/ mm^2	500×2	500×2	500×2	500×3	500×4	500×4	500×6
		Perimeter/ mm	210×2	210×2	210×2	210×3	210×4	210×4	210×6
	Torque/N.m		58						
Impact resistance performance 1/2 sine wave = 11ms	Contactor open (gn)		6						
	Contactor closed (gn)		15						
Seismic resistance 8...300Hz	Contactor open (gn)		2						
	Contactor closed (gn)		4						

NDC1-115~2650 Control Circuit Characteristics

Model				NDC1-115	NDC1-150	NDC1-185	NDC1-225	NDC1-265	NDC1-330
Conventional coil	Rated control voltage, Uc			AC: 24, 36, 48, 110, 220, 240, 380, 415, 480 (50Hz, 50/60Hz) DC: 24, 48, 110, 220		AC: 24, 36, 48, 110, 200, 220, 230, 240, 380, 400, 415 (50Hz, 50/60Hz) DC: 24, 48, 110, 220		AC: 24, 36, 48, 110, 220, 230, 380, 400 (50/60Hz) DC: 24, 48, 110, 220	
	Pick-up voltage range			85%~110%Uc					
	Drop-out voltage range			20%~75%Uc (AC), 10%~75%Uc (DC)					
	AC coil	Pick-up time/ms		≤50		≤40		≤70	
		Drop-out time/ms		≤25 (50Hz) ≤130 (50/60Hz)		≤20 (50Hz) ≤150 (50/60Hz)		≤170	
		Pick-up power consumption/VA		≤800 (50Hz) ≤855 (50/60Hz)		≤1000 (50Hz) ≤1180 (50/60Hz)		≤650	
		Holding power consumption/VA		≤55 (50Hz) ≤9 (50/60Hz)		≤64 (50Hz) ≤14 (50/60Hz)		≤15	
	DC coil	Pick-up time/ms		≤40		≤50		≤50	
		Drop-out time/ms		≤50		≤70		≤65	
		Pick-up power consumption/W		≤760		≤900		≤810	
		Holding power consumption/W		≤4.9		≤5.1		≤5.0	
Wide-voltage coil	Rated control voltage, Uc (V)			AC/DC : 48~132V , 100~250V					
	Pick-up voltage range			85%Ucmin~110%Ucmax					
	Drop-out voltage range			0.48Ucmin-0.52Ucmin					
	48~132V AC/DC	Pick-up time/ms	PLC control	≤40		≤40		≤70	
			Power supply control	≤40		≤40		≤70	
		Drop-out time/ms	PLC control	≤22		≤22		≤25	
			Power supply control	≤140		≤140		≤120	
		Pick-up power consumption, VA/W		≤250		≤250		≤450	
		Holding power consumption, VA/W		≤13		≤13		≤13	
	100~250V AC/DC	Pick-up time/ms	PLC control	≤90		≤80		≤70	
			Power supply control	≤90		≤80		≤70	
		Drop-out time/ms	PLC control	≤22		≤30		≤25	
			Power supply control	≤150		≤140		≤120	
		Pick-up power consumption, VA/W		≤250		≤250		≤450	
		Holding power consumption, VA/W		≤16		≤16		≤16	
Control circuit wiring capacity		Flexible wire, mm^2	1 piece/2 pieces	2.5		2.5		2.5	
		Rigid wire mm^2	1 piece	4		4		4	
		Tightening torque/N.m		0.8~1.2					

Model				NDC1-400	NDC1-500	NDC1-630	NDC1-800
Conventional coil	Rated control voltage, Uc (V)			AC: 36, 110, 220, 380 (50/60Hz) DC: 110, 220	AC: 36, 110, 220, 380 (50/60Hz) DC: 48, 110, 220	AC: 110, 220, 230, 380 (50/60Hz) DC: 110, 220	AC: 48 (rapid response coil only), 110~120, 220~230, 380~400 (50/60Hz) DC: 48 (rapid response coil only), 110, 220
	Pick-up voltage range			85%Uc~110%Uc			
	Drop-out voltage range			20%Uc~75%Uc (AC), 10%Uc~75%Uc (DC)			
	AC coil	Pick-up time/ms		40~75	40~75	40~80	≤80 (common) ≤60 (rapid)
		Drop-out time/ms		100~170	100~170	100~200	≤180 (common) ≤80 (rapid)
		Pick-up power consumption/VA		≤1075	≤1100	≤1650	≤1700 (common) ≤1000 (rapid)
		Holding power consumption/VA		≤22	≤24	≤27	≤27 (common) ≤47 (rapid)
	DC coil	Pick-up time/ms		50~65	50~65	60~70	≤80 (common) ≤20 (rapid)
		Drop-out time/ms		45~65	45~65	40~50	≤80 (common) ≤50 (rapid)
		Pick-up power consumption/W		≤1140	≤1220	≤1920	≤1700 (common) ≤733 (rapid)
		Holding power consumption/W		≤7.5	≤8.0	≤12.5	≤27 (common) ≤48 (rapid)
Wide-voltage coil	Rated control voltage, Uc (V)			AC/DC : 48~132V , 100~250V			
	Pick-up voltage range			85%Ucmin~110%Ucmax			
	Drop-out voltage range			0.48Ucmin-0.52Ucmin			
	48~132V AC/DC	Pick-up time/ms	PLC control	60~75	70~85	70~85	
			Power supply control	60~75	70~85	70~85	
		Drop-out time/ms	PLC control	21~25	21~25	21~25	
			Power supply control	60~120	80~140	80~140	
		Pick-up power consumption, VA/W		≤450	≤550	≤600	
		Holding power consumption, VA/W		≤13	≤13	≤13	
	100~250V AC/DC	Pick-up time/ms	PLC control	60~75	70~85	70~85	
			Power supply control	60~75	70~85	70~85	
		Drop-out time/ms	PLC control	21~25	21~25	21~25	
			Power supply control	60~120	100~160	100~160	
		Pick-up power consumption, VA/W		≤450	≤550	≤600	
		Holding power consumption, VA/W		≤16	≤16	≤16	
Control circuit wiring capacity		Flexible wire, mm^2	1 piece/2 pieces	2.5			
		Rigid wire mm^2	1 piece	4			
		Tightening torque/N.m		0.8~1.2			

Model				NDC1-1250	NDC1-1350	NDC1-1450(L)	NDC1-1700(L)	NDC1-2100(L)	NDC1-2650
Conventional coil	Rated control voltage, Uc (V)			AC: 48 (rapid response coil only), 110~120, 220~230, 380~400 (50/60Hz) DC: 48 (rapid response coil only), 110, 220	AC: 110, 220, 380 (50/60Hz) DC: 220~250	AC: 110, 110~120, 220, 220~230, 240, 277, 380, 380~400, 415~400 (50/60Hz) DC: 110, 125, 220~250, 250			AC: 220~230 240~250 380~400 415~440 DC: 220~250
	Pick-up voltage range			85%Uc~110%Uc					
	Drop-out voltage range			20%Uc~75%Uc (AC), 10%Uc~75%Uc (DC)					
	AC coil	Pick-up time/ms		≤80 (common) ≤60 (rapid)	40~80	40~75			40~80
		Drop-out time/ms		≤180 (common) ≤80 (rapid)	100~200	100~170			100~200
		Pick-up power consumption/VA		≤1700 (common) ≤1000 (rapid)	≤2200	≤2200			≤3000
		Holding power consumption/VA		≤27 (common) ≤47 (rapid)	≤60	≤44			≤50
	DC coil	Pick-up time/ms		≤80 (common) ≤20 (rapid)	60~70	50~60			60~70
		Drop-out time/ms		≤80 (common) ≤50 (rapid)	40~60	45~60			45~60
		Pick-up power consumption/VA		≤1700 (common) ≤733 (rapid)	≤2400	≤2500			≤3000
		Holding power consumption/VA		≤27 (common) ≤48 (rapid)	≤15	≤16			≤25
Wide-voltage coil	Rated control voltage, Uc (V)			AC/DC: 100~250V: AC/DC: 48~132V (NDC1-1250 products only)		/			
	Pick-up voltage range			85%Ucmin~110%Ucmax		/			
	Drop-out voltage range			0.48Ucmin-0.52Ucmin		/			
	100~250V AC/DC	Pick-up time/ms	PLC control	70~85	60~75	/			
			Power supply control	70~85	60~75	/			
		Drop-out time/ms	PLC control	21~25	21~25	/			
			Power supply control	100~160	60~120	/			
		Pick-up power consumption VA/W		≤600	≤900	/			
		Holding power consumption VA /W		≤16	≤18	/			
	48~132V AC/DC	Pick-up time/ms	PLC control	70~85	/	/			
			Power supply control	70~85	/	/			
		Drop-out time/ms	PLC control	21~25	/	/			
			Power supply control	80~140	/	/			
		Pick-up power consumption VA/W		≤600	/	/			
		Holding power consumption VA /W		≤13	/	/			
Control circuit wiring capacity		Flexible wire, mm^2	1 piece/2 pieces	2.5					
		Rigid wire mm^2	1 piece	4					
		Tightening torque/N.m		0.8~1.2					

NDC1N-09~95 AC Contactor - Quick Selection



ND C 1 N - 18 10 TH

- TH: Blank: Conventional products; TH: Damp heat type
- 10: Number of contacts: See note a
- 18: Basic specification (expressed by the Ie values at AC-3 at 415V, in ampere) 9, 12, 18, 25, 32, 38, 40, 50, 65, 80, 95
- N: Reversible AC Contactor
- 1: Design number: 1
- C: Product code: AC contactor
- ND: Enterprise code: Nader

Note:

a: The number code of the auxiliary contacts of the three-pole contactor is represented by two digits. The tens digit is the number of the normally open contact pairs. The units digit represents the number of the normally closed contact pairs.
Code for the number of main contacts of a four-pole contactor: “40” means there are four pairs of normally open main contacts.

NDC1N-115~800 Directional AC Contactor - Quick Selection



ND C 1 N - 115 3 AC 200V

- 200V: Coil voltage level: Means the rated operating voltage level of the coil. For example: 220V stands for a rated voltage of 220V
- AC: Coil type:
  AC: AC operating coil (conventional)
  DC: DC operating coil (conventional)
  AC/DC: AC/DC universal, wide-voltage coil
- 3: Number of contacts:
  3: three poles (default, no notes required)
  4: four poles
- 115: Basic specification (expressed by the Ie values at AC-3 at 415V, in ampere):
  115, 150, 185, 225, 265, 330, 400, 500, 630, 800
- N: Reversible AC Contactor
- 1: Design number: 1
- C: Product code: AC contactor
- ND: Enterprise code: Nader

NDC1N-09~95 Main Performance Parameters

Parameters			Model	NDC1(N)-09	NDC1(N)-12	NDC1(N)-18	NDC1(N)-25	NDC1(N)-32	NDC1(N)-38	NDC1(N)-40	NDC1(N)-50	NDC1(N)-65	NDC1(N)-80	NDC1(N)-95
Rated operating current, Ie (A)	AC-3	415V		9	12	18	25	32	38	40	50	65	80	95
		690V		6.6	8.9	12	18	21	21.5	34	39	42	49	49
	AC-4	415V		3.5	5	7.7	8.5	12	13.9	18.5	24	28	37	44
		690V		1.5	2	3.8	4.4	7.5	8	9	12	14	17.3	21.3
Agreed free air heating current (Ith/A) (θ ≤ 60°C)				25	25	32	40	50	50	60	80	80	125	125
Rated insulation voltage, Ui (V)				1000										
Impulse withstand voltage (kV)				6						8				
Rated operating voltage, Ue (V)				380/415 660/690										
AC-3 (6Ie, Ie)	Electrical life (times)			100×10^4	100×10^4	100×10^4	100×10^4	80×10^4	80×10^4	80×10^4	60×10^4	60×10^4	60×10^4	60×10^4
	Operating frequency (h^{-1})			1200	1200	1200	1200	600	600	600	600	600	600	600
AC-4 (6Ie, 6Ie)	Electrical life (times)			20×10^4	20×10^4	20×10^4	20×10^4	20×10^4	15×10^4	15×10^4	15×10^4	15×10^4	10×10^4	10×10^4
	Operating frequency (h^{-1})			300										
Allowable short-time withstand current, from cold state, ambient temperature ≤ 40°C, duration without current 30min/A	1s			210	210	240	380	430	430	720	810	900	990	1100
	10s			105	105	145	240	260	310	320	400	520	640	800
	60s			61	61	84	120	138	150	165	208	260	320	400
	10min			30	30	40	50	60	60	72	84	110	135	135
Impedance per pole (Max, mΩ)				2.5	2.5	2.5	2.5	2	2	2	2.5	2.5	2.5	0.8
Auxiliary contact coil	Agreed free air heating current, Ith (A)			10										
	Electrical life/ times	AC-15 (360VA)		100×10^4				80×10^4			60×10^4			
		DC-13 (33W)												
	Minimum accessible load			17V 5mA										
Coil	Rated control voltage, Us (V)			AC (50/60Hz) ; 24, 36, 48, 110, 220/230, 240, 380/400, 415, 440										
	Pick-up voltage range			65%Us~120%Us						75%Us~110%Us				
	Drop-out voltage range			20%Us~60%Us										
	50Hz AC coil power /VA	Starting		65	65	65	100	100	100	200	200	200	200	200
		Holding		8	8	8	11	11	11	20	20	20	20	20
Mechanical life (times)				1000×10^4				800×10^4					600×10^4	
Contact changeover time (ms)	Closing "C"			12~22				15~24		20~25			20~35	
	Opening "O"			4~19				4~19		8~12			6~20	
Wiring capacity of terminal (mm^2) (Min/ Max)	Non-prefabricated end flexible wire	1 piece		1/4		1.5/6	1.5/10	2.5/10		2.5/25			4/50	
		2 pieces		–		–	–	–		2.5/16			4/25	
	Prefabricated end flexible wire	1 piece		1/4		1/6	1/6	1/10		2.5/25			4/16	
		2 pieces		–		–	–	–		2.5/10			4/16	
	Non-prefabricated end rigid wire	1 piece		1/4		1.5/6	1.5/6	1.5/10		2.5/16			4/50	
		2 pieces		–		–	–	–		2.5/16			4/25	

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NDC1N-115~800 Main Performance Parameters

Parameters \ Model			NDC1 -115	NDC1 -150	NDC1 -185	NDC1 -225	NDC1 -265	NDC1 -330	NDC1 -400	NDC1 -500	NDC1 -630	NDC1 -800
Rated operating current, Ie (A)	AC-1	690V	200	250	275	315	350	500	600	750	900	1050
	AC-3	415V	115	150	185	225	265	330	400	500	630	800
		690V	86	107	118	135	170	225	305	335	460	470
	AC-4	415V	52	60	79	85	105	117	138	147	188	195
		690V	49	57	69	82	98	107	135	145	170	175
Agreed free air heating current, Ith (A)			200	250	275	315	350	500	600	750	900	1050
Rated impulse withstand voltage, Uimp (kV)			12									
Rated insulation voltage, Ui (V)			1000									
Rated operating voltage, Ue (V)			380/415 660/690									
Rated power/ kWAC-3	220/240V		30	40	55	63	75	100	110	147	200	250
	380/400V		55	75	90	110	132	160	200	250	335	450
	415V		59	80	100	110	140	180	220	280	375	450
	440V		59	80	100	110	140	200	250	295	400	450
	500V		75	90	110	129	160	200	257	355	400	450
	660/690V		80	100	110	129	160	220	280	355	450	475
Mechanical life	Life/times		300×10^4						100×10^4			
	Operating frequency (h^{-1})		≤1200								≤600	
Electrical life	AC-3/time		80×10^4	80×10^4	50×10^4	50×10^4	50×10^4	50×10^4	30×10^4	20×10^4	20×10^4	10×10^4
	Operating frequency (h^{-1})		300				150					
	AC-4/time		15×10^4						8×10^4		5×10^4	3×10^4
	Operating frequency (h^{-1})		100									
Average impedance per pole Ith at 50Hz (mΩ)			0.37	0.35	0.33	0.32	0.3	0.28	0.26	0.18	0.12	0.12
Main circuit wiring capacity	Cable	Qty.	1	1	1	1	1	1	2	2	\	\
		Size (mm^2)	95	120	150	185	240	250	150	240	\	\
	Copper bar	Qty.	2	2	2	2	2	2	2	2	2	2
		Size (mm^2)	20×3	25×3	25×3	32×4	32×4	30×5	30×5	40×5	60×5	60×5
Impact resistance performance 1/2 sine wave = 11ms	Contactor open (gn)		9		7		6		6	9		6
	Contactor closed (gn)		15		15		15		15	15		15
Seismic resistance 8...300Hz	Contactor open (gn)		2		2		2		1.5	2		2
	Contactor closed (gn)		6		6		5		5	4		4

NDC1T Dust-proof AC Contactor - Quick Selection



ND C 1 T - 40 11

- 11: Number of contacts:
  “11” means the contactor has one pair of normally open auxiliary contacts and one pair of normally closed auxiliary contacts
- 40: Basic specification code:
  Expressed by the Ie values at AC-3 at 415V, in ampere: 40A, 50A, 65A
- T: Special AC contactor
- 1: Design number: 1
- C: Product code: AC contactor
- ND: Enterprise code: Nader

NDC1T Main Performance Parameters

Model			NDC1T-4011	NDC1T-5011	NDC1T-6511
Rated operating current, Ie (A)	AC-3	415V	40	50	65
		690V	34	39	42
	AC-4	415V	18.5	24	28
		690V	9	12	14
Conventional thermal current, Ith (A)			60	80	80
Rated insulation voltage, Ui (V)			690		
Rated operating voltage, Ue (V)			380/415 660/690		
Power frequency withstand voltage (V)			1890, 1 minute		
Electrical life	AC -3	Electrical life (10^4 times)	80	60	60
		Limit operation frequency (h^{-1} times)	600		
	AC -4	Electrical life (10^4 times)	15	15	15
		Limit operation frequency (h^{-1} times)	300		
Mechanical life			800×10^4		
AC-4 (6Ie, 6Ie)	Electrical life (10^4 times)		15	15	15
	Operating frequency (h^{-1} times)		300		
	Rated operating current, Ie (A)	380/400V	18.5	24	28
		660/690V	9	12	14
Auxiliary contact	Conventional thermal current (A)		10		
	Electrical life	AC-15 (360VA)	80×10^4	60×10^4	60×10^4
		DC-13 (33VA)			
	Minimum accessible load		17V 5mA		
Coil	Rated control voltage, Us (V)		AC (50Hz, 50Hz/60Hz, 60Hz) : 24, 48, 110, 220, 380		
	Pick-up voltage range		85%Us~110Us		
	Drop-out voltage range		20%Us~75%Us		
	Coil power 50/60Hz	Starting	230	230	230
		Holding	32	32	32
Contact operating time (ms)		Closing "C"	20~25		
		Opening "O"	8~12		
Wiring torque (N.m) max		Main circuit terminal	2.5~5		
Wiring capacity (mm^2) max		Wiring capacity (mm2) max	16 (to type O terminal head, cannot be connected to bare wire directly)		

NDC2-80R~750R Quick Selection



ND C 2 - N - □ R □

- Coil voltage: AC: AC coil, DC: DC coil
- Special code: R: AC-1 special
- Number of poles of main circuit: “3” means 3 poles, without notes
- Basic specification code: Rated operating current Ie under AC-1 use type at 690V
- Design number: 2
- Product code: AC contactor
- Enterprise code: ND

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NDC2-80R~750R Main Performance Parameters

Parameters \ Model			NDC2-80R	NDC2-150R	NDC2-200R	NDC2-250R	NDC2-320R	NDC2-375R	NDC2-400R	NDC2-500R	NDC2-670R	NDC2-750R
Rated operating current, Ie (A) Ue≤690V			80	150	200	250	320	375	400	500	670	750
Agreed free air heating current, Ith (A)			80	150	200	250	320	375	400	500	670	750
Use type			AC-1									
Rated impulse withstand voltage, Uimp (kV)			8				12					
Rated insulation voltage, Ui (V)			1000									
Rated operating voltage, Ue (V)			220/230 380/400/415 660/690									
Rated making capacity (Ue≤690V)			1.5×Ie									
Rated breaking capacity (Ue≤690V)			1.5×Ie									
Short-time withstand current, A (from cold state, no current for the previous 60 minutes, θ ≤ 40°C)		10s	480	1200		1500	1920	2250	3000		4020	4500
		30s	300	950		1200	1500	1800	2200		3000	3200
		1min	240	700		750	960	1125	1500		2010	2250
		3min	200	500		600	750	900	1200		1600	1800
		10min	160	400		500	640	750	1000		1340	1500
Mechanical life	Life/times		800×10^4	300×10^4								
	Operating frequency (h^{-1})		≤1200									
Electrical life	Life/times		5×10^4									
	Operating frequency (h^{-1})		200						150			
Average impedance per pole Ith at 50Hz (mΩ)			1.5	0.6			0.35	0.32	0.3		0.26	0.18
Protection level of main contact			IP20									
Main circuit wiring capacity	Cable	Qty.	1	2			1	1	2		2	2
		Size (mm^2)	25	10~120+10~50			185	240	150		240	240
	Copper bar	Qty.	1	2			2	2	2		2	2
		Size (mm^2)	12×2	25×5			30×5	30×5	40×5		50×5	50×5
	Tightening torque N.m		6	12			18	35	35		35	35
Impact resistance performance 1/2 sine wave = 11ms	Contactor open (gn)		10	6			9	7	6		6	9
	Contactor closed (gn)		15	15			15	15	15		15	15
Seismic resistance 8...300Hz	Contactor open (gn)		2	2			2	2	2		2	2
	Contactor closed (gn)		4	4			6	6	5		5	4

NDC2-80R~750R Main Performance Parameters

Model			NDC2-80R	NDC2-150R	NDC2-200R	NDC2-250R	NDC2-320R
Conventional coil	Rated control voltage, Uc (V)		AC: 24, 36, 48, 110, 127, 220, 240, 380, 415, 440 (50/60Hz)	AC: 24, 36, 48, 110, 220~230, 240, 380, 415, 480 (50/60Hz) AC/DC24~60V, AC/DC100~250V			AC: 24, 36, 48, 110, 220~230, 240, 380, 415, 480 (50Hz, 50/60Hz) DC: 24, 48, 110, 220
	Pick-up voltage range		85%Uc~110%Uc				
	Drop-out voltage range		20%Uc~60%Uc (AC), 10%Uc~60%Uc (DC)				
	AC coil	Pick-up time/ms	12~26	20~35			≤50
		Drop-out time/ms	4~19	40~75			≤25 (50Hz)
		Pick-up power consumption/VA	230	350			≤800 (50Hz)
		Holding power consumption/VA	32	22			≤55 (50Hz)
	DC coil	Pick-up time/ms	\	\			≤40
		Drop-out time/ms	\	\			≤50
		Pick-up power consumption/W	\	\			≤760
		Holding power consumption/W	\	\			≤4.9
Control circuit wiring capacity Mechanical life	Flexible wire /mm²	1 piece/2 pieces	2.5				
	Rigid wire / mm²	1 piece	4				
	Tightening torque/N.m		0.8~1.2				

Model			NDC2-375R	NDC2-400R	NDC2-500R	NDC2-670R	NDC2-750R
Conventional coil	Rated control voltage, Uc (V)		AC: 24, 36, 48, 110, 220, 230~230, 240, 380, 400, 415 (50Hz, 50/60Hz) DC: 24 48 110 220	AC: 24, 36, 48, 110, 220~230, 240, 380, 400 (50/60Hz) DC: 24 48 110 220		AC: 36 110 220~230 , 240, 380(50/60Hz) DC: 110 220	AC: 36 110 220~230, 240, 380(50/60Hz) DC: 48 110 220
	Pick-up voltage range		85%Uc~110%Uc				
	Drop-out voltage range		20%Uc~60%Uc (AC), 10%Uc~60%Uc (DC)				
	AC coil	Pick-up time/ms	≤40	≤70		40~75	40~75
		Drop-out time/ms	≤20 (50Hz) ≤150 (50/60Hz)	≤170		100~170	100~170
		Pick-up power consumption/VA	≤1000 (50Hz) ≤1180 (50/60Hz)	≤650		≤1075	≤1100
		Holding power consumption/VA	≤64 (50Hz) ≤14 (50/60Hz)	≤15		≤22	≤24
	DC coil	Pick-up time/ms	≤50	≤50		50~65	50~65
		Drop-out time/ms	≤70	≤65		45~65	45~65
		Pick-up power consumption/VA	≤900	≤810		≤1140	≤1220
		Holding power consumption/VA	≤5.1	≤5.0		≤7.5	≤8.0
Control circuit wiring capacity Mechanical life	Flexible wire /mm²	1 piece/2 pieces	2.5				
	Rigid wire / mm²	1 piece	4				
	Tightening torque/N.m		0.8~1.2				

NDC2-80R~750R Main Performance Parameters

Model			NDC2-320R	NDC2-375R	NDC2-400/500R	NDC2-670R	NDC2-750R
Rated control voltage, Uc (V)			AC: 110, 220, 380 (50/60Hz) DC: 48, 110, 220	AC: 110, 220, 380 (50/60Hz) DC: 48, 110, 220	AC: 110, 220, 380 (50/60Hz) DC: 48, 110, 220	AC: 110, 220, 380 (50/60Hz) DC: 48, 110, 220	AC: 110, 220, 380 (50/60Hz) DC: 48, 110, 220
Pick-up voltage range			At normal temperature (q ≤ 40°C): 0.6Uc~1.25Uc At high temperature (40°C < q ≤ 70°C): 0.7Uc~1.2Uc				
Drop-out voltage range			10%Uc~50%Uc (DC) 20%Uc~50%Uc (AC)				
AC/DC coil	Pick-up time/ms		≤90	≤80	≤65	≤65	≤85
	Drop-out time/ms		≤35	≤35	≤35	≤35	≤35
	Pick-up power consumption/W		≤300	≤300	≤500	≤500	≤600
	Holding power consumption/W		≤32	≤32	≤35	≤35	≤40
Control circuit wiring capacity	Flexible wire / mm^2	1 piece/2 pieces	2.5				
	Rigid wire /mm^2	1 piece	4				
	Tightening torque/N.m		0.8~1.2				

Note: Coil pick-up time: Means the time from when the coil is powered on to when the main circuit is closed.
Coil drop-out time: Means the time from when the coil is powered off to when the main circuit is opened.

NDC2J Modular Contactors - Quick Selection



ND C 2 J - A 2 4P

- 4P — Number of poles: 1P, 2P, 3P, 4P
- 2 — Number of contacts: Represented by two digits. The tens digit is the number of the normally open contact pairs. The units digit represents the number of the normally closed contact pairs.
- A — Basic specification: Ie value under AC-7a when used in Ue
- J — Derivation code: J： Modular Contactors
- 2 — Design number: 2
- C — Product code: C contactor
- ND — Enterprise code: Nader

NDC2J Contactor for Construction - Main Performance Parameters

Operating environment temperature/storage temperature

Product model	Number of Poles	Number of Contacts	Use Type	Rated insulation voltage (V)	Rated operating voltage (V)	Control voltage (V)	Rated operating current (A)	Control power (kW)
NDC2J-16	1P 2P	10, 01 11, 20	AC—7a / AC—7b	500	250	220/240 50/60Hz	16/6	2.8/1
NDC2J-20							20/7	4/1.2
NDC2J-25							25/8.5	5.4/1.5
NDC2J-16	3P 4P	30, 03 22, 31, 40, 04			400		16/6	10/2.5
NDC2J-20							20/7	12.5/3.3
NDC2J-25							25/8.5	16/4
NDC2J-32	1P 2P	10, 01 11, 20, 02			250		32/12	6.5/1.9
NDC2J-40							40/15	8.4/2.4
NDC2J-63							63/25	13/3.8
NDC2J-32	3P 4P	30, 03 22, 31, 40, 04			400		32/12	20.5/5.6
NDC2J-40							40/15	26/7
NDC2J-63							63/25	41/11.7

NDC3-09~38 AC Contactor - Quick Selection



ND C 3 ZE - 400V 11 A □ □ DC □

- Coil voltage: Voltage value
- Coil control type: DC: DC blank: AC
- Customer code: represented by letters or figures
- Auxiliary contact making capability code: Blank: Conventional type
  S: Weak signal connection
- Coil wiring method code:
  Blank: Standard type
  A: Coil panel wiring (panel wiring for all NDC3ZE, non-marked A)
- Number of auxiliary contacts:
  The tens digit represents the number of normally open auxiliary contact pairs
  The units digit represents the number of normally closed auxil-iary contact pairs
  Blank: No auxiliary contact
- Basic specification:
  Expressed by the Ie values at AC-3 at 400V, in ampere
- Derivation code:
  ZE: DC operation contactor (built-in DC modules)
  N: Reversible AC Contactor
  No code: AC coil
- Design number: 3
- Product code: C: AC contactor
- Enterprise code: Nader low-voltage electrical appliances

Note: 1. The current type of low-signal auxiliary contact is only 1NO+1NC at present.
2. All directional contactors are provided with auxiliary contacts.

NDC3-40~95 AC Contactor - Quick Selection



ND C 3 GV N - 415V 11 S □ DC □

- Coil voltage: Voltage value
- Coil control type: DC: DC blank: AC
- Customer code: represented by letters or figures
- Auxiliary contact type:
  “Blank” means single-bridge auxiliary contact, “S” means dou-ble-bridge auxiliary contact
- Number of auxiliary contacts:
  The tens digit represents the number of normally open auxiliary contact pairs
  The units digit represents the number of normally closed auxil-iary contact pairs
  Blank: No auxiliary contact
- Basic specification:
  Expressed by the Ie values at AC-3 at 415V, in ampere
- Derivation code:
  “N” directional contactor, no code for single contactor
- Derivation code:
  empty: AC coil, GV: AC/DC coil and over voltage
- Design number: 3
- Product code: C: AC contactor
- Enterprise code: Nader low-voltage electrical appliances

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NDC3-09~38 Main Performance Parameters

Parameters \ Specification			09	12	18	25	32	38
Rated operating current, Ie	AC-3 Ue 380/415V		09A	12A	18A	25A	32A	38A
Agreed free air heating current, Ith (AC-1)	θ≤ 60°C		25A	25A	32A	40A	50A	50A
Rated insulation voltage, Ui			690V					
Number of Poles			3					
Maximum power of controllable three-phase motor AC-3kW	220/240V		2.2	3	4	5.5	7.5	9
	380/400V		4	5.5	7.5	11	15	18.5
	415V		4	5.5	7.5	11	15	18.5
	440V		4	5.5	9	11	15	18.5
	500V		5.5	7.5	10	15	18.5	18.5
	660/690V		5.5	7.5	10	15	18.5	18.5
AC-3 (6Ie,Ie)	Electrical life (times)		2,000,000	2,000,000	1,600,000	1,600,000	1,200,000	1,200,000
	Frequency (times/h)		1200	1200	1200	1200	600	600
AC-4 (6Ie,6Ie)	Rated operating current (380/415V)		9A	12A	18A	20.9A	26.7A	26.7A
	Maximum power of controllable three-phase motor, KW (380/415V)		4	5.5	7.5	7.5	11	11
	Electrical life (times)		50,000	50,000	45,000	50,000	45,000	45,000
	Frequency (times/h)		300					
Mechanical life			15 million times (4 million times for interlocked products)					
Main circuit wiring capacity, mm^2 (min...max)	Flexible wire without terminal	1 piece	1...4		1.5...6	1.5...10	2.5...10	
		2 pieces	1...4		1.5...6	1.5...6	2.5...10	
	Flexible wire with terminal	1 piece	1...4		1...6	1...6	1...10	
		2 pieces	1...2.5		1...4	1...4	1.5...6	
	Rigid wire without terminal	1 piece	1...4		1.5...6	1.5...6	1.5...10	
		2 pieces	1...4		1.5...6	1.5...6	2.5...10	
Tightening torque			1.7N.m		1.7N.m	2.5N.m	2.5N.m	

AC control circuit characteristics			
Rated control voltage, Uc (V)	50/60Hz		24, 36, 42, 48, 110, 127, 200, 220, 230, 240, 277, 380, 400, 415, 440, 480
Pick-up voltage	60°C		85%~110%Uc
Drop-out voltage			20%~60%Uc
Coil power consumption, Uc	Pick-up		70VA
	Holding		8VA
Action time	Closing		12~22ms
	Opening		4~19 ms
Mechanical life			15,000,000 times
Operating frequency			3,600 (times/h)
DC control circuit characteristics			
Rated control voltage, Uc (V)			DC24 36 42 48 60 110 125 220 230
Pick-up voltage	60°C		85%~110%Uc
Drop-out voltage			10%~60%Uc
Coil power consumption, Uc	Pick-up		66W
	Holding		3.5W
Action timems	Closing		15~75
	Opening		30~100
Mechanical life			15,000,000 times
Operating frequency			3,600 (times/h)
Auxiliary circuit characteristics			
Number of contacts (body)			1NO + 1NC or 2NO or 2NC
Rated insulation voltage, Ui (V)			690V
Conventional thermal current, Ith (A)	Ambient temperature ≤ 60°C		10
Minimum switching capacity	Umin/Imin		17V/5mA
Maximum short-time withstand current, A	1s		100
	500ms		120
	100ms		140
Non-overlapping time, ms			1.5
Rated current (A)	AC-15 AC400V		2.4
	DC-13 DC250V		0.3
Electrical life			1,000,000 times
Auxiliary circuit wiring capacity, mm^2 (min... max)	Flexible wire without terminal	1 piece	1...4
		2 pieces	1...4
	Flexible wire with terminal	1 piece	1...4
		2 pieces	1...2.5
	Rigid wire without terminal	1 piece	1...4
		2 pieces	1...4
Tightening torque			1.7N.m

Note: 1. The current type of low-signal auxiliary contact is only 1NO+1NC at present.
2. All directional contactors are provided with auxiliary contacts.

NDC3-40~95 Main Performance Parameters

Specification			NDC3-40	NDC3-50	NDC3-65	NDC3-80	NDC3-95
Number of Poles			3	3	3	3	3
Agreed free air heating current, Ith (A)			60	80	80	125	125
Rated current (A)	AC-1	415V	60	80	80	125	125
		690V	60	80	80	125	125
	AC-3	415V	40	50	65	80	95
		690V	32	35	39	48	48
	AC-4	415V	33	41	55	66	79
		690V	21	21	21	40	40
Average impedance per pole, mΩ	Ith 50Hz		1.5	1.5	1.5	0.8	0.8
Power dissipation per pole, W	AC-3		2.4	3.7	6.3	5.1	7.2
	AC-1		5.4	9.6	9.6	12.5	12.5
Rated operating voltage (V)			AC220/230/240V, AC380/415V, AC660/690V				
Insulation voltage, Ui			1000V				
Impulse withstand voltage			8kV				
Rated control voltage			24V, 36V, 48V, 110V, 220/230V, 380V, 400/415V, 440V (50/60Hz) (AC products); AC/DC24-60V, AC/DC48-130V, AC/DC100-250V (AC/DC control products)				
Control voltage range	Pick-up		0.85Uc~1.1Uc hot state 60°C				
	Drop-out		0.2~0.6Uc (AC products)				
			0.1~0.6Uc (AC/DC products)				
Pick-up power consumption 20°CUc	AC products		≤200VA				≤300VA
	AC/DC control products		≤70W				≤90W
Holding power consumption 20°CUc	AC products		15VA/5W				26VA/9W
	AC/DC control products		3W				
Action time	From coil power-on to main circuit closing		12~30ms (AC products)				20~35ms (AC products)
			42~100ms (AC/DC products)				
	From coil power-off to main circuit opening		4~20ms (AC products)				6~20ms (AC products)
			19~105ms (AC/DC products)				
Rated making capacity (A)	415V		10Ie(AC-3)				
Rated breaking capacity (A)	415V		8Ie(AC-3)				
Limit making capacity A	415V		800	900	1000	1100	
Limit breaking capacity A	415V		800	900	1000	1100	
Mechanical life under Uc			6,000,000 times (single unit), 1,000,000 times (NDC3N directional contactor)				4,000,000 times (single unit), 1,000,000 times (NDC3N directional contactor)

Specification			NDC3-40	NDC3-50	NDC3-65	NDC3-80	NDC3-95
Electrical life	AC-1	415V	1,300,000 times /600 times/hour	1,200,000 times /600 times/hour	1,250,000 times /600 times/hour	800,000 times /600 times/hour	1, 250, 000 times /600 times/hour
	AC-3	415V	1,600,000 times /600 times/hour	1,500,000 times /600 times/hour	1, 500, 000 times /600 times/hour	1, 500, 000 times /600 times/hour	1, 200, 000 times /600 times/hour
	AC-4	415V	55,000 times /150 times/hour	36,000 times /150 times/hour	48,000 times /150 times/hour	39,000 times /150 times/hour	30,000 times /150 times/hour
Short-time withstand current, from cold state, θ ≤ 40°C, duration without current 15 minutes at the least)	1s		720A	810A	900A	990A	1100A
	10s		320A	400A	520A	640A	800A
	1min		165A	208A	260A	320A	400A
	10min		72A	84A	110A	135A	135A
Main circuit wiring capacity	Flexible wire without terminal, mm^2		1...35, one piece; 1...25 and 1...35, two pieces				2.5...70, one piece; 2.5.....50 and 2.5....70, two pieces
	Flexible wire with terminal, mm^2		1...35, one piece; 1...25 and 1...35, two pieces				2.5...70, one piece; 2.5.....50 and 2.5....70, two pieces
	Rigid wire without terminal, mm^2		1...35, one piece; 1...25 and 1...35, two pieces				2.5...70, one piece; 2.5.....50 and 2.5....70, two pieces
	Tightening torque N.m		4				6
Auxiliary contact	Rated insulation voltage		690V				
	Impulse withstand voltage		6kV				
	Agreed free air heating current (Ith)		10A				
	Use type		AC-15 DC-13				
	Rated operating voltage/ current		AC-15	400V 2.4A			
			DC-13	250V 0.3A			
	gG fuse protection		10A				
	Minimum accessible load		Conventional type: 17V/5mA; low signal type: 5V/3mA				
	Normally-closed and normally-open non-overlapping time		≥1.5ms				
	Electrical life		1,500,000 times				
	Mechanical life		6,000,000 times				
Auxiliary contact and control circuit	Wiring capacity	Rigid wire	1 piece/2 pieces 1...4mm^2				
		Non-prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm^2				
		Prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm^2				
	Binding screw		M3.5				
	Tightening torque N.m		1.2				

NDC5K AC Contactor - Quick Selection



ND C 5 K - 1450 R / H AC / DC 110-250

- 110-250: Coil voltage level:
  48-100 means 48V~110V
  110-250 means 110V~250V
  250-500 means 250V~500V
- AC/DC: Coil voltage type:
  AC/DC means universal for AC50/60Hz and DC
- H: Other codes:
  No code means standard type, “H” means long-life type
- R: Variety derivation code:
  No code means operating current type is AC-3
  “R” means operating current type is AC-1
- 1450: Shell frame current:
  630, 800, 1450, 1700: Ie is 630A and 800A respectively under AC-3 when Ue is 690V
  2400: Ie is 2450A under AC-1 when Ue is 1140V
  2700: Ie is 2700A under AC-1 when Ue is 1140V
  3200: Ie is 3185A under AC-1 when Ue is 1140V
- K: derivation code:
  K: Vacuum
- 5: Design number: 5
- C: Product code: AC contactor
- ND: Enterprise code: Nader low-voltage electrical appliances

NDC5K Main Performance Parameters

Parameter Name				Specific Parameter Description							
Specification				NDC5K-630	NDC5K-630H	NDC5K-800	NDC5K-800H	NDC5K-1450R	NDC5K-1450R/H	NDC5K-1700R	NDC5K-1700R/H
Number of Poles				3		3		3		3	
Agreed free air heating current, Ith (A)				1050		1310		1450		1720	
Rated current (A)	AC-1 Ue≤1140V	θ≤40 °C		1050		1310		1450		1720	
		θ≤50 °C		931		1250		1450		1720	
		θ≤55 °C		888		1155		1450		1720	
		θ≤65 °C		850		1100		1184		1450	
		θ≤70 °C		700		900		1080		1350	
	AC-3	380/400V		630		800		1000		1250	
		660/690V		630		800		1000		1250	
		1000V		420		580		/		/	
	AC-4	380/400V		510		650					
		660/690V		510		650					
		1000V		345		465					
Rated power rate (KW)	AC-1 +40°C	380/400V		650		766		914		1071	
		660/690V		1130		1330		1576		1861	
		1000V/1140V		1712		2015		2044		2417	
	AC-3	380/400V		355		450		/		/	
		660/690V		630		750					
		1000V		600		800					
	AC-4	380/400V		280		355					
		660/690V		494		633					
		1000V		509		678					
Average power consumption per pole (W)		Under Ith		69		96		135		188	
Rated operating voltage (V)				AC380/400V/415V, AC660/690V, AC1000V, AC1140V							
Insulation voltage, Ui				AC1250V							
Impulse withstand voltage, Uimp				12kV							
Rated limiting short-circuit current type "2" mating		Test current		50kA		50kA		50kA		50kA	
Rated control voltage, Uc				AC/DC: 48V-110V,110V-250V,250V-500V							
Control voltage range (control transformer impedance voltage ≤ 0.7)				Pick-up: 0.7*Ucmin~1.15*Ucmax							
				Drop-out: 0.2~0.6Ucmin							
Over-voltage protection of control circuit				In the holding state, the product is released when the control voltage Uc > 1.3Ucmax to protect the internal circuit.							
Cold state, power consumption of coil under 1.0*Uc (control transformer impedance voltage ≤ 0.7)		Pick-up	AC, KA	900 (conventional type), 1170 (plateau type)							
			DC, W								
		Holding	AC	45VA (apparent) 20W (active)							
			DC	15W (conventional type), 18W (plateau type)							

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NDC5K Main Performance Parameters

Parameter Name			Specific Parameter Description							
Specification			NDC5K-630	NDC5K-630H	NDC5K-800	NDC5K-800H	NDC5K-1450R	NDC5K-1450R/H	NDC5K-1700R	NDC5K-1700R/H
Action time		A1~A2 control	From A1-A2 power-on to main contact closing: 30~120ms							
			From A1-A2 power-off to main contact opening: 33~70ms							
		PLC control (DC24V)	From PLC signal input to main contact closing: 30~90ms							
			From PLC signal input to main contact opening: 10~40ms							
Rated making capacity/A 690V			7800		9840		9840		9840	
Rated breaking capacity (A)		400V	6500		8200		8200		8200	
		690V	6500		8200		8200		8200	
		1000V	4350		5800		5800		5800	
		1140V	1575		1965		2175		2580	
Mechanical life/00'000 times of operation under Uc			300							
			600次/h							
Electrical life/00'000 times	AC-1	400V	65	100	53	80	40	60	30	50
		Frequency, times/h	600				300			
		690V	30	50	26	40	18	28	13	20
		Frequency, times/h	200				150			
	AC-3	400V	65	100	65	100				
		Frequency, times/h	500							
	AC-4	400V	10	15	4	6				
		Frequency, times/h	200				/			
Short-time withstand current (from cold state, θ ≤ 40°C, no current for the previous 60 minutes)		1s	8000A				10000A			
		10s	7200A				8000A			
		30s	5200A				5200A			
		1min	4000A				4000A			
		3min	2500A				3000A			
		10min	1700A				2000A			
		15min	1500A				1800A			
Main circuit wiring capacity (multiple cooper bars should be staggered up and down)		Cable with lug, mm^2	min 50, max 240		min 50, max 240		/			
		Copper bar width, mm	50		60		70		80	
		Single copper bar thickness, mm	5		5		5		5	
Connection bolt of main circuit			M12		M12		M12		M12	
Tightening torque N.m			35±5		35±5		35±5		35±5	
Weight (Kg)			16		16		18		18	
Product certification certificate			CCC, CE, TUV							
Applicable standards			GB/T 14048.4, IEC 60947-4-1							
Auxiliary contact parameters										
Auxiliary contacts conform to GB/T14048.5, IEC60947-5-1			Each contactor has one NO and one NC auxiliary contact, and these contacts are mechanically connected together through the same movable contact bracket.							
Mirror contacts conform to GB/T14048.4, IEC 60947-4-1			NC contacts on each contactor are mirrored to the state of the main contacts							
Model			F1-11L/C5K-800				F1-11LS/C5K-800			
Rated insulation voltage			690V				250V			
Impulse withstand voltage			6kV				2.5kV			
Agreed free air heating current (Ith)			16A				0.1A			
Use type			AC-15 DC-13				AC-14 DC-12			

NDC5K Main Performance Parameters

Parameter Name		Specific Parameter Description							
Specification		NDC5K-630	NDC5K-630H	NDC5K-800	NDC5K-800H	NDC5K-1450R	NDC5K-1450R/H	NDC5K-1700R	NDC5K-1700R/H
Rated operating voltage/current		AC-15	230V 50/60Hz 6A			AC-14	125V 50/60Hz 0.1A		
			400V 50/60Hz 4A				/		
			500V 50/60Hz 1.5A				/		
		DC-13	DC24V 6A			DC-12	DC30V 0.1A		
			DC48V 2.8A				/		
			DC220V 0.3A				/		
gG fuse protection		16A				/			
Minimum accessible load		24V 10mA				12V 5mA			
Protection capability		IP30 (terminal IP20)				IP67 (terminal IP20)			
Electrical life		1, 000, 000 times				300,000 times			
Mechanical life		3,000,000 times				3, 000, 000 times			
Wiring capacity	Rigid wire	1 piece/2 pieces 1...4mm²							
	Non-prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm²							
	Prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm²							
Binding screw		M3.5							
Tightening torque		1.2N.m±0.2							

Note:
1. When the product is used in conjunction with a frequency converter or when the main circuit has a strong harmonic load, the main circuit over-voltage suppressor must be removed. When the product undergoes a withstand voltage test, the main circuit over-voltage suppressor must also be removed.
2. Impedance voltage of control transformer Uk ≤0.7
3. 12V, 5mA auxiliary contact is a kind of special product

Parameter Name			Specific Parameter Description					
Specification			NDC5K-2400R	NDC5K-2400R/H	NDC5K-2700R	NDC5K-2700R/H	NDC5K-3200R	NDC5K-3200R/H
Number of Poles			3					
Rated current (A) = Ith	AC-1 Ue≤1140 V, 50/60Hz	θ≤70°C	2450A		2700A		3185A	
Average power consumption per pole (W)	Under Ith		192		232		250	
Rated operating voltage (V)			AC380/400/415V, AC660/690V, AC1000V, AC1140V					
Insulation voltage, Ui			AC1250V					
Impulse withstand voltage			12kV					
Rated limiting short-circuit current type "2" mating	Test current		50kA					
Rated control voltage			AC/DC: 110V-250V					
Control voltage range			(θ ≤ 60°C), 50/60Hz coil, pick-up: 0.7Ucmin~1.15Ucmax					
			(60°C ≤ θ ≤ 70°C), 50/60Hz coil, pick-up: Ucmin-Ucmax					
			(θ ≤ 70°C), 50/60Hz coil, drop-out: 0.2Ucmin~0.6Ucmax					
Over-voltage protection of control circuit			In the holding state, the product is released when the control voltage Uc > 1.3Ucmax to protect the internal circuit.					

NDC5K Main Performance Parameters

Parameter Name			Specific Parameter Description					
Specification			NDC5K-2400R	NDC5K-2400R/H	NDC5K-2700R	NDC5K-2700R/H	NDC5K-3200R	NDC5K-3200R/H
Cold state, power consumption of coil under 1.0*Uc (control transformer impedance voltage ≤ 0.7)	Pick-up	AC, KA	1600					
		DC, W						
	Holding	AC	≤ 28W (conventional type), ≤ 36W (plateau type)					
		DC						
Action time	Coil power supply within A1-A2 from coil power-on to main contact closing		50-140ms					
	From coil power-off to main circuit opening		20-70ms					
	PLC input control from coil power-on to main contact closing		40-90ms					
	PLC input control from coil power-off to main contact opening		10-40ms					
Rated making capacity (A)	690V		9840		9840		9840	
	1000V		5800		5800		5800	
	1140V		3675		4050		4778	
Rated breaking capacity	690V		8200		8200		8200	
	1000V		5800		5800		5800	
	1140V		3675		4050		4778	
Short-time withstand current (from cold state, no current for the previous 60 minutes)	θ≤40°C, 1S		13000A					
	θ≤40°C, 10S		9000A					
	θ≤40°C, 30S		4800A				/	
	θ≤40°C, 1min		3900A				/	
	θ≤40°C, 3min		3100A				/	
Pollution level			3					
Mechanical life under Uc			3,000,000 times 600 times/hour					
Electrical life	AC-1	1000V	100,000 times 150 times/hour	150,000 times 150 times/hour	100, 000 times 150 times/hour	150, 000 times 150 times/hour	100, 000 times 150 times/hour	150, 000 times 150 times/hour
Main circuit wiring capacity	Copper bar width, mm		100					
Connection bolt of main circuit			M12					
Tightening torque N.m			35±5N					
Protection capability			Contactor body IP20 (except for top/bottom outgoing line)					
Product certification certificate			CCC, CE, TUV					
Applicable standards			GB/T 14048.4, GB/T 14048.5, IEC 60947-4-1, IEC 60947-5-1					
Auxiliary Contact Parameters								
Auxiliary contacts conform to GB/T 14048.5, IEC60947-5-1			Each contactor has one NO and one NC auxiliary contact, and these contacts are mechanically connected together through the same movable contact bracket.					
Mirror contacts conform to GB/T14048.4, IEC60947-4-1			NC contacts on each contactor are mirrored to the state of the main contacts					
Model			F1-11L/C5K-800		F1—11LS/C5K-800			
Rated insulation voltage			690V		250V			
Impulse withstand voltage			6kV		2.5kV			

NDC5K Main Performance Parameters

Parameter Name		Specific Parameter Description					
Specification		NDC5K-2400R	NDC5K-2400R/H	NDC5K-2700R	NDC5K-2700R/H	NDC5K-3200R	NDC5K-3200R/H
Power frequency withstand voltage		Between contacts: 1500V; contact and shell: 1500V			Between contacts: 500V; contact and shell: 1500V		
Agreed free air heating current (Ith)		16A			0.1A		
Use type		AC-15 DC-13			AC-14 DC-12		
Rated operating voltage/current		AC-15	230V 50/60Hz 6A		AC-14	125V 50/60Hz 0.1A	
			400V 50/60Hz 4A			250V 50/60Hz 0.1A	
			500V 50/60Hz 1.5A			/	
		DC-13	DC24V 6A		DC-12	DC30V 0.1A	
			DC48V 2.8A			/	
			DC220V 0.3A			/	
gG fuse protection		16A			/		
Minimum accessible load		24V 10mA			12V 5mA		
Protection capability		IP30 (terminal IP20)			IP67 (terminal IP20)		
Electrical life		1, 000, 000 times			300, 000 times		
Mechanical life		3, 000, 000 times			3, 000, 000 times		
Wiring capacity	Rigid wire	1 piece/2 pieces 1...4mm²					
	Non-prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm²					
	Prefabricated end flexible wire	1 piece/2 pieces 0.75...2.5 mm²					
Binding screw		M3.5					
Tightening torque		1.2N.m±0.2					

NDK1 Capacitor Duty Contactor - Quick Selection



ND K 1 - 25 11 TH

- TH: Blank: Conventional products; TH: Damp heat type
- 11: Number of contacts: See note a
- 25: Product specification code
- 1: Design number: 1
- K: Product code: Capacitor duty contactor
- ND: Enterprise code: Nader

Note a:
The number code of the auxiliary contacts of the three-pole contactor is represented by two digits. The tens digit is the number of the normally open contact pairs. The units digit represents the number of the normally closed contact pairs.

NDK1 Main Performance Parameters

Model			NDK1-25		NDK1-32		NDK1-40		NDK1-50		NDK1-60		NDK1-80		NDK1-125	
Agreed free air heating current, Ith/A			32		40		50		60		80		80		125	
Rated operating current, Ie (AC-6b 400V) /A			18		24		29		36		48		58		87	
Controllable capacity AC-6b Kvar	200~240V		6.7		8.5		10		15		20		25		40	
	400~440V		12.5		16.7		20		25		33.3		40		60	
	660~690V		18		24		28		36		48		58		92	
Surge suppression capacity (times)			20													
Electrical life (times)			12×10^4				10×10^4									
Mechanical life (times)			300×10^4													
Maximum operating frequency h^{-1}			300						120							
Rated insulation voltage, Ui (V)			1000													
Contactor specification			NDK1-2520, 2511, 2502		NDK1-3220, 3211, 3202		NDK1-4020, 4011, 4002		NDK1-5021, 5012		NDK1-6021, 6012		NDK1-8021, 8012		NDK1-12521, 12512	
Auxiliary contact	Agreed free air heating current, Ith/A		10													
	Electrical life (times)	AC-15 (360VA)	12×10^4													
		DC-13 (33W)														
	Minimum accessible load		17V 5mA													
Operating time of current limiting resistor/ms			7~9													
Coil	50Hz	StartingVA	70		110				200							
		Pick-upVA	8		11				20							
	60Hz	StartingVA	80		115				220							
		Pick-upVA	8		11				20							
Rated control supply voltage, Us/V			AC (50Hz, 50Hz/60Hz) : 24, 48, 110, 220, 380													
Pick-up time/ms			12~22		15~24				20~26						20~35	
Drop-out time/ms			4~12		5~19				8~12						6~20	
Pick-up voltage			85%~110%Us													
Drop-out voltage			30%~55%Us						30%~60%Us							
Wiring capacity of terminal	Number of conductors		1	2	1	2	1	2	1	2	1	2	1	2	1	2
	Flexible wire, mm^2		4	4	4	4	6	6	16	16	16	16	16	16	50	25
	Rigid wire mm^2		6	6	6	6	10	10	25	16	25	16	25	16	50	25

Note:

1. Due to voltage fluctuation and harmonics, operating current of the capacitor circuit generally reaches 1.3 times the rated current of the capacitor.
2. Manufacturing error of the capacitor is generally -5% to +10%, so the actual current in the circuit may reach 1=1.3 * 1.1 * In = 1.43In. Therefore, this must be taken into consideration when a contactor is selected.

NDJ1(Z) Contactor Relay - Quick Selection



ND J 1 Z - 22 TH

- TH: Blank: Conventional products; TH: Damp heat type
- 22: Number of contacts: See note a
- Z: Derivation code: Blank: AC operation; Z: DC operation
- 1: Design number: 1
- J: Product code: Contactor relay
- ND: Enterprise code: Nader

Note a:
Represented by two digits. The tens digit is the number of the normally open contact pairs. The units digit represents the number of the normally closed contact pairs. Three specifications 40, 31 and 22 in total

NDJ1 (Z) Main Performance Parameters

Model			NDJ1-40, 31, 22			NDJ1Z-40, 31, 22		
Rated insulation voltage, Ui (V)			690					
Rated operating voltage, Ue (V)			AC380 DC220V					
Conventional thermal current, Ith (A)			10					
Rated operating current, Ie (A)	AC-15 (380V)		0.95					
	DC-13 (220V)		0.15					
Minimum accessible load			17V 5mA					
Rated operating frequency $^{h-1}$			2400					
Mechanical life (times)			1000×10^4					
Electrical life (times)			120×10^4					
Coil	Rated control voltage, Us (V)		AC: 50/60Hz, 24, 48, 110, 220, 380			DC: 24, 48, 110, 220		
	Pick-up voltage		0.85Uc~1.1Uc			0.85Uc~1.1Uc		
	Drop-out voltage		0.20Uc~0.75Uc			0.10Uc~0.75Uc		
	Starting power		65 VA			11W		
	Holding power/power consumption		8VA			11W		
Insulation withstand voltage (AC 50Hz)			1890V/1 minute					
Normally open and normally closed switching time			4ms					
Action time			NO	ON	10~22ms	NO	ON	5~20ms
			NC	ON	9~24ms	NC	ON	7~20ms
Allowable value of instantaneous over-current	1s		100A					
	500ms		120A					
	100ms		180A					
Wiring capacity of terminal, mm^2	Flexible wire	1 or 2 pieces	2.5					
	Rigid wire	1 or 2 pieces	4					

NDJ3(ZE) Contactor Relay - Quick Selection



ND J 3 ZE - 41 DC □

- Coil voltage: Voltage value
- Coil control type: DC: DC blank: AC
- Code of number of contacts:
  The tens digit represents the number of normally open contact pairs
  The units digit represents the number of normally closed contact pairs
- Derivation code:
  ZE: DC operation products
  No code: AC operation products
- Design code: 3
- Product code: Contactor relay
- Enterprise code: Nader

NDJ3(ZE) Main Performance Parameters

Model			NDJ3 (ZE)
Number of contacts			5NO or 4NO+1NC or 3NO+2NC
Rated insulation voltage, Ui		V	690
Rated impulse withstand voltage, Uimp		kV	6
Agreed free air heating current, Ith (θ ≤ 60°C)		A	10
Short circuit protection			Short circuit protection: gG fuse 10A
Minimum making capacity			17V/5mA
Short-time withstand current			1s100A, 500ms120A, 100ms140A
Non-overlapping time			1.5ms
Rated current			AC-15 400V 2.4A, DC-13 250V 0.3A
Electrical life			1, 000, 000 times
Operating frequency			AC-15: 2,400 times/hour; DC-13: 1,200 times/hour
Wiring capacity mm^2 (min...max)	Flexible wire without terminal	1 piece	1...4
		2 pieces	1...4
	Flexible wire with terminal	1 piece	1...4
		2 pieces	1...2.5
	Rigid wire without terminal	1 piece	1...4
		2 pieces	1...4
Tightening torque			1.7N.m

NDJ3(ZE) control

Model			NDJ3 (ZE)
AC control circuit characteristics	Rated control voltage, Uc	50/60Hz	24V/36V/42V/48V/110V/127V/200V/220V/230V/240V/277V/ 380V/400V/415V/440V/480V
	Pick-up voltage	60°C	85%~110%Uc
	Drop-out voltage		20%~60%Uc
	Coil power consumption, Uc	Pick-up	70VA
		Holding	8VA
	Action time	Closing	12~22ms
		Opening	4~19 ms
	Mechanical life		15,000,000 times
	Operating frequency		3, 600 times/h
DC control circuit characteristics	Rated control voltage, Uc		24V/36V/42V/48V/60V/110V/125V/220V/230V
	Pick-up voltage	60°C	85%~110%Uc
	Drop-out voltage		10%~60%Uc
	Coil power consumption, Uc	Pick-up	66W
		Holding	3.5W
	Action time, ms	Closing	15~75
		Opening	30~100
	Mechanical life		15,000,000 times
	Operating frequency		3, 600 times/h
Control circuit wiring capacity, mm2 (min... max)	Flexible wire without terminal	1 piece	1...4
		2 pieces	1...4
	Flexible wire with terminal	1 piece	1...4
		2 pieces	1...2.5
	Rigid wire without terminal	1 piece	1...4
		2 pieces	1...4
Tightening torque			1.7N.m

Accessories list for AC Contactor

Model	Auxiliary contact block							Surge suppression module					
	NS1	NF1	F2	NF2	NF3	NF8-11	F1-11L(S)/ C5K-800 ("S" means changeover contact)	NG1-1	NG1-2	NG1-3	G1/C1-2650	NCG1	G3/C3
				2 at the most	1 at the most	1 at the most	2 at the most	1 out of 3					
NDC1-09~38	Top-mounted, 1 out of 3			Side-mounted	/	/	/	Back-clipped	Top-inserted	/	/	/	/
NDC1-40~95	Top-mounted, 1 out of 3			Side-mounted	/	/	/	/	Top-inserted	/	/	/	/
NDC1Z-09~38	Top-mounted, 1 out of 3			Side-mounted	/	/	/	Back-clipped	Top-inserted	/	/	/	/
NDC1Z-40~95	Top-mounted, 1 out of 3			/	/	/	/	/	/	Side-mounted	/	/	/
NDC1N-09~38	Top-mounted, 1 out of 2		/	Side-mounted	/	/	/	Back-clipped	Top-inserted	/	/	/	/
NDC1N-40~95	Top-mounted, 1 out of 2		/	Side-mounted	/	/	/	/	Top-inserted	/	/	/	/
NDC1(N)-115~800	Front-mounted, 2 out of 3			/	/	/	/	/	/	/	Support/ direct	/	/
NDC1-1250~2650	Front-mounted, 2 out of 3			/	/	/	/	/	/	/	Support/ direct	/	/
NDC1M-09~95	Top-mounted, 1 out of 2		/	/	/	/	/	/	Top-inserted	Side-mounted(40~95)	/	/	/
NDC1M-115~2650	Front-mounted, 2 out of 3 (change F2 into F1)			/	/	/	/	/	/	/	Support/ direct	/	/
NDC1T-40~65	Top-mounted, 1 out of 3			/	/	/	/	/	/	/	/	/	/
NDC2(N)-06~16	/		/	/	Top-mounted	/	/	/	/	/	/	/	/
NDC2(N)-115~170	Top-mounted, 1 out of 2		/	Side-mounted	/	/	/	/	Top-inserted	/	/	/	/
NDC3(ZE,N)-09~38	Top-mounted, 1 out of 2		/	Side-mounted*1	/	/	/	/	/	/	/	Back-clipped	/
NDC3(GV,Z,N)-40~95	Top-mounted, 1 out of 2		/	Side-mounted	/	/	/	/	/	/	/	/	Back-clipped
NDC2J-16~25	/		/	/	/	/	/	/	/	/	/	/	/
NDC2J-32~63	/		/	/	/	Side-mounted	/	/	/	/	/	/	/
NDC5K-630~1700	/		/	/	/	/	Side-mounted	/	/	/	/	/	/
NDK1-25~125	/		/	Side-mounted	/	/	/	Back-clipped	Top-inserted	/	/	/	/
NDJ1(Z, ZE)	Top-mounted, 1 out of 2		/	Side-mounted	/	/	/	Back-clipped	Top-inserted	/	/	/	/
NDJ3	Top-mounted, 1 out of 2		/	Side-mounted*1	/	/	/	/	/	/	/	Back-clipped	/
NDJ3ZE	Top-mounted, 1 out of 2		/	Side-mounted*1	/	/	/	/	/	/	/	/	/

NF1-3 Auxiliary Contact Block



N F 1 - 11

- 11: Number of Contacts: see table
- 1: Installation mode of auxiliary contact block: 1: top-mounted 2: side-mounted 3: top-mounted
- F: Product code: F auxiliary contact block
- N: Enterprise code: Nader

Model	Number of Contacts	
	Normally open (NO)	Normally closed (NC)
NF1-40	4	0
NF1-31	3	1
NF1-22	2	2
NF1-13	1	3
NF1-04	0	4
NF1-20	2	0
NF1-11	1	1
NF1-02	0	2
NF2-20	2	0
NF2-11	1	1
NF3-40	4	0
NF3-31	3	1
NF3-22	2	2
NF3-13	1	3
NF3-04	0	4
NF3-20	2	0
NF3-11	1	1
NF3-02	0	2

NS1 Delay Auxiliary Contact Block (Air Type)

N S 1 - 2 20

- 20: Delay range:
  20: 0.1~3S
  22: 0.1~30S
  24: 10~180S
- 2: Delay mode:
  2: power-on delay 3: power-off delay
- 1: Design number: 1
- S: Product code: Delay auxiliary contact block (air type)
- N: Enterprise code: Nader



Model	Delay time	Number of delay contacts	Delay mode	Connection method
NS1-220	0.1S~3s	1NO+1NC	Power-on delay	Top-mounted
NS1-222	0.1S~30s			
NS1-224	10S~180s			
NS1-320	0.1S~3s		Power-off delay	
NS1-322	0.1S~30s			
NS1-324	10S~180s			

NF1-3 and NS1 Main Performance Parameters

Content \ Name			NF1	NF2	NF3	NS1
Conform to standards			IEC60947-5 GB14048.5			
Rated insulation voltage, Ui (V)			690			
Rated operating voltage, Ue (V)			AC380 DC220			
Agreed free air heating current, Ith (A)			10			
Rated operating current, Ie (A)	AC-15 (380V/400V)		0.95			
	DC-13 (220V/230V)		0.15			
Minimum accessible load			17V 5mA			24V 10mA
Life (times)	Mechanical		10×10^6			3×10^6
	Electrical life		1.2×10^6			0.5×10^6
Operating frequency (h^{-1})			2400			1200
Wiring capacity	Flexible conductor	Max / mm^2	4×2 pieces			
		Min / mm^2	1.5×1 piece			
	Rigid conductor	Max / mm^2	2.5×2 pieces			
		Min / mm^2	1.0×1 piece			
	Tightening torque (N.m)		0.8~1.2		0.5~1.0	
Delay repetition error			–			±5%
Delay stability error			–			±15%
Temperature error			–			±0.3%
Applicable model			NDC1(N)-09~95 NDC1(Z)-09~95 NDC2(N)-115~170 contactors and NDJ1(Z) contactor relays are top-mounted. NDC1N-115~800 contactors are top-mounted on the side, and NDC1-115-2650 are also top-mounted on the side.	NDC1(N)-09~95 NDC2(N)-115~170 NDC1(Z)-09~38 contactors and NDJ1(Z) contactor relays are side-mounted.	NDC2-06-16, NDC2-06-16 and NDC2N-06-16 contactors are top-mounted.	NDC1(N)-09~95 NDC1(Z)-09~95 NDC2 (N) -115~170 contactors and NDJ1 (Z) contactor relays are top-mounted. NDC1N-115~800 contactors are top-mounted on the side, and NDC1-115-2650 are also top-mounted on the side.

F2 Auxiliary Contact Top-mounted



F 2 - 11 D S / C1

- C1: Matched products: C1: matched NDC1 AC contactor
- S: Function code: S: Signal transmission
- D: Installation mode: D: Top-mounted
- 11: Contact code: “11” means one normally open and one normally closed contact, “22” means two normally open and two normally closed contacts
- 2: Design number: 2
- F: Product code: F: Auxiliary contact

F2 Auxiliary Contact - Main Performance Parameters

Parameter Name		F2-22DS/C1	F2-11DS/C1
Pollution level		3	
Corrosion resistance ability		Meet 48h salt spray test, can be customized for 72h	
Rated impulse withstand voltage, Uimp		1.5 kV	
Rated insulation voltage, Ui		AC100V,50Hz	
Number of contacts		2NO+2NC	1NO+1NC
Maximum control power/W		10	
Minimum making capacity of contact		DC5V/5mA	
Contact capacity	DC-12	DC50V,0.1A	
	AC-12	AC50V,0.1A,50Hz	
Mechanical life (3,600 times/h)		1, 000, 000 times	
Electrical life (1,200 times/h)		700,000 times	
Wiring capacity/ mm^2	Minimum rigid wire without terminal 1/2 pieces	1/1	1/1
	Maximum rigid wire without terminal 1/2 pieces	2.5/2.5	2.5/2.5
	Minimum flexible wire without terminal 1/2 pieces	1/1	1/1
	Maximum flexible wire without terminal 1/2 pieces	2.5/2.5	2.5/2.5
Wire tightening torque	Normal	0.8N.m	0.8N.m
	Limit	1.2N.m	1.2N.m
Protection level of contact		Contact sealed, against dust with the particle size of 75μm and above	
Applicable model		NDC1-09~2650, NDC1Z-09~95, NDC1N-115~800, NDC1T-40~65	

NG1 Coil Surge Suppression Module (NDC1 /NDC2)



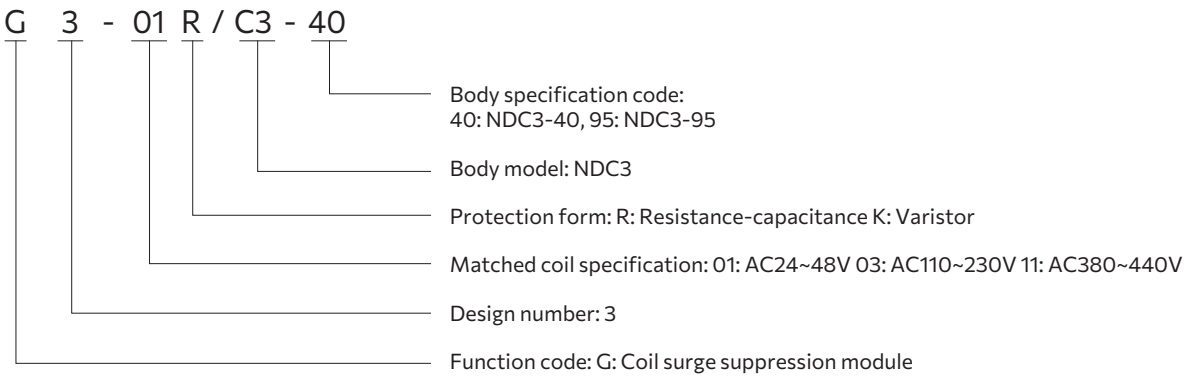
N G 1 - 1 NR E

- E: Matched coil voltage code:
  E: AC/DC24~48V G: AC/DC50~127V
  U: AC/DC110~240V N: AC/DC380~415V
  Select coil of DC protection type, voltage DC24V~220V, code not marked by default;
- NR: Protection form:
  NR: Varistor suppression module
  RC: Resistance-capacitance suppression circuit
  DC: Diode suppression circuit
- 1: 1: clamped type
  2: inserted type (screw fixing)
- 1: Design number: 1
- G: Product code: Coil surge suppression module
- N: Enterprise code: Nader

NG1 Main Performance Parameters

Model	Protection Form	Matched Coil Voltage
NG1-1NRE	Varistor	24~48V AC/DC
NG1-1NRG		50~127V AC/DC
NG1-1NRU		110~240V AC/DC
NG1-2NRE		24~48V AC/DC
NG1-2NRG		50~127V AC/DC
NG1-2NRU		110~240V AC/DC
NG1-2NRN		380~450V AC/DC
NG1-2RCE	Resistance-capacitance circuit	24~48V AC/DC
NG1-2RCG		50~127V AC/DC
NG1-2RCU		110~240V AC/DC
NG1-2RCN		380~450V AC/DC
NG1-2DC	Diode	24~220V DC

G3/C3 Coil Surge Suppression Module - Type Selection



G3/C3 Coil Surge Suppression Module - Main Performance Parameters

Accessory Series	ModelSpecification	Applicable Contactor	Remarks:
G3 Coil surge suppression module	G3-01R/C3-40 G3-01K/C3-40	NDC3-40~80 AC24~48V	(1) Varistor The maximum transient overvoltage limit is 2Uc. Minimize the instantaneous voltage peak to the greatest extent. The drop-out time of the contactor is approximately 1.1 to 1.5 times the normal drop-out time. (2) RC (resistance-capacitance) circuit: Effectively protect circuits that are more sensitive to high-frequency interference. It is used for sinusoidal voltage waveforms, that is the total harmonic distortion is less than 5%; the maximum transient over-voltage is limited to 3Uc, and the maximum oscillation frequency is limited to 400Hz. The drop-out time of the contactor is approximately 1.2 to 2 times the normal drop-out time.
	G3-03R/C3-40 G3-03K/C3-40	NDC3-40~80 AC110~230V	
	G3-11R/C3-40 G3-11K/C3-40	NDC3-40~80 AC380~440V	
	G3-01R/C3-95 G3-01K/C3-95	NDC3-95 AC24~48V	
	G3-03R/C3-95 G3-03K/C3-95	NDC3-95 AC110~230V	
	G3-11R/C3-95 G3-11K/C3-95	NDC3-95 AC380~440V	

NDR1E Electronic Overload Relay - Quick Selection



ND R 1 E – 38 10 B 1 / 110V

- Auxiliary power supply voltage: 110V, 220/230V, 380/400V (50Hz/60Hz)
- Operating voltage of auxiliary contact:
  0: 230V (AC-15)
  1: 400V (AC-15)
- Release level code:
  B: Level 10
  C: Level 20
- Setting current level code: See Table 1
- Product base type code: 38, 95
- Overload mode: Electronic
- Design code: 1
- Product code: Relay
- Enterprise code: Nader

A1/R1 Independent Mounting Base - Quick Selection



A1/ R1 - 38

- 95: with NDR1E-95 thermal relay
  38: with NDR1E-38 thermal relay
- Product code: Independent mounting base

Note:
a. A1/R1 independent mounting base is only available in plug-in mode and can only be used in conjunction with NDR1E.
b. After installation, it can be installed with screw or TH35 standard rail.

Table 1:

NDR1E-38/95 Electronic Overload Relay Setting Current/A	Type of Fuses Used in Conjunction with the Fuse		Matched NDC1-09~95 AC Contactor (directly inserted and installed with the contactor)	Product Current Level Code
	aM/A	gG/A	NDC1-	NDR1E
0.1~0.16	0.25	2	09~38	NDR1E-3811
0.16~0.25	0.5	2	09~38	NDR1E-3812
0.25~0.4	1	2	09~38	NDR1E-3813
0.4~0.63	1	2	09~38	NDR1E-3814
0.63~1	2	4	09~38	NDR1E-3815
1~1.6	2	4	09~38	NDR1E-3816
1.6~2.5	4	6	09~38	NDR1E-3817
2.5~4	6	10	09~38	NDR1E-3818
4~6	8	16	09~38	NDR1E-3821
5.5~8	12	20	09~38	NDR1E-3822
7~10	12	20	09~38	NDR1E-3823
9~13	16	25	09~38	NDR1E-3824
12~18	20	35	12~38	NDR1E-3825
17~25	25	50	18~38	NDR1E-3826
23~32	40	63	25~38	NDR1E-3827
30~40	40	80	32~38	NDR1E-3828
23~32	40	63	40~95	NDR1E-9531
30~40	40	100	40~95	NDR1E-9532
37~50	63	100	40~95	NDR1E-9533
48~65	63	100	50~95	NDR1E-9534
55~70	80	125	65~95	NDR1E-9535
63~80	80	125	65~95	NDR1E-9536
80~95	100	160	80~95	NDR1E-9537

NDR1E Main Performance Parameters Table

Main Performance Indicators

Product Base Type Code			NDR1E-38	NDR1E-95
Setting current range			0.1~40A	23~95A
Rated insulation voltage and frequency			690V, 50Hz/60Hz	
Release level			10/20	10/20
Main circuit wiring	Flexible conductor without terminal, 1 piece	Minimum/ maximum cross-sectional area	1.5/10 mm^2	4/35 mm^2
	Flexible conductor with terminal, 1 piece		1/4 mm^2	4/35 mm^2
	Rigid conductor without terminal, 1 piece		1/6 mm^2	4/35 mm^2
Fastening torque of main circuit terminal			1.5N.m	9N.m
Auxiliary power supply voltage			110V, 220/230V, 380/400V (50Hz/60Hz)	
Auxiliary contact type			1NC + 1NO (not electrically isolated) NDR1E-□□□0 1 NC + 1NO (electrically isolated) NDR1E-□□□1	
Rated operating voltage of auxiliary contact			AC-15230V/0.75A 400V/0.47A (optional according to the model) DC-13 230V/0.1A	
Auxiliary circuit wiring	Flexible conductor without terminal, 1 piece	Minimum/ maximum cross-sectional area	1/2.5 mm^2	
	Flexible conductor with terminal, 1 piece		1/2.5 mm^2	
	Rigid conductor without terminal, 1 piece		1/2.5 mm^2	
Auxiliary terminal fastening torque			0.8N.m	

Operating Characteristics

Operating Characteristics	SN	Setting Current	Action time	Starting Conditions	Ambient Air Temperature °C
When loads of each phase are unbalance	1	1.05In	＞2h	Cold state	-25°C~60°C
	2	1.2In	＜2h	After test 1#	
	3	1.5In	< 4min (level 10) < 8min (level 20)	After test 1#	
	4	7.2In	Level 10: 4s<Tp≤10s	Cold state	
			Level 20: 6s<Tp≤20s	Cold state	
Phase loss	When the current of one or two phases is I ≥ 0.3In and the remain-ing phases is 0,		3~8s	Cold or hot state	
Phase unbalance	Phase unbalance factor ≥ 60%		30~40s	Cold or hot state	
	Level 10 products: When the Phase-I or Phase-II current is I ≥ 0.8In, the residual phase current is 0, the fault time ≥ 8min and the automatic reset function is locked after three consecutive faults, manual reset is required.				
	Level 10 products: When the overload current is I ≥ 4In, the fault time ≥ 8min and the automatic reset function is locked after three consecutive faults, manual reset is required				
	Level 20 products: When the Phase-I or Phase-II current is I ≥ 0.8In, the residual phase current is 0, the fault time ≥ 14min and the automatic reset function is locked after three consecutive faults, manual reset is required.				
	Level 20 products: When the overload current is I ≥ 4In, the fault time ≥ 14min and the automatic reset function is locked after three consecutive faults, manual reset is required				

NDR2 Thermal Overload Relay - Quick Selection



ND R 2 - 38 12 G

- G: Installation mode:
  No code: Combined installation
  G: Rail clamping or separate screw connection (applicable to 38)
  +NA2-95: rail clamping or separate screw connection (applicable to 95)
- 12: Current level code: See the model description list
- 38: Product base type code: 38, 95, 140
- 2: Design number: 2
- R: Product code: Bimetallic thermal overload relay
- ND: Enterprise code: Nader

Note:
When the installation mode is “G”, it means that NA2-38 independent mounting base is selected.

NA2 Independent Mounting Base - Quick Selection



N A 2 - 38

- 38: 38: with NDR2-38 thermal relay
  95: with NDR2-95 thermal relay
- 2: Design number: 2
- A: Product code: Independent mounting base
- N: Enterprise code: Nader

Note:
a. NA2 independent mounting base is only available in plug-in mode and can only be used in conjunction with NDR2.
b. After installation, it can be installed with screw or TH35 standard rail.

NDR2 Main Performance Parameters

Model Description List

SN	Current Level Code	Setting Current Range (A)	Use (SCPD) Fuse (A)		Product Base Type Code	Install Contactor
			aM	gG		
1	01	0.1~0.16	0.25	2	38	NDC1-09~38
2	02	0.16~0.25	0.5	2		
3	03	0.25~0.4	1	2		
4	04	0.4~0.63	1	2		
5	05	0.63~1	2	4		
6	06	1~1.6	2	4		
7	07	1.6~2.5	4	6		
8	08	2.5~4	6	10		
9	10	4~6	8	16		
10	12	5.5~8	12	20		
11	14	7~10	12	20		
12	16	9~13	16	25		NDC1-12~38
13	21	12~18	20	35		NDC1-18~38
14	22	16~24	25	50		NDC1-25~38
15	32	23~32	40	63		
16	35	30~38	50	80		NDC1-32~38
17	22	17~25	25	50	95	NDC1-40~95
18	53	23~32	40	63		
19	55	30~40	40	100		
20	57	37~50	63	100		
21	59	48~65	63	100		NDC1-50~95
22	61	55~70	80	125		
23	63	63~80	80	125		NDC1-65~95
24	65	80~104	100	160		NDC1-80~95
25	65	80~104	125	200	140	NDC2-115~170
24	67	95~120	125	224		
25	69	110~140	160	250		

Conventional Characteristics

Type			NDR2-38		NDR2-95/140	
Setting current range, Ie/A			0.1~38		17~140	
Rated insulation voltage, Ui (V)			690			
Rated operating voltage, Ue (V)			280/400/690V			
Rated impulse withstand voltage, Uimp (kV)			6			
Release level			10A			
Compensation temperature, ºC			-5ºC~+40ºC			
Auxiliary contact	Type		1NO+1NC			
	Conventional thermal current, Ith (A)		5			
	AC-15	Rated operating voltage, Ue (V)	220	380	220	380
		Rated operating current, Ie (A)	1.63	0.94	2.73	1.58
	DC-13	Rated operating voltage, Ue (V)	110	220	110	220
		Rated operating current, Ie (A)	0.25	0.12	0.46	0.21
Wiring capacity Min/Max (mm^2)	Product base type		3801-3821	3822-3835	95	140
	Main circuit	Flexible wire (without prefabricated end), 1 piece	1.5/10	1.5/10	4/35	4/50
		Flexible wire (with prefabricated end), 1 piece	1/4	1/6	4/35	4/50
		Rigid wire, 1 piece	1/6	1.5/10	4/35	4/50
		Tightening torque N.m	1.2	1.2	6~7	
	Auxiliary circuit	Flexible wire (without prefabricated end), 1 or 2 piece(s)	1/2.5			
		Flexible wire (with prefabricated end), 1 or 2 piece(s)				
		Rigid wire, 1 or 2 piece(s)				
		Tightening torque N.m	0.6~0.8			

NDR3E Electronic Overload Relay - Quick Selection



ND R 3 E – 38 11 / 1 / 1

- Auxiliary power supply voltage:
  1: AC110V (±15%) 50Hz/60Hz
  2: AC220V (±15%) 50Hz/60Hz
  3: AC380V (±15%) 50Hz/60Hz
- Operating voltage of auxiliary contact:
  0: 230V (AC-15/DC-13)
  1: 400V (AC-15) 230V (DC-13))
- Setting current level code: See Table 1
- Product base type code: 38/65/95
- Overload mode: Electronic
- Design code: 3
- Product code: Electronic overload relay
- Enterprise code: Nader

Table 1: Detailed Description of Current Levels

Shell frame	Current Level Code	Setting Current Regulation Range	Type of Fuses Used in Conjunction with the Fuse		Matched Contactor Model
			aM/A	gG/A	
Shell frame 38	11	0.1~0.36	0.5	2	NDC3-09-38
	12	0.36~1.2	2	4	
	13	1.2~4	8	16	
	14	3.6~12	16	20	
	15	12~40	63	100	
Shell frame 65	11	20~50	100	160	NDC3-40~80
	12	32~80	100	160	
Shell frame 95	11	40~110	140	200	NDC3-95

NDR3E Electronic Overload Relay - Main Performance Parameters Table

Main Performance Indicators

Product base type code:			NDR3E-38	NDR3E-65	NDR3E-95
Setting current range			0.1~40A	20~80A	40~110A
Rated insulation voltage and frequency			690V, 50Hz/60Hz	690V, 50Hz/60Hz	
Release level			10/20 adjustable	10/20 adjustable	
Main circuit wiring	Flexible conductor without terminal, 1 piece	Minimum/ maximum cross-sectional area	1.5/10 mm^2	2.5/25 mm^2	4/35 mm^2
	Flexible conductor with terminal, 1 piece		1/4 mm^2	2.5/25 mm^2	4/35 mm^2
	Rigid conductor without terminal, 1 piece		1/6 mm^2	2.5/25 mm^2	4/35 mm^2
Fastening torque of main circuit terminal			1.5N.m	4N.m	6N.m
Auxiliary power supply voltage			110V, 220/230V, 380/400V (50Hz/60Hz)	110V, 220/230V, 380/400V (50Hz/60Hz)	
Auxiliary contact type			1NC + 1NO (not electrically isolated) NDR3E-38□/0/□ 1 NC + 1NO (electrically isolated) NDR3E-38□/1/□	1NC + 1NO (not electrically isolated) NDR3E-38□/0/□ 1 NC + 1NO (electrically isolated) NDR3E-38□/1/□	
Rated operating voltage of auxiliary contact			AC-15230V/0.75A 400V/0.47A (optional according to the model) DC-13 230V/0.1A	AC-15230V/0.75A 400V/0.47A (optional according to the model) DC-13 230V/0.1A	
Auxiliary circuit wiring	Flexible conductor without terminal, 1 piece	Minimum/ maximum cross-sectional area	0.75/1.5 mm^2	1/2.5 mm^2	
	Flexible conductor with terminal, 1 piece		0.75/1.5 mm^2	1/2.5 mm^2	
	Rigid conductor without terminal, 1 piece		0.75/1.5 mm^2	1/2.5 mm^2	
Auxiliary terminal fastening torque			0.5N.m	0.8N.m	

Operating Characteristics

Operating Characteristics	SN	Setting Current	Action time	Starting Conditions	Ambient Air Temperature °C
When loads of each phase are unbalance	1	1.05In	＞2h	Cold state	-25°C~60°C
	2	1.2In	＜2h	After test 1#	
	3	1.5In	< 4min (level 10) < 8min (level 20)	After test 1#	
	4	7.2In	Level 10: 4s<Tp≤10s	Cold state	
			Level 20: 6s<Tp≤20s	Cold state	
Phase loss	When the current of one or two phases is I ≥ 0.8In and the remain-ing phases is 0,		3~8s	Cold or hot state	
Phase unbalance	Phase unbalance factor ≥ 60%		30~40s	Cold or hot state	
Lock	When the Phase-I or Phase-II current is I ≥ 0.8In, the residual phase current is 0 and the automatic reset function is locked after three consecutive faults, manual reset is required.				
	When the overload current is I ≥ 4In and the automatic reset func-tion is locked after three consecutive faults, manual reset is required.				

NDJG3 Hybrid Relay - Quick Selection



ND JG 3 – □

- Rated current (A): 25, 40
- Design number: 3
- Product code: JG - hybrid relay
- Enterprise code: Nader

NDJG3 Hybrid Relay - Main Performance Parameters

		NDJG3-25	NDJG3-40
Product Up to Standard		GB/T 14048.1, GB/T 14048.5	
Rated insulation voltage, Ui		AC240V	
Rated operating voltage, Ue		AC240V	
Rated frequency, f		50Hz	
Rated impulse withstand voltage, Uimp		2.5kV	
Conventional thermal current, Ith (A)		25	40
Rated operating current, Ie (A)		25	40
Use type		AC-12	
Control coil	Rated control voltage, Us (V)	DC24V	
	Pick-up voltage	85%~110%Us	
	Drop-out voltage	10%~70%Us	
	Power consumption	≤1.44W	
Contact making pick-up time		≤ 66ms (at normal temperature 25ºC and rated control voltage)	
Contact breaking drop-out time		≤ 66ms (at normal temperature 25ºC and rated control voltage)	
Number of Poles		1P	
Impact		Closing state: 15g, breaking state 10g half-sine wave 11ms	
Vibration		Closing state: 4g, breaking state 2g 10Hz~55Hz	
Electrical life	Times	1200×10^4	1200×10^4
	Operating frequency	3, 600 times/h	3, 600 times/h
Mechanical life	Times	1200×10^4	
	Operating frequency	7, 200 times/h	
Wiring capacity of main circuit terminal, mm^2 (min/max)	Non-prefabricated end flexible wire	1 piece	2.5/6
		2 pieces	2.5/6
	Prefabricated end flexible wire	1 piece	1/10
		2 pieces	1.5/6
	Non-prefabricated end rigid wire	1 piece	1.5/6
		2 pieces	2.5/6
	Tightening torque (N.m)	2.5	
Wiring capacity of control circuit terminal, mm2 (min/max)	Non-prefabricated end rigid wire	1 piece	0.25/2.5
	Prefabricated end flexible wire	1 piece	0.25/1.5
	Remarks: The control circuit terminals are spring type. The conductors can be directly inserted into the terminal holes to achieve a fixed connection.		

NDCQ1 Star-delta Starter - Quick Selection



ND CQ 1 - 12 TH

- TH: Blank: Conventional products; TH: Damp heat type
- 12: Basic specification code: 12, 18, 25, 32, 40, 50, 65, 80, 95
- 1: Design number: 1
- CQ: Product code: Star-delta starter
- ND: Enterprise code: Nader

NDCQ1 Main Performance Parameters

Parameters \ Model		NDCQ1-12	NDCQ1-18	NDCQ1-25	NDCQ1-32	NDCQ1-40	NDCQ1-50	NDCQ1-65	NDCQ1-80	NDCQ1-95
Rated operating current, Ie (A) (AC-3415V)		20	31	43	55	69	86	112	138	164
Rated insulation voltage, Ui (V)		690								
Rated operating voltage, Ue (V)		380/415, 660/690								
Electrical life (AC-3415V)		4×10^4		2.5×10^4		2×10^4			1.5×10^4	
Operating frequency (h^{-1})		30								
Mechanical life		30×10^4								
Auxiliary contact	Rated operating voltage (V)	AC380 , DC220								
	Conventional thermal current (A)	10								
Coil	Rated control voltage (V)	AC (50Hz 50/60Hz) : 24, 36, 48, 110, 220, 380, 415								
	Pick-up voltage	85%Us~110%Us								
	Drop-out voltage	20%Us~75%Us								

NDD1 Motor Protection Circuit Breaker - Quick Selection



ND D 1 - 32 A 1

- Specification code: 01, 02, 03, 04, 05, 06, 07, 08, 10, 14, 16, 20, 21, 22, 32, 40, 63, 80
- A: Button operation
- Shell frame level current: 32, 80
- Design number: 1
- Product code: Motor protection switch
- Enterprise code: Nader

Note: The products have three poles only.

NDD1 Main Performance Parameters

Main Performance Indicators

Type \ Model		NDD1-32A	NDD1-80A
Use type	GB14048.2	A	A
	GB14048.4	AC-3	AC-3
Rated operating voltage (V)		380, 400, 415, 690	380, 400, 415, 690
Rated insulation voltage (V)		690	690
Rated operating frequency (Hz)		50/60	50/60
Rated impulse withstand voltage (kV)		6	6
Power consumption per pole (W)		2.5	8
Operating performance	Number of power-on operations (C.O.)	60000	10000
	Number of power-off operations (C.O.)	60000	17000
Load level (maximum operating rate: C.O./h)		25	
Frequency (times/h)		120	120
Release level		10A	10A
Wiring capacity of terminal, mm^2 (min/max)	Rigid wire	2×1/2×6	1×2.5/1×35
	Flexible conductor without terminal	2×1.5/2×6	1×4/2×16
	Flexible conductor with terminal	2×1/2×4	
Wiring torque (N.m)	Main circuit of circuit breaker	1.7~2.5N.m	7~8N.m
	Main circuit accessories	0.7~0.9N.m	

Short-circuit Breaking Capacity

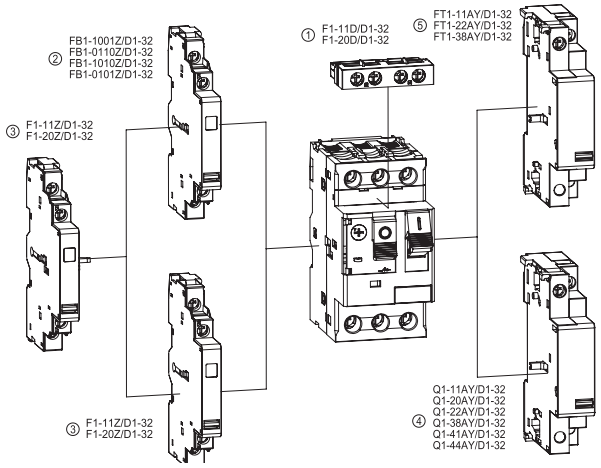
Product model	Current Setting Range	Breaking Capacity (kA) 380V/400V/415V		Breaking Capacity (kA) 690V	
		Rated Limit Short-circuit Breaking Capacity, Icu	Rated Operating Short-circuit Breaking Capacity, Ics	Rated Limit Short-circuit Breaking Capacity, Icu	Rated Operating Short-circuit Breaking Capacity, Ics
NDD1-32A01	0.1~0.16A	100	100	100	100
NDD1-32A02	0.16~0.25A	100	100	100	100
NDD1-32A03	0.25~0.4A	100	100	100	100
NDD1-32A04	0.4~0.63A	100	100	100	100
NDD1-32A05	0.63~1A	100	100	100	100
NDD1-32A06	1~1.6A	100	100	100	100
NDD1-32A07	1.6~2.5A	100	100	3	2.25
NDD1-32A08	2.5~4A	100	100	3	2.25
NDD1-32A10	4~6.3A	100	100	3	2.25
NDD1-32A14	6~10A	100	100	3	2.25
NDD1-32A16	9~14A	15	7.5	3	2.25
NDD1-32A20	13~18A	15	7.5	3	2.25
NDD1-32A21	17~23A	15	6	3	2.25
NDD1-32A22	20~25A	15	6	3	2.25
NDD1-32A32	24~32A	10	5	3	2.25
NDD1-80A40	25~40A	35	18	4	3
NDD1-80A63	40~63A	35	18	4	3
NDD1-80A80	56~80A	15	8	2	2

Tripping Characteristics and Curve

Characteristic item	SN	Test Current	Preset Time	Starting State	Expected Result	Notes
Delay protection characteristic 20 ± 2°C	a	1.05In	t≥2h	Cold state	Non-tripping	Nil
	b	1.2In	t＜2h	Hot state	Tripping	Immediately following Test a, the current steadily rose to the speci-fied value within 5 seconds
	c	1.5In	t≤4min	Hot state	Tripping	Start after the 1x setting current reaches thermal balance
	d	7.2In	2s＜t≤10s	Cold state	Tripping	Release level 10A
Instantaneous protection characteristic	e	7.68In	t≥0.2s	Cold state	Non-tripping	In ＜ 0.25A
		11.52In	t＜0.2s	Cold state	Tripping	
	f	9.6In	t≥0.2s	Cold state	Non-tripping	In≥0.25A
		14.4In	t＜0.2s	Cold state	Tripping	
Phase loss protection 20 ± 2°C	g	Two poles 1.0In, one pole 0.9In	t≥2h	Cold state	Non-tripping	Nil
	h	Two stages 1.15In, one stage power off	t＜2h	Hot state	Tripping	Immediately following Test 9, the current steadily rose to the speci-fied value within 5 seconds

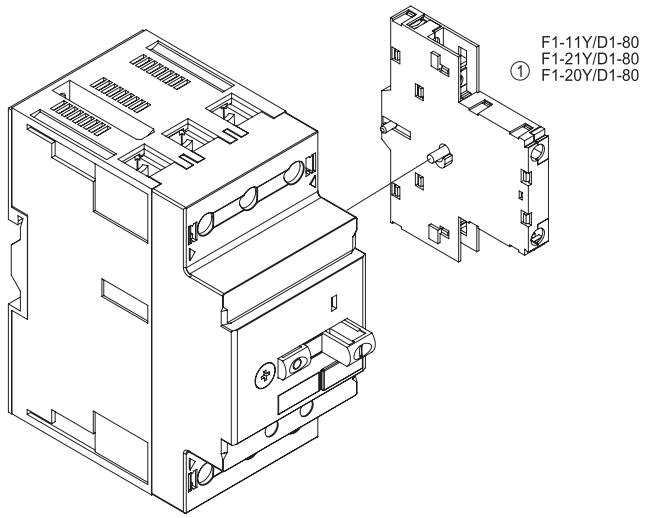
NDD1 Accessories Selection

NDD1-32 Accessory Installation Diagram



NDD1-32 Accessory Type				
SN	Accessory Name	Installation Position	Model	Installation Instructions
①	Auxiliary contact	Top-mounted	F1-11D/D1-32	Installed on the top of NDD1-32 products. Only 1 set can be installed for each circuit breaker.
			F1-20D/D1-32	
③		Left-installed	F1-11Z/D1-32	Installed on the left side of NDD1-32 products. At most 2 sets can be installed for each circuit breaker.
			F1-20Z/D1-32	
②	Alarm and auxiliary contact	Left-installed	FB1-1010Z/D1-32	Installed on the left side of NDD1-32 products. Only 1 set can be installed for each circuit breaker.
			FB1-1001Z/D1-32	
			FB1-0110Z/D1-32	
			FB1-0101Z/D1-32	
④	Under-voltage release	Right-installed	Q1-11AY/D1-32	Installed on the right side of NDD1-32 products. Only 1 shunt release or under-voltage release can be installed for each circuit breaker.
			Q1-20AY/D1-32	
			Q1-22AY/D1-32	
			Q1-38AY/D1-32	
			Q1-41AY/D1-32	
			Q1-44AY/D1-32	
⑤	Shunt release	Right-installed	FT1-11AY/D1-32	
			FT1-22AY/D1-32	
			FT1-38AY/D1-32	
⑥	Terminal block	Top-mounted	P1/NDD1-32	Installed on the top of NDD1-32 products. Only 1 set can be installed for each circuit breaker.
⑦	Busbar	Top-mounted	H245/NDD1-32	Installed on the top of NDD1-32 products. 1 set can be installed for every two circuit breakers.
			H345/NDD1-32	Installed on the top of NDD1-32 products. 1 set can be installed for every three circuit breakers.
			H445/NDD1-32	Installed on the top of NDD1-32 products. 1 set can be installed for every four circuit breakers.
			H545/NDD1-32	Installed on the top of NDD1-32 products. 1 set can be installed for every five circuit breakers.
Note: one accessory ② and one accessory ③ can be installed on the left side of NDD1-32 circuit breaker, but it is specified to install the accessory ② first and then the accessory ③.				

NDD1-80 Accessory Installation Diagram



NDD1-80 Accessory Type				
SN	Accessory Name	Installation Position	Model	Installation Instructions
①	Auxiliary contact	Right-installed	F1-11Y/D1-80	Installed on the right side of NDD1-80 products. Only 1 set can be installed for each circuit breaker.
			F1-21Y/D1-80	
			F1-20Y/D1-80	

Technical Parameters of Accessories

Accessory Model	Rated Operating Voltage, Ue (V) (AC-15)	Rated operating current, Ie (A DC-15)	Rated Operating Voltage, Ue (V) (DC-13)	Rated operating current, Ie (A DC-13)	Conventional thermal current, Ith (A)	Rated insulation voltage, Ui (V)	Mechanical/ Electrical Life	Rated Limiting Short-circuit Current Matching SCPD
Auxiliary contact F1-11Z/D1-32 F1-20Z/D1-32 FB1-1010Z/D1-32 FB1-1001Z/D1-32 FB1-0110Z/D1-32 FB1-0101Z/D1-32	48	6	24	6	6	690	60000 / 60000	RT16-6
	110/127	4.5	48	5				
	230/240	3.3	60	3				
	380/415	2.2	110	1.3				
	440	1.5	220	0.5				
	500	1	-	-				
	690	0.6	-	-				
Alarm signal contact FB1-1010Z/D1-32 FB1-1001Z/D1-32 FB1-0110Z/D1-32 FB1-0101Z/D1-32	24	1.5	24	1	2.5	690	1000 / 1000	RT16-2.5
	48	1	48	0.3				
	110/127	0.5	60	0.15				
	220/240	0.3	-	-				
Auxiliary contact F1-11D/D1-32 F1-20D/D1-32	24	2	24	1	2.5	250	60000/60000	RT16-2.5
	48	1.25	48	0.3				
	110/127	1	60	0.15				
	220/240	0.5	-	-				
Auxiliary contact F1-11Y/D1-80 F1-20Y/D1-80 F1-21Y/D1-80	48	6	24	6	6	690	10000/17000	RT16-6
	220/240	3.5	48	5				
	380/415	2	110	1.5				
Wiring capacity of accessory terminal, mm^2 (min/max)		Rigid wire			1 or 2 pieces		1/2.5	
		Flexible conductor without terminal			1 or 2 pieces		0.75/2.5	
		Flexible conductor with terminal			1 or 2 pieces		0.75/1.5	
Busbar H245/NDD1-32 H345/NDD1-32 H445/NDD1-32 H545/NDD1-32	-	-	-	-	63	690	-	-
Terminal block P1/NDD1-32 Wiring capacity of main circuit terminal, mm^2 (min/max)		Rigid wire			1 piece		1.5/25	
					2 pieces		2.5/10	
		Flexible wire, without terminal			1 piece		1/25	
					2 pieces		2.5/10	
		Flexible wire, with terminal			1 piece		1.5/16	
					2 pieces		1.5/4	
		Tightening torque (N.m)			1.7			

NDKB1 Control and Protective Switching Device - Quick Selection



ND KB 1– 45 C / M 1 / 06 M T G

- Handle type: G - isolated type (with isolation lock handle)
- Controller type: No code - standard type, T - communication type, F - fire control type, L - current leakage type
- Control supply voltage code, Us: M-AC230V Q-AC400V
- Auxiliary contact block code: 06-3 normally open 2 normally closed +1 fault trip +1 fault alarm
  09-4 normally open 3 normally closed +1 fault trip +1 fault alarm
- Rated current (A): 1, 3, 6, 12, 16, 25, 32, 45, 63, 80, 100, 125
- Load type: M - motor protection, L - power distribution protection
- Short-circuit breaking capacity, Ics (kA): C-15kA, Y-35kA
- Shell frame level current: 45, 125
- Design code: 1
- Product code: KB - control and protective switching device
- Enterprise code: Nader

NDKB1 Control and Protective Switching Device - Main Performance Parameters

Main Performance Indicators		NDKB1-45								NDKB1-125			
Product Up to Standard		GB14048.9, IEC60947-6-2											
Rated operating voltage, Ue		AC400V/AC690V											
Rated insulation voltage, Ui		AC690V											
Rated frequency, f		50Hz											
Rated impulse withstand voltage, Uimp		4kV								6kV			
Conventional thermal current, Ith (A)		16					45			80		125	
Rated operating current, Ie (A)		1	3	6	12	16	25	32	45	63	80	100	125
Use type		AC-43,AC-44								AC-43,AC-44			
Rated operating short-circuit breaking capacity, Ics		AC400V: 15kA AC690V: 4kA								AC400V: 15kA AC690V: 4kA			
Number of Poles		3P								3P			
Electrical life	AC-43(400V)	100×10^4								30×10^4			
	AC-44(400V)	3×10^4								2×10^4			
	Operating frequency	300 times/h								120次/h			
Mechanical life		1000×10^4								300×10^4			
Main circuit wiring capacity		Single piece of 1~40 mm^2 flexible or rigid wire 2 pieces of 1~20 mm^2 flexible or rigid wire								Single piece of 10~50 mm^2 flexible or rigid wire 2 pieces of 10~25 mm^2 flexible or rigid wire			
Fastening torque of main circuit		2N.m								6N.m			
Wiring capacity of auxiliary terminal		Single piece of 0.75~1.5 mm^2 flexible or rigid wire, 2 pieces of 0.75~1.0 mm^2 flexible or rigid wire											
Wiring capacity of control terminal		Single piece of 0.75~2.5 mm^2 flexible or rigid wire, 2 pieces of 0.75~1.5 mm^2 flexible or rigid wire											
Tightening torque of auxiliary and control circuit		0.5~0.8N.m											

NDKB3 Control and Protective Switching Device - Quick Selection



ND KB 3– 63 H / 1 M S

- S: Auxiliary contact block code: S - standard type, T - communication type, SU - standard type with voltage protection
- M: Control supply voltage code, Us: M-AC230V
- 1: Rated current (A): 1.2, 2.4, 6, 12, 18, 32, 45, 63
- H: Short-circuit breaking capacity, Ics (kA): H-50kA
- 63: Shell frame level current: 63
- 3: Design code: 3
- KB: Product code: KB - control and protective switching device
- ND: Enterprise code: Nader

NDKB3 Control and Protective Switching Device - Main Performance Parameters

Main Performance Indicators		NDKB3-63							
Product Up to Standard		GB14048.9, IEC60947-6-2							
Rated operating voltage, Ue		AC400V/AC690V							
Rated insulation voltage, Ui		AC690V							
Rated frequency, f		50Hz							
Rated impulse withstand voltage, Uimp		6kV							
Conventional thermal current, Ith (A)		12				32		63	
Rated operating current, Ie (A)		1.2	2.4	6	12	18	32	45	63
Use type		AC-43,AC-44							
Rated operating short-circuit breaking capacity, Ics		AC400V: 50kA AC690V: 4kA							
Action time of short-circuit release		≤2ms							
Number of Poles		3P							
Electrical life	AC-43(400V)	100×10^4							
	AC-44(400V)	3×10^4							
	Operating frequency	300 times/h							
Mechanical life		1000×10^4							
Main circuit wiring capacity		Single piece of 1~40 mm^2 flexible or rigid wire 2 pieces of 1~20 mm^2 flexible or rigid wire							
Fastening torque of main circuit		2N.m							
Wiring capacity of auxiliary terminal		Single piece of 0.75~1.5 mm^2 flexible or rigid wire 2 pieces of 0.75~1.0 mm^2 flexible or rigid wire							
Wiring capacity of control terminal		Single piece of 0.75~2.5 mm^2 flexible or rigid wire 2 pieces of 0.75~1.5 mm^2 flexible or rigid wire							
Tightening torque of auxiliary and control circuit		0.5~0.8N.m							

NDY1 Changeover Switch - Quick Selection



ND Y 1 - 20 3 2 / 2 / / / /

- Special demand code: See note a
- Number of auxiliary terminals (omitted if no auxiliary contact): Auxiliary contact system 1~8
- Auxiliary terminal current level (omitted if no auxiliary contact): 20, 25, 32, 63, 125, 160
- Wiring diagram number, assigned according to the wiring diagrams provided by the user uniformly
- Number of contact systems: 1~8
- Positioning feature code: B, C, D, E, F, G, H, I, J, K, L, M, N
- Conversion angle code: 3 (30°), 4 (45°), 6 (60°), 9 (90°)
- Specification code:
  Conventional thermal current: 20, 25, 32, 63, 125, 160
- Design number: 1
- Product code: Changeover switch
- Enterprise code: Nader

Note:
a. Special demand code T: Make first break last; FH: Auxiliary terminal gold-plated; M1~5: panel type.

NDY1 Main Performance Parameters

SpecificationModel		NDY1-20		NDY1-25		NDY1-32	NDY1-63	NDY1-125	NDY1-160
Rated insulation voltage, Ui (V)		690		690		690	690	690	690
Conventional thermal current, Ith (A)		20		25		32	63	125	160
Rated operating voltage, Ue (V)		DC240	AC400	DC240	AC400	AC400	AC400	AC400	AC400
Rated operating current, Ie (A)	AC-21A	/	20	/	25	32	63	100	150
	AC-23A	/	15	/	22	30	57	90	135
	DC-21A	0.4	/	0.6	/	/	/	/	/
Rated impulse withstand voltage, Uimp (kV)		8							

Actuator angle and position		
Conversion angle code / Feature code	3 (30°)	4 (45°)
B		
C	0°30°	0°45°
D	30°0°30°	45°0°45°
E	30°0°30°60°	45°0°45°90°
F	60°30°0°30°60°	90°45°0°45°90°
G	60°30°0°30°60°90°	90°45°0°45°90°135°
H	90°60°30°0°30°60°90°	135°90°45°0°45°90°135°
I	90°60°30°0°30°60°90°120°	135°90°45°0°45°90°135°180°
J	120°90°60°30°0°30°60°90°120°	
K	120°90°60°30°0°30°60°90°120°150°	
L	150°120°90°60°30°0°30°60°90°120°150°	
M	150°120°90°60°30°0°30°60°90°120°150°180°	
N		45° 45°

Actuator angle and position		
Conversion angle code / Feature code	6 (60°)	9 (90°)
B		90°0°
C	0°60°	0°90°
D	60°0°60°	90°0°90°
E	60°0°60°120°	270°0°90°180°
F	60°0°60°120°180°	
G	120°60°0°60°120°180°	
H		
I		
J		
K		
L		
M		
N	30° 30°	

Charter 8
DC Contactor Products

NDZ3 DC Contactor - Quick Selection



ND Z 3 - 150 10 J Z DC12V

- Coil voltage: DC12V, DC24V, DC48V, DC09~36V
- Nil: Means conventional products
  Z: Combined products (only NDZ3X-100B/Z)
- Nil: Means conventional products
  J: Means power-saving products
  B: Means high-size products
- Number of auxiliary contacts:
  Nil: Means no auxiliary contact
  10: with one block of normally open auxiliary contact
  01: with one block of normally closed auxiliary contact
  11: with one block of normally open auxiliary contact and one block of normally closed auxiliary contact
- Basic specification code: Rated current value:
  50: 50A
  100: 100A
  150: 150A
  200: 200A
  250: 250A
  300: 300A
- Design number: 3
- Product code: DC contactor
- Enterprise code: Nader low-voltage electrical appliances

Note

1. NDZ3 (X) -150 shell frame is available in two states: ener-gy-saving type and conventional type;
2. NDZ3X-50/100 shell frame without auxiliary products has two size states;
3. The coil voltages of NDZ3 (X)-50~150, NDZ3W-50~100, and NDZ3S-10~250 are available in three types: DC12V, DC24V, and DC48V. The coil voltages of NDZ3 (X) -150J~300 and NDZ3W-150~300 are DC9V~36V.

NDZ3-50-300 Main Performance Parameters

Parameter Name \ Model		NDZ3-50	NDZ3-100	NDZ3-150	NDZ3-150J	NDZ3-200	NDZ3-250	NDZ3-300
Conventional thermal current, Ith		150A		300A		500A		
Rated operating current, Ie (DC450V/500V)		50A	100A	150A		200A	250A	300A
Rated insulation voltage, Ui		DC1000V						
Maximum cut-off current L/R ≤ 1ms		DC320V 1000A, over 1 time		DC320V 2000A, over 1 time				
Short-circuit withstand current		750A 30ms	1500A 30ms	2250A 30ms		3000A 30ms	3750A 30ms	
Contact voltage drop (max)		100A 50mV						
Insulation resistance		100MΩ DC500V						
Withstand voltage		AC2500V 60s		AC3500V 60s				
Mechanical life		1,000,000 times, frequency 1,200 times/hour						
Electrical life	DC 500V L/R≤1ms	50A, 6,000 times	100A, 6,000 times	150A, 6,000 times		200A, 6,000 times	250A, 6,000 times	300A, 6,000 times
	DC 750V L/R≤1ms	10A, 6,000 times		15A, 6,000 times				300A, 1,000 times
	Operating frequency	120 times/hour						360 times/ hour
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO						
	Rated current/ voltage	2A/DC30V, 3A/AC125V						
	Minimum accessible load	100mA, 8V						
Control coil	Rated voltage, Ue	DC12V, DC24V, DC48V			DC12V~24V			
	Operating voltage	75%~110%Uc			DC9V~36V			
	Drop-out voltage	10%~60%Uc			DC1.2V~7.2V			
	Making time	≤ 35ms			≤ 35ms			
	Breaking time	≤ 15ms			≤ 20ms			
	Holding power consumption	6W			3.6W/3.6VA			
	Maximum starting current of coil	0.5A			3.5A			
Malfunction impact	Pick-up	11ms 1/2 sine 15g			11ms 1/2 sine 30g			
	Breaking	11ms 1/2 sine 11g			11ms 1/2 sine 20g			
Malfunction vibration	Pick-up	10g 10~500Hz			20g 10~1000Hz			
	Breaking	5g 10~500Hz			5g 10~1000Hz			
Weight		210±10g		430±10g	460±10g			485±10g

NDZ3X-10~40 DC Contactor - Quick Selection



ND Z 3 X - 10 B DC12V

- DC12V: Coil voltage: DC12V, DC24V
- B: Overall dimension code: B, C, D, E
- 10: Rated current value: 10, 20, 40
- X: Design code: Means high-performance products
- 3: Design number: 3
- Z: Product code: DC contactor
- ND: Enterprise code: Nader low-voltage electrical appliances

NDZ3X 50-300A DC Contactor - Quick Selection



ND Z 3 X - 150 10 J Z DC12V

- DC12V: Coil voltage: DC12V, DC24V, DC48V, DC09~36V
- Z: Nil: Means conventional products; Z: Combined products (only NDZ3X-100B/Z)
- J: Nil: Means conventional products; J: Means power-saving products; B: Means high-size products
- 10: Number of auxiliary contacts: Nil: Means no auxiliary contact; 10: with one block of normally open auxiliary contact; 01: with one block of normally closed auxiliary contact; 11: with one block of normally open auxiliary contact and one block of normally closed auxiliary contact
- 150: Basic specification code: Rated current value: 50: 50A; 100: 100A; 150: 150A; 200: 200A; 250: 250A; 300: 300A
- X: Means high-performance products
- 3: Design number: 3
- Z: Product code: DC contactor
- ND: Enterprise code: Nader low-voltage electrical appliances

Note

1. NDZ3 (X) -150 shell frame is available in two states: ener-gy-saving type and conventional type;
2. NDZ3X-50/100 shell frame without auxiliary products has two size states;
3. The coil voltages of NDZ3 (X)-50~150, NDZ3W-50~100, and NDZ3S-10~250 are available in three types: DC12V, DC24V, and DC48V. The coil voltages of NDZ3 (X) -150J~300 and NDZ3W-150~300 are DC9V~36V.

NDZ3X-10~40 Main Performance Parameters

Shell Frame Current Levels / Parameter Name	NDZ3X-10	NDZ3X-20	NDZ3X-40
Load polarity	With polarity		
Coil polarity	Without polarity		
Number of Poles	Single pole		
Rated current (A)	10	20	40
Rated voltage, DC (V)	750		450
Insulation voltage, Ui	1000V		
Contact resistance	≤5mΩ		
circuit type	DC		
Rated control voltage, Uc	DC12V, DC24V Operating voltage: 75%~110% Uc Drop-out voltage: 10%~60% Uc		
Mechanical life	200,000 times, frequency 3,600 times/hour		
Forward electrical life (0.65 on, 5.4s off) Resistive load	Switching: DC450V, 10A, 10, 000 times; DC450V, 20A, 3, 000 times Making: DC450V, 20A, 100, 000 times; DC750V, 6A, 75, 000 times		Switching: DC450V, 10A, 10, 000 times; DC450V, 40A, 1,000 times Making: DC450V, 35A, 75, 000 times
Maximum cut-off current	DC450V, 30A, 5 times		DC450V 50A, over 1 time
Short-time withstand current	200A 600ms		400A 600ms
Insulation resistance	≥1000MΩ, 500VDC		
Withstand voltage	Main circuit: AC2500V, 60s leakage current 1mA Main circuit and coil: AC3000V, 60s leakage current 1mA		
Coil power consumption (20°C)	3W		
Pick-up/drop-out time (rated voltage 20°C)	Pick-up: ≤ 30ms Drop-out: ≤ 10ms		
Impact strength	Stability: (Sine half-wave pulse: 11ms, detection time 10μs) 20g Destructiveness: 50g (sine half-wave pulse: 6ms)		
Vibration strength	10~500Hz 5g		
Product weight	55g		

NDZ3X 50-300Main Performance Parameters

Parameter Name \ Model		NDZ3X-50	NDZ3X-50B	NDZ3X-100	NDZ3X-100B	NDZ3X-150	NDZ3X-150J	NDZ3X-200	NDZ3X-250	NDZ3X-300
Conventional thermal current, Ith		150A				300A		500A		
Rated operating current, Ie (DC750V)		50A		100A		150A		200A	250A	300A
Rated insulation voltage, Ui		DC1000V								
Maximum cut-off current L/R ≤ 1ms		DC320V 1000A, over 1 time				DC320V 2000A, over 1 time				
Short-circuit withstand current		750A 30ms		1500A 30ms		2250A 30ms		3000A 30ms	3750A 30ms	
Contact voltage drop (max)		100A 50mV								
Insulation resistance		100MΩ DC500V								
Withstand voltage		AC2500V 60s				AC3500V 60s				
Mechanical life		1,000, 000 times, frequency 1, 200 times/hour								
Electrical life (forward)	DC 750V L/R≤1ms	50A, 4,000 times		100A, 2,000 times		150A, 2,000 times	150A, 2, 000 times	200A, 2,000 times	250A, 2,000 times	300A, 1,500 times
	DC 1000V L/R≤1m	50A, 2,000 times		50A, 3,000 times		100A, 10 times	150A, 1,000 times	160A, 1,000 times 200A, 800 times	160A, 1,100 times 200A, 900 times 250A, 500 times	160A, 1,200 times 250A, 600 times 300A, 100 times
	Operating frequency	360 times/hour								
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO (note: NDZ3X-50 /100 no auxiliary contact)								
	Rated current/voltage	2A/DC30V, 3A/AC125V								
	Minimum accessible load	100mA, 8V								
Control coil	Rated voltage, Ue	DC12V, DC24V, DC48V					DC12V~24V			
	Operating voltage	75%~110%Uc					DC9V~36V			
	Drop-out voltage	10%~60%Uc					DC1.2V~7.2V			
	Making time	≤ 35ms					≤ 35ms			
	Breaking time	≤ 15ms					≤ 20ms			
	Holding power consumption	6W					3.6W/3.6VA			
	Maximum starting current of coil	0.5A					3.5A			
Malfunction impact	Pick-up	11ms 1/2 sine 15g					11ms 1/2 sine 30g			
	Breaking	11ms 1/2 sine 119g					11ms 1/2 sine 20g			
Malfunction vibration	Pick-up	10g 10~500Hz					20g 10~1000Hz			
	Breaking	5g 10~500Hz					5g 10~1000Hz			
Weight		226±10g				430±10g	485±10g			

NDZ3W DC Contactor - Quick Selection



ND Z 3 W - 150 10 J Z DC12V

- DC12V: Coil voltage: DC12V, DC24V, DC48V, DC09~36V
- Z: Nil: Means conventional products; Z: Combined products (only NDZ3X-100B/Z)
- J: Nil: Means conventional products; J: Means power-saving products; B: Means high-size products
- 10: Number of auxiliary contacts: Nil: Means no auxiliary contact; 10: with one block of normally open auxiliary contact; 01: with one block of normally closed auxiliary contact; 11: with one block of normally open auxiliary contact and one block of normally closed auxiliary contact
- 150: Basic specification code: Rated current value: 50: 50A; 100: 100A; 150: 150A; 200: 200A; 250: 250A; 300: 300A
- W: non-polar products
- 3: Design number: 3
- Z: Product code: DC contactor
- ND: Enterprise code: Nader low-voltage electrical appliances

Note

1. NDZ3 (X) -150 shell frame is available in two states: ener-gy-saving type and conventional type;
2. NDZ3X-50/100 shell frame without auxiliary products has two size states;
3. The coil voltages of NDZ3 (X)-50~150, NDZ3W-50~100, and NDZ3S-10~250 are available in three types: DC12V, DC24V, and DC48V. The coil voltages of NDZ3 (X) -150J~300 and NDZ3W-150~300 are DC9V~36V.

NDZ3W -50-300Main Performance Parameters

Parameter Name \ Model		NDZ3W-50	NDZ3W-100	NDZ3W-150	NDZ3W-200	NDZ3W-250	NDZ3W-300
Conventional thermal current, Ith		150A		300A	500A		
Rated operating current, Ie (DC450V/500V)		50A	100A	150A	200A	250A	300A
Rated insulation voltage, Ui		DC1000V					
Maximum cut-off current L/R ≤ 1ms		DC320V 1000A, over 1 time		DC320V 2000A, over 1 time			
Short-circuit withstand current		750A 30ms	1500A 30ms	2250A 30ms	3000A 30ms	3750A 30ms	
Contact voltage drop (max)		100A 50mV					
Insulation resistance		100MΩ DC500V					
Withstand voltage		AC2500V 60s		AC3500V 60s			
Mechanical life		1,000, 000 times, frequency 1, 200 times/hour					
Electrical life (forward/reverse)	DC 500V L/R≤1ms	50A, 6, 000 times	100A, 6, 000 times	150A, 6, 000 times	200A, 6, 000 times	250A, 6, 000 times	300A, 6, 000 times
	DC 750V L/R≤1ms	50A, 1,000 times	100A, 1,000 times	150A, 1,000 times	200A, 1,000 times	250A, 1,000 times	300A, 1,000 times
	Operating frequency	360 times/hour					
Auxiliary contact	Type	1NO, 1NC, 1NC+1NO					
	Rated current/ voltage	2A/DC30V, 3A/AC125V					
	Minimum accessible load	100mA, 8V					
Control coil	Rated voltage, Ue	DC12V, DC24V, DC48V		DC12V~24V			
	Operating voltage	75%~110%Uc		DC9V~36V			
	Drop-out voltage	10%~60%Uc		DC1.2V~7.2V			
	Making time	≤ 35ms		≤ 35ms			
	Breaking time	≤ 15ms		≤ 20ms			
	Holding power consumption	6W		3.6W/3.6VA			
	Maximum starting current of coil	0.5A		3.5A			
Malfunction impact	Pick-up	11ms 1/2 sine 15g		11ms 1/2 sine 30g			
	Breaking	11ms 1/2 sine 11g		11ms 1/2 sine 20g			
Malfunction vibration	Pick-up	10g 10~500Hz		20g 10~1000Hz			
	Breaking	5g 10~500Hz		5g 10~1000Hz			
Weight		210±10g		460±10g			

NDZ3T DC Contactor - Quick Selection



ND Z 3 T – 300 B P / 750V DC12V

- DC12V — Working coil voltage: DC12V, DC24V, DC48V
- 750V — Load operating voltage: DC750V
- P — Load lead-out terminal type:
  P: Bonding bar
  Nil: Without bonding bar
- B — subdivision code: Nil, B, C
- 300 — Basic specification code:
  10, 20, 40, 100, 150, 200, 300, 350, 400
- T — Sealing type:
  T: Ceramic sealing
- 3 — Design number: 3
- Z — Product code:
  Z: DC contactor
- ND — Enterprise code: Nader

NDZ3T DC Contactor - Main Performance Parameters

Shell Frame Current Levels / Parameter Name		NDZ3T-10	NDZ3T-20	NDZ3T-40	NDZ3T-100	NDZ3T-150
Rated current, Ie		10A	20A	40A	100A	150A
Rated voltage, Ue		DC750V				
Polarity of main circuit:		Nil	Nil	Nil	Yes	Yes
Insulation voltage, Ui		DC1000V				
Control coil	Rated voltage, Ue	DC12V, DC24V		DC12V, DC24V, DC48V		
	Operating voltage	75%~110% Uc				
	Drop-out voltage	10%~60% Uc				
	Coil polarity	Nil				
	Pickup time (20°C rated voltage)	≤30ms				
	Breaking time (20°C)	≤10ms				
	Coil power consumption (20°C)	2.6W	2.6W	3.3W	4.5W	6W
Mechanical life		200, 000 times, frequency 3, 600 times/hour				
Electrical life (0.6s on, 5.4s off) resistive load		DC1000V, 10A, 100,000 times	DC1000V, 20A, 30,000 times DC750V, 20A, 75, 000 times DC450V, 20A, 100,000 times	DC750V, 40A, 1,000 times DC500V 40A, 20,000 times	DC750V, 100A, 1,000 times	DC750V, 150A, 1,000 times
					DC500V 100A 3,000 times	DC500V, 150A, 3,000 times
					DC500V -100A, 1,000 times	DC500V -150A, 1,000 times
Maximum cut-off current		DC1000V, 100A, 1 time	DC1000V, 200A, 1 time	DC300V, 400A, 1 time	DC600V, 1000A, 1 time	DC300V, 1500A, 1 time
Short-time withstand current		10Ie 600ms				
Contact resistance (rated current)		≤ 4.5mΩ	≤ 4.5mΩ	≤ 4mΩ	≤ 1.5 mΩ	≤ 1.5 mΩ
Insulation resistance		1000MΩ, DC1000V				
Withstand voltage		Main circuit: AC3000V, 60s leakage current 1mA Main circuit and coil: AC4000V, 60s leakage current 1mA	Main circuit: AC3000V, 60s leakage current 1mA Main circuit and coil: AC4000V, 60s leakage current 1mA	AC3000V, 60s leakage current 1mA		
Impact strength		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) 20g Destructiveness: 50g (sine half-wave pulse: 6ms)		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) ON: 20g; OF: 10g Destructiveness: 50g (sine half-wave pulse: 6ms)		
Vibration strength		10~500Hz 5g				
Product weight		About 140g	About 150g	About 160g	About 400g with bar About 365g without bar	About 410g with bar About 377g without bar
Product certifications		CCC		CCC, CE, CB, TUV, UL		

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NDZ3T DC Contactor - Main Performance

Shell Frame Current Levels / Parameter Name		NDZ3T-200	NDZ3T-300	NDZ3T-350	NDZ3T-400
Rated current, Ie		200A	300A	350A	400A
Rated voltage, Ue		DC750V			
Polarity of main circuit		Yes			
Insulation voltage, Ui		DC1000V			
Control coil	Rated voltage, Ue	DC12V, DC24V, DC48V			
	Operating voltage	Pick-up voltage: 75% ~ 110%Uc			
	Drop-out voltage	Drop-out voltage: 10% ~ 60%Uc			
	Coil polarity	Yes			
	Pickup time (20°C rated voltage)	≤30ms			
	Breaking time (20°C)	≤10ms			
	Coil power consumption (20°C)	Starting 35W; holding 4.5W	Starting 45W; holding 4.5W	Starting 45W; holding 4.5W	Starting 45W; holding 4.5W
Mechanical life		200, 000 times, frequency 3, 600 times/hour			
Electrical life (0.6s on, 5.4s off) resistive load		DC750V 200A, 1,000 times	DC750V 300A, 1,000 times	DC750V 350A, 1,000 times	DC750V 400A, 1,000 times
		DC500V, 200A, 3, 000 times	DC500V, 300A, 3, 000 times	DC500V, 350A, 2, 000 times	DC500V, 400A, 2, 000 times
		DC500V-200A, 1,000 times	DC500V-300A, 1,000 times	DC500V-350A, 1,000 times	DC500V-400A, 1,000 times
Maximum cut-off current		DC750V, 2000A, 1 time	DC600V, 2500A, 1 time	DC750V, 3000A, 1 time	DC750V, 3000A, 1 time
Short-time withstand current		10Ie 600ms		3000A 600ms	
Contact resistance (rated current)		≤0.2mΩ	≤0.2mΩ	≤0.2mΩ	≤0.2mΩ
Insulation resistance		1000MΩ, DC1000V			
Withstand voltage		AC3000V, 60s leakage current 1mA			
Impact strength		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) Destructiveness: 50g (sine half-wave pulse: 6ms)			
Vibration strength		10~500Hz 5g			
Product weight		About 609g with bar About 527g without bar	About 800g with bar About 710g without bar	About 810g with bar About 710g without bar	About 810g with bar About 710g without bar
Product certifications		CCC, CE, CB, TUV, UL			

NDZ3AT DC Contactor - Quick Selection



ND Z 3A T – 300 B P / 750V DC12V

- DC12V: Working coil voltage: DC12V, DC24V, DC48V
- 750V: Load operating voltage: DC750V
- P: Load lead-out terminal type:
  P: Bonding bar
  Nil: Without bonding bar
- B: subdivision code: Nil, B, C
- 300: Basic specification code:
  120, 150, 200, 250, 300, 400
- T: Sealing type:
  T: Ceramic sealing
- 3A: Design number: 3A
- Z: Product code:
  Z: DC contactor
- ND: Enterprise code: Nader

NDZ3AT DC Contactor - Main Performance Parameters

Parameter Name \ Shell Frame Current Levels		NDZ3AT-120	NDZ3AT-150C	NDZ3AT-150B	NDZ3AT-200B	NDZ3AT-200
Rated current		120A	150A	150A	200A	200A
Rated voltage		DC750V				
Polarity of main circuit		Yes				
Insulation voltage, Ui		DC1000V				
Control coil	Rated voltage, Ue	DC12V, DC24V				
	Operating voltage	75%~110% Uc				
	Drop-out voltage	10%~60% Uc				
	Coil polarity	Nil				
	Making time (20°C Rated voltage)	≤30ms	≤30ms	≤30ms	≤30ms	≤50ms
	Breaking time (20°C)	≤10ms	≤10ms	≤10ms	≤10ms	≤30ms
	Coil power consumption (20°C)	6W				
Mechanical life		300,000 times 3,600 times/hour			200,000 times 3,600 times/hour	
Electrical life (0.6s on, 5.4s off)		DC450V, 120A, 1, 200 times DC750V, 120A, 500 times	DC450V, 150A, 1, 500 times DC750V, 150A, 500 times	DC450V, 150A, 2, 000 times DC750V, 150A, 500 times	DC450V, 200A, 1,000 times DC750V, 200A, 500 times	DC450V, 200A, 3, 000 times DC750V, 200A, 500 times
		DC450V-120A, 500 times	DC450V-150A, 500 times	DC450V-150A, 500 times	DC450V-200A, 500 times	DC450V-200A, 100 times
Maximum cut-off current		DC450V, 1200A, 1 time	DC450V, 1500A, 1 time	DC450V, 1500A, 1 time	DC450V, 2000A, 1 time	DC450V, 2000A, 1 time
Short-time withstand current		900A 6s 400A 40s 300A 2min 200A 10min 150A 2h	900A 8s 600A 20s 400A 60s 320A 2min 225A 15min 180A 2h	900A 8s 600A 20s 400A 60s 320A 2min 225A 15min 180A 2h	900A 10s 600A 30s 320A 5min 250A 15min	2000A 600ms 800A 30s 400A 240s 300A 15min
Contact resistance (rated current)		≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.2mΩ
Insulation resistance		1000MΩ, DC1000V				
Withstand voltage		The leakage current between the breaking contacts at AC3000V for 1 minute is 1mA. The leakage current between the contact and the coil at AC3000V for 1 minute is 1mA				
Impact strength		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) 20g Destructiveness: 50g (sine half-wave pulse: 6ms)				Stability: (Sine half-wave pulse: 11ms, detection time 10μs) ON: 20g; OFF: 10g Destructiveness: 50g (sine half-wave pulse: 6ms)
Vibration strength		10~500Hz 5g				
Product weight		About 390g with bar About 355g without bar	About 390g with bar About 355g without bar	About 350g	About 350g	About 605g

NDZ3AT DC Contactor - Main Performance Parameters

Parameter Name \ Shell Frame Current Levels		NDZ3AT-250	NDZ3AT-250C	NDZ3AT-300C	NDZ3AT-400
Rated current		250A	250A	300A	400A
Rated voltage		DC750V			
Polarity of main circuit		Yes	Nil	Nil	Yes
Insulation voltage, Ui		DC1000V			
Control coil	Rated voltage, Ue	DC12V, DC24V			
	Operating voltage	75%~110% Uc			
	Drop-out voltage	10%~60% Uc			
	Coil polarity	Nil			Yes
	Making time (20°C Rated voltage)	≤50ms	≤30ms	≤30ms	≤30ms
	Breaking time (20°C)	≤30ms	≤10ms	≤10ms	≤10ms
	Coil power consumption (20°C)	6W			Starting 45W Holding 4.5W
Mechanical life		200, 000 times 3, 600 times/hour			
Electrical life (0.6s on, 5.4s off)		DC450V 250A, 1,000 times DC750V, 250A, 500 times DC450V 250A, 100 time	Making: DC20V, 140A, 75, 000 times Breaking: DC450V, 250A, 1,000 times DC750V, 250A, 500 times	Making: DC20V, 140A, 75, 000 times Breaking: DC450V, 300A, 1,000 times DC750V, 250A, 500 times	DC750V 400A, 1,000 times
Maximum cut-off current		DC450V, 2000A, 1 time	DC450V, 2000A, 1 time DC500V, 1800A, 1 time DC750V, 1500A, 1 time	DC800V, 1500A, 1 time DC750V, 2000A, 1 time	DC750V, 3000A, 1 time
Short-time withstand current		2500A 600ms 1000A 30s 500A 120s 375A 10min	8000A 5ms (no burning, no frying) 1000A 20s 900A 25s 500A 120s 350A 8min	8000A 5ms (no burning, no frying) 1000A 25s 900A 30s 600A 120s 450A 5min	3000A 600ms 1200A 30s 600A 20min
Contact resistance (rated current)		≤0.2mΩ	≤0.5mΩ	≤0.5mΩ	≤0.2mΩ
Insulation resistance		1000MΩ, DC1000V			
Withstand voltage		Main circuit and coil: AC3000V, 60s leakage current 1mA			
Impact strength		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) 20g Destructiveness: 50g (sine half-wave pulse: 6ms)	Stability: (Sine half-wave pulse: 11ms, detection time 10μs) ON: 60g; OFF: 20g Destructiveness: 60g (sine half-wave pulse: 11ms)		Stability: (Sine half-wave pulse: 11ms, detection time 10μs) ON: 20g; OFF: 10g Destructiveness: 50g (sine half-wave pulse: 6ms)
Vibration strength		10~500Hz 5g			
Product weight		About 605g	About 400g		About 730g

NDZ3AT-D Version DC Contactor - Quick Selection



ND Z 3A T - 150 D □ / □ □

- Coil voltage: DC12V, DC24V
- Load operating voltage: DC450V, DC750V
- Load lead-out terminal type: P: Bonding bar; nil: Without bonding bar
- subdivision code: D
- Basic specification code: Rated current value
- Sealing type:
  T: Ceramic sealing
- Design number: 3A
- Product code: Z: DC contactor
- Enterprise code: Nader

NDZ3AT-D Version Contactor - Main Performance Parameters

Product model		NDZ3AT-100D	NDZ3AT-150D
Product photo			
Product photo		With polarity	With polarity
Contact polarity		1NO	1NO
Main contact type		DC12~1000V	DC12~1000V
Operating voltage range		100A	150A
Rated operating current		≤0.5mΩ(at100A)	≤0.5mΩ(at150A)
Short-time withstand current		900A 4s, 600A 10s 400A 30s, 300A 2min 200A 10min, 150A 2h, 100A continuous	900A 8s, 600A 20s 400A 60s, 320A 2min 200A 10min, 150A 2h, 100A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V
	Power consumption	5.5W	5.5W
	Coil polarity	Without polarity	Without polarity
Auxiliary contact	Type	/	/
	Rated current/voltage	/	/
	Minimum accessible load	/	/
Maximum cut-off current		DC300V, 1000A, 1 time	DC300V, 1000A, 1 time
Insulation resistance		1000MΩ DC1000V	1000MΩ DC1000V
Power frequency withstand voltage		Between breaking contacts AC3000V 60s Between contact and coil AC3000V 60s	Between breaking contacts AC3000V 60s Between contact and coil AC3000V 60s
Mechanical life		200,000 times	200, 000 times
Electrical life		Capacitive load (τ=1ms, impact 400A, steady state 100A): Making DC22.5V 25,000 times, making DC37.5V 10,000 times Resistive load: DC450V, 100A, 1,000 times, DC750V, 100A, 100 times	Capacitive load (τ=1ms, impact 400A, steady state 150A): Making DC22.5V 25, 000 times, making DC37.5V 10, 000 times Resistive load: DC450V, 150A, 1,000 times, DC750V, 150A, 100 times
Impact stability		20g	20g
Impact strength		50g	50g
Vibration		5g 10~500Hz	5g 10~500Hz
Weight		About 280g with bar, about 260g without bar	About 280g with bar, about 260g without bar
Product certifications		/	/
Page		155	158

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 0.6s ON and 5.4s OFF.

NDZ3AT-G Version DC Contactor - Quick Selection



ND Z 3A T - 150 G / □ □ □

- Coil voltage: DC12V, DC24V
- Special code: Nil: Standard type
- Load operating voltage: DC200V, DC450V, DC750V
- subdivision code: D
- Basic specification code: Rated current value
- Sealing type:
  T: Ceramic sealing
- Design number: 3A
- Product code: Z: DC contactor
- Enterprise code: Nader

NDZ3AT-G Version DC Contactor - Main Performance Parameters

Product model		NDZ3AT-150G	NDZ3AT-200G
Product photo			
Contact polarity		With polarity	With polarity
Main contact type		1NO	1NO
Operating voltage range		DC12~1000V	DC12~1000V
Rated operating current		150A	200A
Contact resistance		≤0.5mΩ(at150A)	≤0.5mΩ(at200A)
Short-time withstand current		900A 8s, 600A 20s, 400A 60s, 320A 2min 225A 15min, 180A 2h, 150A continuous	900A 20s, 600A 120s 300A 10min, 250A 2h, 200A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V
	Power consumption	5.5W	5.5W
	Coil polarity	Without polarity	Without polarity
Auxiliary contact	Type	/	/
	Rated current/voltage	/	/
	Minimum accessible load	/	/
Maximum cut-off current		DC300V, 1200A, 1 time	DC300V, 1200A, 1 time
Insulation resistance		1000MΩ DC1000V	1000MΩ DC1000V
Power frequency withstand voltage		Between breaking contacts AC3000V 60s Between contact and coil AC3000V 60s	Between breaking contacts AC3000V 60s Between contact and coil AC3000V 60s
Mechanical life		200, 000 times	200, 000 times
Electrical life		Capacitive load (τ=1ms, impact 400A, steady state 150A): Forward making DC22.5V 25,000 times Resistive load: DC200V, 120A, 3, 000 times, DC450V, 150A, 1,000 times DC450V-150A, 500 times, DC750V, 150A, 100 times	Capacitive load (τ=1ms, impact 400A, steady state 200A): Forward making DC22.5V 15,000 times Resistive load: DC200V, 120A, 3000 times, DC450V, 200A, 800 times DC450V-200A, 100 times, DC750V, 200A, 100 times
Impact stability		20g	20g
Impact strength		50g	50g
Vibration		5g 10~500Hz	5g 10~500Hz
Weight		About 280g	About 280g
Product certifications		/	/
Page		161	164

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 0.6s ON and 5.4s OFF.

NDZ3AT-H Version DC Contactor - Quick Selection



ND Z 3A T - 250 10 H / 1500 □ □

- Coil voltage: DC12V, DC24V
- Special code: Nil: Standard type
- Load operating voltage: DC1500V
- subdivision code: H
- Auxiliary contact type: 10: with one block of normally open auxil-iary contact
- Basic specification code: Rated current value
- Sealing type: T: Ceramic sealing
- Design number: 3A
- Product code: Z: DC contactor
- Enterprise code: Nader

NDZ3AT-H DC Contactor - Main Performance Parameters

Product model		NDZ3AT-25010H	NDZ3AT-35010H	NDZ3AT-40010H
Product photo				
Contact polarity		Without polarity	Without polarity	Without polarity
Main contact type		1NO	1NO	1NO
Operating voltage range		DC12~DC1500V	DC12~DC1500V	DC12~DC1500V
Rated operating current		250A	350A	400A
Contact resistance		≤0.3mΩ(at250A)	≤0.3mΩ(at350A)	≤0.3mΩ(at400A)
Short-time withstand current		2000A 1s, 500A 1min 320A 10min, 250A continuous	2000A 1s, 600A 90s 400A 10min, 350A continuous	2000A 2s, 800A 2min 750A 8min, 400A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V
	Power consumption	Holding 5.5W, starting 55W	Holding 5.5W, starting 55W	Holding 5.5W, starting 55W
	Coil polarity	With polarity	With polarity	With polarity
Auxiliary contact	Type	1NO	1NO	1NO
	Rated current/ voltage	2A/DC24V	2A/DC24V	2A/DC24V
	Minimum accessible load	100mA/6V	100mA/6V	100mA/6V
Maximum cut-off current		DC1000V, 2000A, 1 time DC1500V, 1000A, 1 time	DC1000V, 2000A, 1 time DC1500V, 1000A, 1 time	DC1000V, 2000A, 1 time DC1500V, 1000A, 1 time
Insulation resistance		1000MΩ DC1500V	1000MΩ DC1500V	1000MΩ DC1500V
Power frequency withstand voltage		AC4000V 60s	AC4000V 60s	AC4000V 60s
Mechanical life		200, 000 times	200, 000 times	200, 000 times
Electrical life		DC1500V 250A, 200 times DC1000V, 250A, 1,500 times	DC1500V, 350A, 200 times DC1000V, 350A, 1,500 times	DC1500V, 400A, 200 times DC1000V 400A, 1,500 times
Impact stability		10g	10g	10g
Impact strength		50g	50g	50g
Vibration		10~55Hz	10~55Hz	10~55Hz
Weight		About 1,130g	About 1,130g	About 1,130g
Page		CCC, CB, CE, TUV, UL	CCC, CB, CE, TUV, UL	CCC, CB, CE, TUV, UL
Without polarity		167	170	173

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 0.6s ON and 5.4s OFF.

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NDZ3AT-H DC Contactor - Main Performance Parameters

Product model		NDZ3AT-50010H	NDZ3AT-60010H
Product photo			
Contact polarity		Without polarity	Without polarity
Main contact type		1NO	1NO
Operating voltage range		DC12~DC1500V	DC12~DC1500V
Rated operating current		500A	600A
Contact resistance		≤0.3mΩ(at500A)	≤0.2mΩ(at600A)
Short-time withstand current		2000A 2s, 900A 2min 750A 15min, 500A continuous	8000A 10ms, 3000A 4s 1000A 5min, 800A 20min, 600A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V
	Power consumption	Holding 5.5W, starting 55W	Holding 5.5W, starting 55W
	Coil polarity	With polarity	With polarity
Auxiliary contact	Type	1NO	1NO
	Rated current/voltage	2A/DC24V	2A/DC24V
	Minimum accessible load	100mA/6V	100mA/6V
Maximum cut-off current		DC1000V, 2000A, 1 time DC1500V, 1000A, 1 time	DC1000V, 2000A, 1 time DC1500V, 1000A, 1 time
Insulation resistance		1000MΩ DC1500V	1000MΩ DC1500V
Power frequency withstand voltage		AC4000V 60s	AC4000V 60s
Mechanical life		200, 000 times	200, 000 times
Electrical life		DC1500V, 500A, 10 times DC1000V 500A, 500 times	DC1500V, 600A, 5 times DC1000V, 600A, 200 times DC750V, 600A, 500 times
Impact stability		10g	10g
Impact strength		50g	50g
Vibration		10~55Hz	10~55Hz
Weight		About 1,130g	About 1,130g
Product certifications		CCC, CB, CE, TUV, UL	CCC, CB, CE, TUV, UL
Page		176	179

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 0.6s ON and 5.4s OFF.

NDZ3AT-R version DC Contactor - Quick Selection



ND Z 3A T - 150 10 R / 1000 □ □

- Coil voltage: DC12V, DC24V
- Special code: Nil: Standard type
- Load operating voltage: DC1000V
- subdivision code: R
- Auxiliary contact type: Blank: Without auxiliary 10: with one block of normally open auxiliary contact
- Basic specification code: Rated current value
- Sealing type: T: Ceramic sealing
- Design number: 3A
- Product code: Z: DC contactor
- Enterprise code: Nader

NDZ3AT-R DC Contactor - Main Performance Parameters

Product model		NDZ3AT-150R	NDZ3AT-200R	NDZ3AT-250R
Product photo				
Contact polarity		Without polarity	Without polarity	Without polarity
Main contact type		1NO	1NO	1NO
Operating voltage range		DC12~1000V	DC12~1000V	DC12~1000V
Rated operating current		150A	200A	250A
Contact resistance		≤0.5mΩ(at150A)	≤0.5mΩ(at200A)	≤0.5mΩ(at250A)
Short-time withstand current		2000A 600ms, 1200A 1s 300A 1min, 200A 10min 150A continuous	2000A 1s, 320A 10min 500A 1min, 250A continuous	450A 5min, 600A 90s 2000A 1s, 250A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V	DC12V, DC24V
	Power consumption	Holding 3W, starting 26W	Holding 3W, starting 26W	Holding 3W, starting 26W
	Coil polarity	With polarity	With polarity	With polarity
Auxiliary contact	Type	Nil, 1NO	Nil, 1NO	Nil, 1NO
	Rated current/voltage	2A/DC24V	2A/DC24V	2A/DC24V
	Minimum accessible load	100mA/6V	100mA/6V	100mA/6V
Maximum cut-off current		DC320V 2000A, 1 time	DC320V 2000A, 1 time	DC320V 2000A, 1 time
Insulation resistance		1000MΩ DC1000V	1000MΩ DC1000V	1000MΩ DC1000V
Power frequency withstand voltage		AC3300V 60s	AC3300V 60s	AC3300V 60s
Mechanical life		200, 000 times	200, 000 times	200, 000 times
Electrical life		DC1000V 150A, 1,000 times	DC1000V 200A, 1,000 times	DC1000V 250A, 1,000 times
Impact stability		20g	20g	20g
Impact strength		50g	50g	50g
Vibration		5g 10~500Hz	5g 10~500Hz	5g 10~500Hz
Weight		About 400g	About 400g	About 400g
Product certifications		CCC, CB, CE, TUV	CCC, CB, CE, TUV	CCC, CB, CE, TUV
Page		182	185	188

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 1s ON and 9s OFF.

NDZ3AT-R DC Contactor - Main Performance Parameters

Product model		NDZ3AT-300R	NDZ3AT-350R
Product photo			
Contact polarity		Without polarity	Without polarity
Main contact type		1NO	1NO
Operating voltage range		DC12~1000V	DC12~1000V
Rated operating current		300A	350A
Contact resistance		≤0.5mΩ(at300A)	≤0.5mΩ(at350A)
Short-time withstand current		2000A 1s, 600A 90s 450A 5min, 300A continuous	2000A 1s, 600A 90s 500A 5min, 350A continuous
Control coil (20°C)	Rated voltage, Ue	DC12V, DC24V	DC12V, DC24V
	Power consumption	Holding 3W, starting 26W	Holding 3W, starting 26W
	Coil polarity	With polarity	With polarity
Auxiliary contact	Type	Nil, 1NO	Nil, 1NO
	Rated current/voltage	2A/DC24V	2A/DC24V
	Minimum accessible load	100mA/6V	100mA/6V
Maximum cut-off current		DC320V 2000A, 1 time	DC320V 2000A, 1 time
Insulation resistance		1000MΩ DC1000V	1000MΩ DC1000V
Power frequency withstand voltage		AC3300V 60s	AC3300V 60s
Mechanical life		200, 000 times	200, 000 times
Electrical life		DC1000V 300A, 1,000 times	DC1000V 350A 300次
Impact stability		20g	20g
Impact strength		50g	50g
Vibration		5g 10~500Hz	5g 10~500Hz
Weight		About 400g	About 400g
Product certifications		CCC, CB, CE, TUV	CCC, CB, CE, TUV
Page		191	194

Note: Unless otherwise specified, the electrical life test temperature is 20°C, the load type is resistive load, and the operating frequency is 1s ON and 9s OFF.

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Product Certification List

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Information on product certification

	Product model	CCC certification (China)	CQC certification (China)	International CB system certification	CE certification (EU)	TUV certification (Germany)	UL certification (US)	SAA certification (Australia)	UKCA certification (UK)	SNI certification (Indonesia)	KC certification (South Korea)	Industrial standard certification
Air circuit breaker	NDW1A-1600/2000/3200/4000/6300	√	√	√	√	√	/	/	/	/	/	
	NDW2-1600/2000/3200/4000/6300	√	√	√	√	√	/	/	/	/	/	
	NDW2F-2000/3200/4000	√	√	√	√	√	/	/	/	/	/	
	NDW2G(Z ZF F)-2000/4000	√	√	√	√	√	/	/	/	/	/	
	NDW3-1600/2500/4000/6300/7500	√	√	√	√	√	/	/	/	/	/	
	NDW3A-2500	/	/	/	/	/	√(UL1066)	/	/	/	/	
	NDW3Z-2500/4000	√	√	√	√	√	/	/	/	/	/	
	NDW3B-3200	√	√	√	/	/	/	/	/	/	/	
	NDW3AGZ-2500	/	/	/	/	/	√(UL498B/UL489)	/	/	/	/	
Molded case circuit breaker	NDM2-63/125/250/400/630/800 NDM2X-125	√	√	√	√	√	/	△	/	/	/	
	NDM2L-125/250/400/630	√	√	√	√	√	/	/	/	/	/	
	NDM2E-100/250/400/630/800	√	√	√	√	√	/	/	/	/	/	
	NDM2Z-63/125/250/400/630 NDM2ZX-125	√	√	√	√	√	/	△	/	/	/	
	NDM2ZB-63/125/250/400/630/800	√	√	√	√	√	/	/	/	/	/	
	NDM3-63/100/125/160/250/400/630/800/1600	√	√	√	√	√	/	△	△	/	/	
	NDM3L-125/250/400/630	√	√	√	√	√	/	/	/	/	/	
	NDM3E-125/250/400/630/800 NDM3EX-1600	√	√	√	√	√	/	△	/	/	/	
	NDM3E (IoT-based)-250/400/630	√	√	/	/	/	/	/	/	/	/	
	NDM3EU-225/400	√	√	√	√	√	√(UL489)	/	/	/	/	
	NDM3G-250/250V/400/400V/630/800	√	√	√	√	√	/	/	/	/	/	
	NDM3Z-125/250/250V/250VM/320V/400/630/630V/800	√	√	√	√	√	/	△	△	/	/	
	NDM3A-250/400/630	√	√	√	√	√	/	△	/	/	△	
	NDM3AR-125/250/400/630	√	√	√	√	√	/	/	/	/	/	
	NDM3ZB-125/250/400/800	√	√	√	△	△	/	/	/	/	/	
	NDM3DLC-250/400/630	√	√	/	/	/	/	/	/	/	/	
	NDM5-125/160/250/250V/400/400V/630/630V/1600	√	√	√	√	√	/	△	/	/	/	
	NDM5G-400V	√	√	√	√	√	/	/	/	/	/	
	NDM5G(Z)-1600	√	√	√	√	√	△	/	/	/	/	
	NDM5E-125/160/250/400/630/1600	√	√	√	√	√	/	/	/	/	/	
	NDM5Z-160/250/400/630/1600	√	√	√	√	√	/	/	/	/	/	

Information on product certification (continued I)

	Product model	CCC certification (China)	CQC certification (China)	International CB system certification	CE certification (EU)	TUV certification (Germany)	UL certification (US)	SAA certification (Australia)	UKCA certification (UK)	SNI certification (Indonesia)	KC certification (South Korea)	Industrial standard certification
Switch disconnector	NDGR2-63/125/160/250/400/630/800/1000/1250	√	△	△	/	/	/	/	/	/	/	
	NDGP2-2000/2500	√	/	/	/	/	/	/	/	/	/	
	NDG3-100/125/100H/125H/160H/160/200/250/315/400/500/630/800/1000/1250	√	√	√	√	√	/	/	/	/	/	
	NDG3-630J/800J/1000J/1250J	√	√	√	√	√	/	/	/	/	/	
	NDG3V-32/50/250/350/400/500/630/800	√	√	√	√	√	/	△	/	/	/	
	NDG3VH-160/250/315/400/500/630(G)	√	√	√	√	√	/	/	/	/	/	
	NDG3VH-100/200/250/275/325/400(U)	/	/	/	/	/	√	/	/	/	/	
	NDG3A-100/125/160/200/250/250H/315/400/500C/500/630/800/1000/1250/1600/1800/2000	√	√	√	√	√	/	/	/	/	/	
	NDG3A-1000Z/1600Z/2000Z/2500Z/3200Z	√	√	√	√	√	/	/	/	/	/	
Dual-power automatic transfer switch	NDQ1-63/100/225/400/630/800	√	√	△	△	△	/	/	/	/	/	
	NDQ2A-63/125/250	√	√	△	/	/	/	/	/	/	/	
	NDQ2A-125H	√	√	√	√	√	/	/	/	/	/	
	NDQ3-125/250/400/630/800/1250/1600/2000	√	√	√	△	△	/	/	/	/	/	
	NDQ3H-63/125/250/400/630/800/1250/3150/4000/5000	√	√	△	△	△	/	/	/	/	/	
	NDQ3HP-3200/5000	√	√	√	√	√	/	/	/	/	/	
	NDQ5-4000	√	√	√	/	/	/	/	/	/	/	
	NDQ5W-1600/2500/4000/6300	√	√	√	/	/	/	/	/	/	/	
Terminal	NDB1-32/40/63/125	√	√	△	△	△	△	△	△	△	/	
	NDB1LE-32	√	√	√	/	/	/	/	/	/	/	
	NDB1L-32 NDB1LE-/40/63/100	√	√	√	△	△	△	△	/	/	△	
	NDB1LE-63 type B	√	√	√	√	√	/	/	/	/	/	
	NDB1LE-40Z/63Z	√	√	/	/	/	/	/	/	/	√	
	NDB1LE-63X(G)	√	√	√	/	/	/	/	/	/	/	
	NDB1T-63	√	√	√	√	√	/	/	/	/	/	
	NDB1TLE-63	√	√	√	/	△	/	/	/	/	/	
	NDB1TS-63	√	√	√	/	/	/	/	/	/	/	
	NDB1PT-63	√	√	√	√	√	/	/	/	/	/	
	NDB1Z-63	√	√	√	√	√	/	√	/	/	/	
	NDB2-40/63	√	√	√	√	√	√(UL1077)	△	△	△	△	
	NDB2-63H	√	√	√	√	√	/	/	/	/	/	
	NDB2N-125A	√	√	√	√	√	/	△	△	/	/	
	NDB2LE-40/63	√	√	√	/	√	/	△	/	△	/	
	NDB2LE-32	√	√	√	/	/	/	/	/	/	/	
	NDB2T-63	√	√	√	√	√	√(UL1077,UL489)	√	/	/	/	
	NDB2TLE-63	√	√	√	/	/	/	/	/	/	/	

Information on product certification (continued II)

	Product model	CCC certification (China)	CQC certification (China)	International CB system certification	CE certification (EU)	TUV certification (Germany)	UL certification (US)	SAA certification (Australia)	UKCA certification (UK)	SNI certification (Indonesia)	KC certification (South Korea)	Industrial standard certification
Terminal	NDB2TS-63	√	/	√	√	√	/	√	/	/	/	
	NDB2Z-63	√	√	√	√	√	√(UL1077)	√	/	/	/	
	NDB2ZB-63	√	√	√	√	√	/	√	/	/	/	
	NDB2NZ-80H	√	√	√	√	√	√	√	/	/	/	
	NDB2LM-40/63	√	√	√	√	√	/	△	/	/	/	
	NDB2F-125W	√	√	/	/	/	/	/	/	/	/	
	NDB6-125	√	√	√	√	√	/	√	/	/	/	
	NDB6Z-125	√	√	√	√	√	/	√	/	/	/	
	NDB6A-63H/125H	√	√	√	√	√	/	√	√	/	/	
	NDB6AZ-63H/125H/200H	√	√	√	√	√	△	△	√	/	/	
	NDB6LM-40	√	√	√	√	√	/	/	/	/	/	
	NDL6M-100	√	√	√	√	√	/	√	/	/	/	
	NDL2M-100	√	√	√	√	√	/	/	/	/	/	
	NDG1-100/125	√	√	√	√	√	/	/	/	/	/	
	NDA1-10/16/25	√	/	/	/	/	/	/	/	/	/	
	NDP1A-10/12/14/16/18/20 (single row) /24/32/40 (double row)	√	/	/	/	/	/	/	/	/	/	
	NDP3A-7/10/12/15/18/21 (single row) /24/30 (double row) /45 (triple row)	√	/	/	/	/	/	/	/	/	/	
	NDP3T-10/12/14/16/18/20 (single row /24/32/40 (double row)	√	/	/	/	/	/	/	/	/	/	
	NDH1-63/100	/	/	/	△	/	/	/	/	/	/	
	NDH2-63	/	/	/	/	/	/	/	/	/	/	
	NDB3-30/50/100/125	√	√	√	√	√	△	/	√	/	△	
	NDB5	√	√	√	√	√	√ (UL1077,UL489A)	/	√	/	/	
	NDB5E-40/80/80X	√	√	√	△	△	/	/	/	/	/	
	NDB5EL-40/80	√	√	√	/	/	/	/	/	/	/	
	NDGQ1Z-32/40/50/63/80/100	/	√	/	/	/	/	/	/	/	/	
	NDU1-10/20/40/65/80/100/120	/	/	/	/	/	/	/	/	/	/	Beijing Lightning Protection Device Testing Center
	NDU1-I 15/50	/	/	/	/	/	/	/	/	/	/	Beijing Lightning Protection Device Testing Center
	NDU1Z-40	/	/	/	/	/	/	/	/	/	/	Beijing Lightning Protection Device Testing Center
	NDUH1-20/40/65/80/100/120 NDUH1I-15/25	/	√	/	/	/	/	/	/	/	/	

Information on Product Certification (continued III)

	Product model	CCC certification (China)	CQC certification (China)	International CB system certification	CE certification (EU)	TUV certification (Germany)	UL certification (US)	SAA certification (Australia)	UKCA certification (UK)	SNI certification (Indonesia)	KC certification (South Korea)	Industrial standard certification
Industrial control	NDC1(Z)-09~95 NDC1-115~2650 NDC1N-09~95/115~800	√	√	√	√	√	/	/	/	/	/	
	NDC1M-09~95	√	√	√	√	√	/	/	/	/	/	
	NDC1M-115~2650	√	√	√	△	△	/	/	/	/	/	
	NDC1T-40/50/65	√	√	√	√	√	/	/	/	/	/	
	NDC2(N)-06~16/115~170	√	√	√	√	√	/	/	/	/	/	
	NDC2J-16-63	√	√	√	√	√	/	/	/	/	/	
	NDC2-80R/150R/200R/250R/320R/375R/400R/500R/670R/750R	√	√	√	√	√	/	/	/	/	/	
	NDC3(ZE/N)-09~38 NDC3(N/GV/Z)-40~95	√	√	√	√	√	/	/	/	/	/	
	NDC5K-630/800/1450/1700/2400/2700/3200	√	√	√	√	√	/	/	/	/	/	
	NDZ3AT-150G/200G	/	/	/	/	/	/	/	/	/	/	
	NDZ3AT-25010H/35010H/40010H/50010H/60010H	/	/	/	/	/	/	/	/	/	/	
	NDZ3AT-150R/200R/250R/300R/350R	√	√	√	√	√	√	/	/	/	/	
	NDJ1(Z/ZE)-40/31/22	√	√	/	√	√	/	/	/	/	/	
	NDJ3(ZE)-50/41/32	√	√	√	√	√	/	/				
	NDK1-25/32/40/50/60/80/125	√	√	/	/	/	/	/	/	/	/	
	NDY1-20/25/32/63/125/160	√	√	√	√	√	△	/	/	/	/	
	NDCQ1-12~95	√	√	/	/	/	/	/	/	/	/	
	NDR1E-38/95	√	√	√	√	√	/	/	/	/	/	
	NDR2-38/95/140	√	√	√	√	√	/	/	/	/	/	
	NDR3E-38/65/95	√	√	√	√	√	/	/	/	/	/	
	NDD1-32/80	√	√	√	√	√	/	/	/	/	/	
	NDKB1-45/125	√	/	/	/	/	/	/	/	/	/	
	NDKB3-63	√	/	/	/	/	/	/	/	/	/	
	NDJG3-25/40	√	√	√	√	√	/	/	/	/	/	

Information on Product Certification (continued IV)

	Product model	CCC certification (China)	CQC certification (China)	International CB system certification	CE certification (EU)	TUV certification (Germany)	UL certification (US)	SAA certification (Australia)	UKCA certification (UK)	SNI certification (Indonesia)	KC certification (South Korea)	Industrial standard certification
DC	NDZ3-50/100/150/150J/200/250/300	√	√	√	√	√	/	/	/	/	/	
	NDZ3W-50/100/150/200/250/300	√	√	√	√	√	√	/	/	/	/	
	NDZ3X-50(B)/100(B)/150(J)/200/250/300/1001 0B/Z NDZ3X-10/20/40	△	△	△	△	△	△	/	/	/	/	
	NDZ3S-10/20/50/100/150/200/250	/	/	/	/	/	/	/	/	/	/	
	NDZ3T-10/20/40/100/150/200/300/350/400	√	△	△	△	△	△	/	/	/	/	IATF16949
	NDZ3AT-120/150C/150B/200B/200/250/250C/3 00C/400	△	△	△	△	△	△	/	/	/	/	
	NDZ3AT-100D/150D	√	√	√	/	/	/	/	/	/	/	
	NDZ3AT-150G/200G	√	√	√	/	/	/	/	/	/	/	
	NDZ3AT-25010H/35010H/40010H/50010H/60 010H	√	/	/	/	/	/	/	/	/	/	
	NDZ3AT-150R/200R/250R/300R/350R	√	√	√	√	√	√	/	/	/	/	
Brand cabinet	NEA-1600A/2500A/4000A/6300A	√	√	/	/	/	/	/	/	/	/	
	NEA M-1600A/2500A/4000A/6300A NEAM low-voltage complete reactive power compensation device (semiconductor electronic switch) NEAM low-voltage complete reactive power compensation device (electromechanical switch) NEAM4000A (ATS cabinet)	√	√	△	√	/	/	/	/	/	/	
	NEAE-630A (integrated distribution cabinet) NEAE-250A (distribution box) NEAE-250A (lighting box) NEAE-250A (metering box) NEAE-630A (dual power distribution cabinet, PC grade) NEAE-630A (dual power distribution cabinet, CB grade)	√	√	/	/	/	/	/	/	/	/	

1. "√" means that the of products have the corresponding certifications; 2. "△" means that please consult via our technical support hotline 400-99-02706; 3. "/" means that there is no corresponding certification for this of products; 4. The above certification information is only for the product range covered in this selection guide. We reserve the right of final interpretation.
Note: Classification society certificates NDW3Z-2500

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