

Shanghai Liangxin Electrical Co., Ltd.

NDZ3AT-120~250 DC Contactor

Product Specification

(IPD-ENG-DEV-T22 A1 2016-09-23)

Prepared	赵岚	Date	2020.12.01
Reviewed	谢强强	Date	2020.12.08
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Approved	朱华	Date	2020.12.09

Revision information					
Version	Revised contents and reasons	Date	Prepared	Reviewed	Approved
0	New addition	2020-9-7	Zhao Lan	Xie Qiangqiang	Zhu Hua
1	Update information of Outline dimensions hadn't specified tolerance	2020-9-16	Zhao Lan	Xie Qiangqiang	Zhu Hua
2	Correct errors in printing	2020-11-25	Zhao Lan	Xie Qiangqiang	Zhu Hua

## 1.Application Scope and Purpose

The NDZ3AT-120~250 series of DC contactors apply to the DC system with the working voltage of DC750V and working current of 120~250A, which are mainly used in electric vehicles, charging piles, charging stations and other fields.

## 2. Picture of the Product



## 3. Specification and Model Description

ND	Z	3A	T	-	□	□	□	/ 750V	□
1	2	3	4	5	6	7	8	9	

SN	SN name	NDZ3T
1	Enterprise code	ND "Nader" brand low-voltage electrical device
2	Product code	Z DC contactor
3	Design SN	3A
4	Package type	T: Ceramic package
5	Basic specification code	Rated current value
6	Series subdivision code	none、B、C
7	Load outlet form	P: Busbar; none: Without a busbar
8	Load working voltage	DC 750V
9	Coil voltage	DC12V, DC24V

Note: NDZ3AT-150B/200B and NDZ3AT-200/250 without a busbar;

#### 4. Main Technical Parameters

Parameter name	Description of the specific parameters					
Product model	NDZ3AT-120	NDZ3AT-150C	NDZ3AT-150B	NDZ3AT-200B	NDZ3AT-200	NDZ3AT-250
Rated current (A)	120A	150A	150A	200A	200A	250A
Load polarity	With polarity	With polarity	With polarity	With polarity	With polarity	With polarity
Coil polarity	Without polarity	Without polarity	Without polarity	Without polarity	Without polarity	Without polarity
Number of poles	Single pole					
Rated voltage DC(V)	450V/750V					
Insulation voltage Ui	1000V					
Type of circuit	DC					
Rated control voltage Us	DC12、24V Pull-in voltage: 75%~110%Us Discharge voltage: 10%~60%Us					
Pull-in/discharge time (rated voltage 20°C):	Pull-in: ≤30ms Discharge: ≤10ms	Pull-in: ≤30ms Discharge: ≤10ms	Pull-in: ≤30ms Discharge: ≤10ms	Pull-in: ≤30ms Discharge: ≤10ms	Pull-in: ≤50ms Discharge: ≤30ms	Pull-in: ≤50ms Discharge: ≤30ms
Coil power consumption (20°C):	6W					
Mechanical life	300,000 times, frequency: 3,600 times/h			200,000 times, frequency: 3,600 times/h		
Forward electrical life (on 0.6s off 5.4s) resistive load	DC450V 120A 1200 times;	DC450V 150A 1500 times;	DC450V 150A 2000 times;	DC450V 200A 1000 times;	DC450V 200A 3000 times;	DC450V 250A 1000 times;
	DC750V 120A 500 times	DC750V 150A 500 times	DC750V 150A 500 times	DC750V 200A 500 times	DC750V 200A 500 times	DC750V 250A 500 times
	DC450V -120A 500 times	DC450V -150A 500 times	DC 450V -150A 500 times	DC450V -200A 500 times	DC450V -200A 100 times	DC450V -250A 100 times
Maximum breaking current:	DC450V 1200A 1 times	DC450V 1500A 1 times	DC450V 1500A 1 times	DC450V 2000A 1 times	DC450V 2000A 1 times	DC450V 2000A 1 times
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	2500A 600ms、 1000A 30s、 500A 120s、 375A 10min
	≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.5mΩ	≤0.2mΩ	≤0.2mΩ
Insulation resistance:	≥1000MΩ, 1000VDC					
Withstand voltage:	3000VAC 60s					
Impact strength	Stability: (sinusoidal half-wave pulse: 11ms, detection time 10μs) 20g Destructiveness: (sinusoidal half-wave pulse: 6ms)50g				Stability: (sinusoidal half-wave pulse: 11ms, detection time 10μs) ON: 20g; OFF:10g Destructiveness: (sinusoidal half-wave pulse: 6ms)50g	

Vibration strength	10~500Hz 5g					
Product weight	Approx.390g with a busbar; Approx.355g without a busbar	Approx.390g with a busbar; Approx.355g without a busbar	Approx.350g	Approx.350g	Approx.605g	Approx.605g

## 5. Normal Working Environment

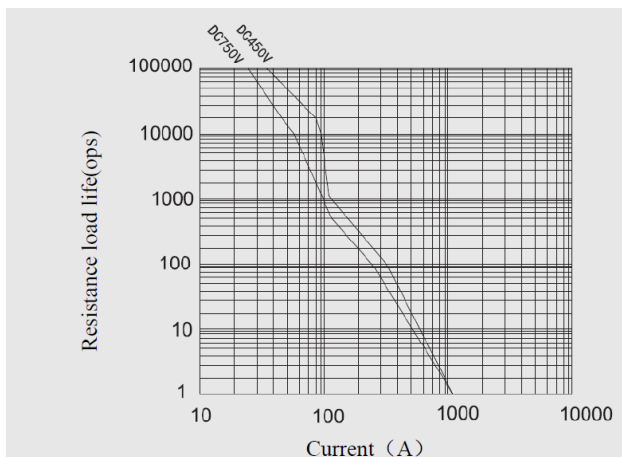
5.1: Operating ambient environment: -40~85℃

5.2: Operating humidity: 5%~95%

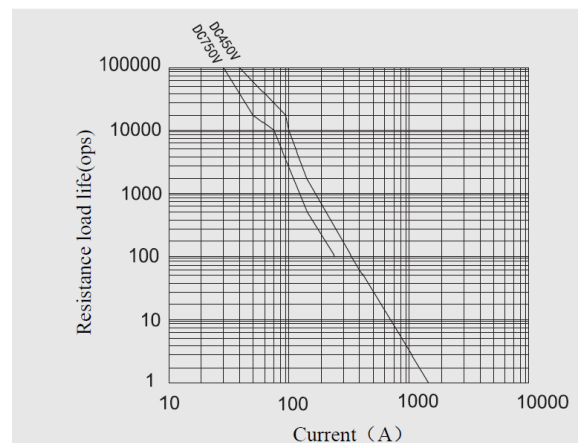
5.3: Pollution level: 3

5.4: Installation direction: Vertical installation, horizontal installation.

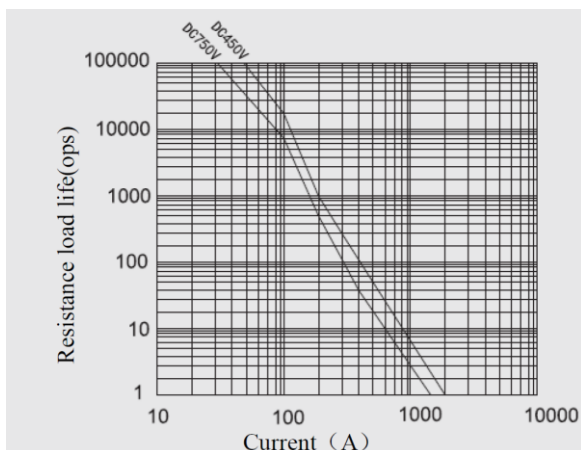
## 6. Electrical Endurance



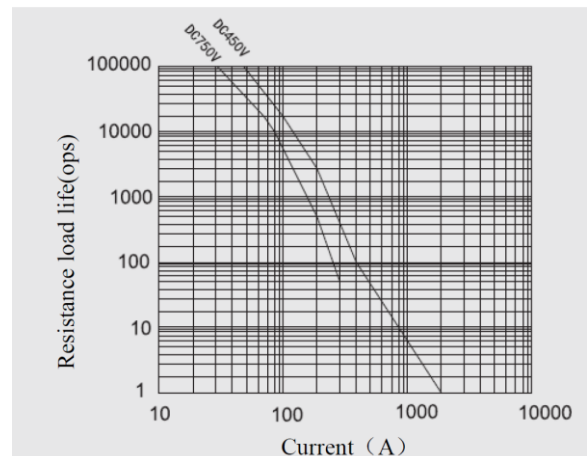
NDZ3AT-120



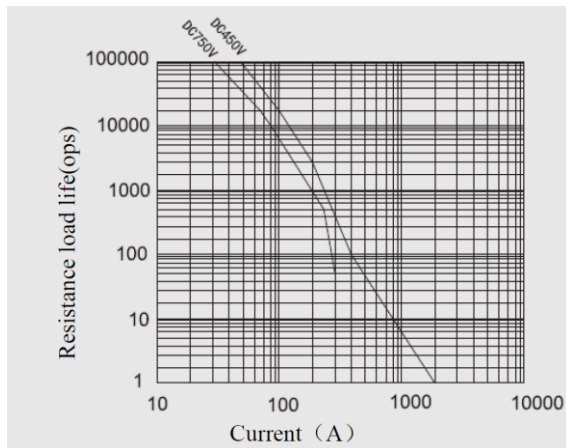
NDZ3AT-150B、NDZ3AT-150C



NDZ3AT-200B

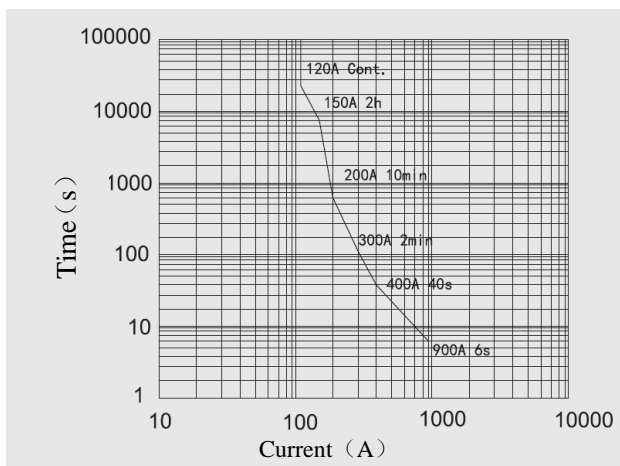


NDZ3AT-200

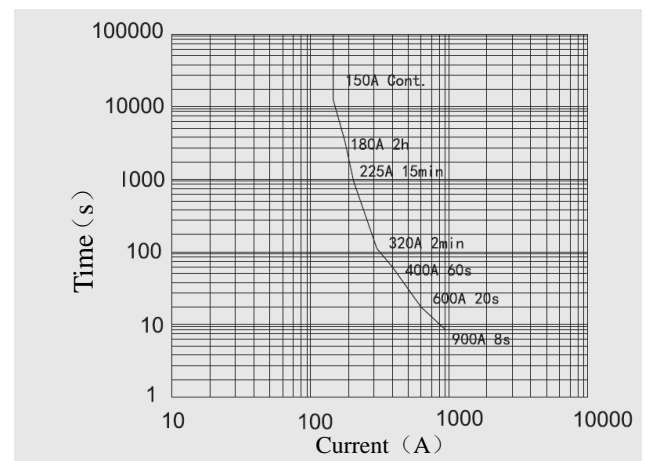


NDZ3AT-250

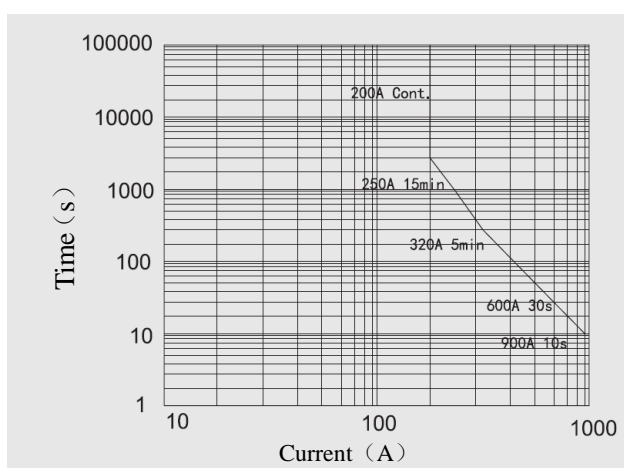
## 7.Current Endurance



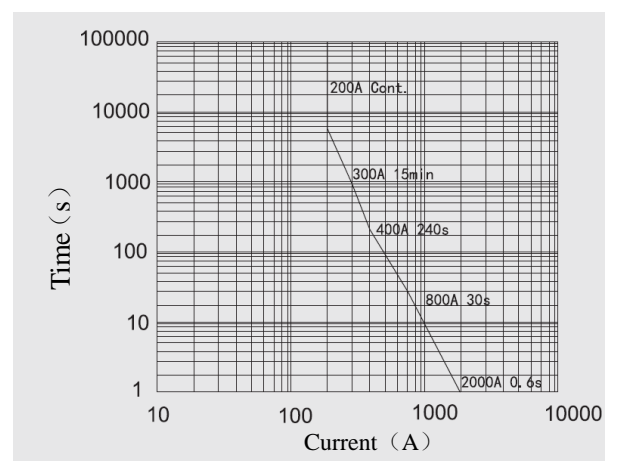
NDZ3AT-120



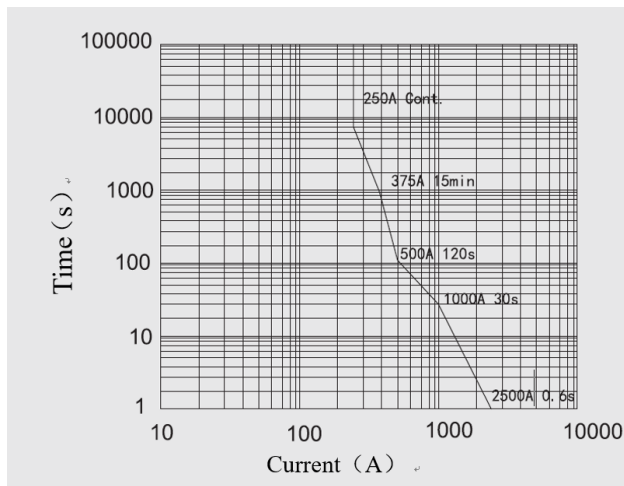
NDZ3AT-150B、NDZ3AT-150C



NDZ3AT-200B

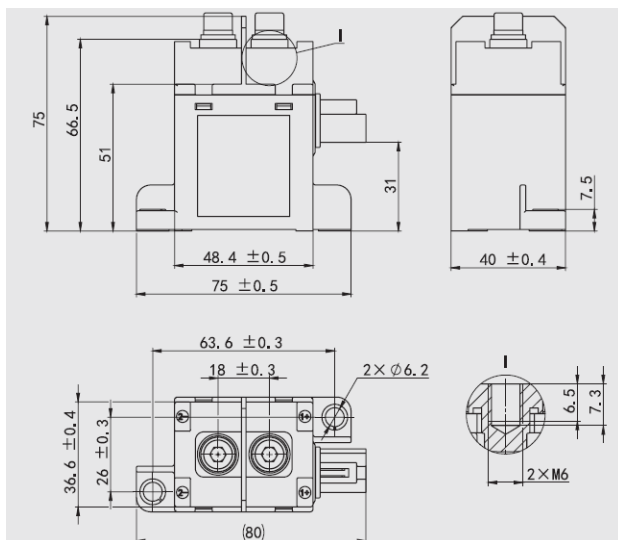


NDZ3AT-200

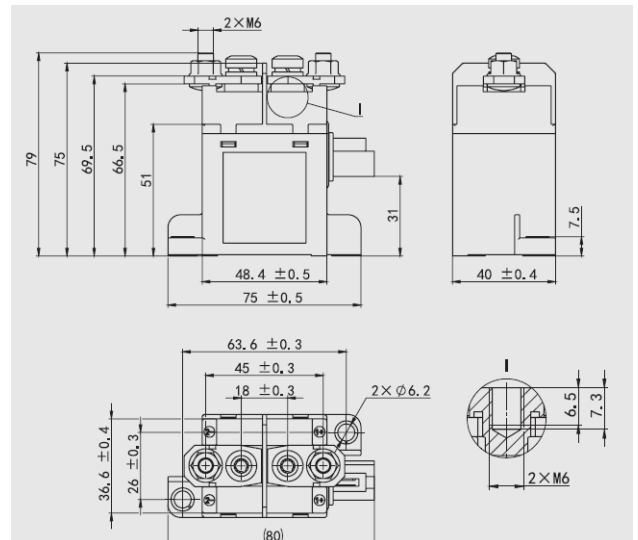


NDZ3AT-250

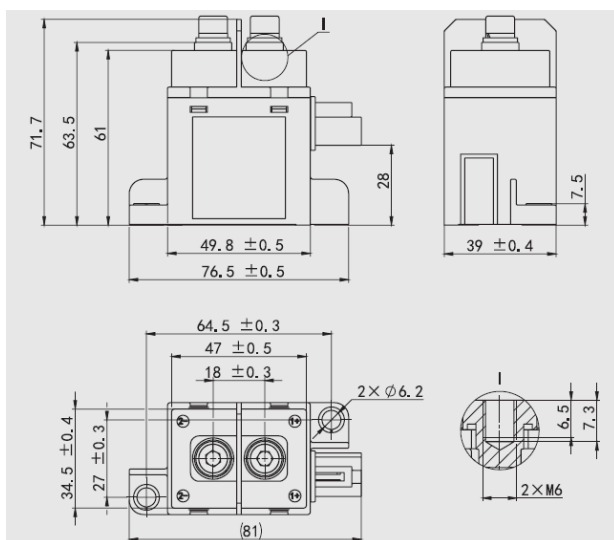
## 8.External Dimensions and Installation Dimensions (mm)



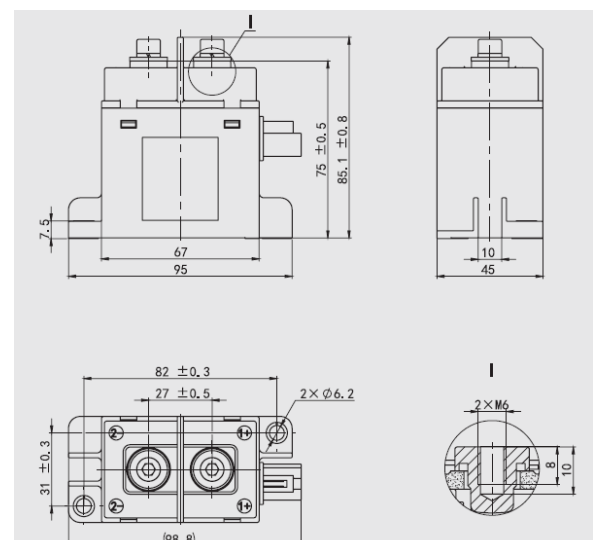
NDZ3AT-120/150C



NDZ3AT-120P/150CP



NDZ3AT-150B/200B



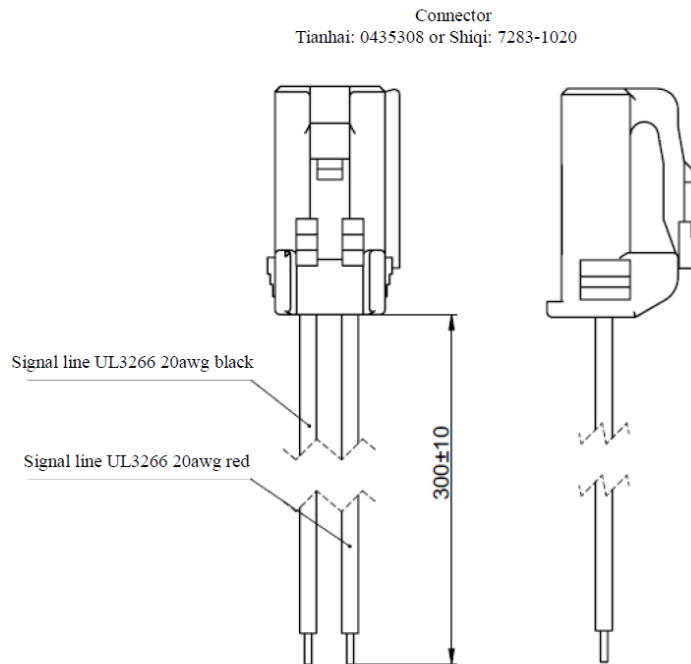
NDZ3AT-200/250

Note: All unspecified tolerance according to following table.

Add: No.2000, South Shen Jiang Rd. Pudong District, Shanghai, 201315, PRC Tel:(021)68586699 Fax:(021)23025796

Outline dimensions hadn't specified tolerance	
Outline Dimensions	Tolerance
$\leq 10\text{mm}$	$\pm 0.3 \text{ mm}$
$10 \sim 50 \text{ mm}$	$\pm 0.5 \text{ mm}$
$> 50\text{mm}$	$\pm 0.8 \text{ mm}$

## 9. Coil connector (mm)



## 10. Installation Mode

Screw mounting

## 11. Environmental Compliance

Comply with the RoHS directives

## 12. Precautions

a. It is strictly forbidden to use the product in places with strong magnetic fields or in proximity to thermal radiation;

b. Wiring terminal torque;

Type	Wiring terminal torque	Installation position torque
NDZ3AT-120/150C	M6 crew: $5 \sim 6\text{N}\cdot\text{m}$	M5 crew: $3 \sim 4 \text{ N}\cdot\text{m}$
NDZ3AT-120P/150CP	M6 nut: $6 \sim 8\text{N}\cdot\text{m}$	
NDZ3AT-150B/200B	M6 screw: $5 \sim 6\text{N}\cdot\text{m}$	
NDZ3AT-200/250	M6 screw: $6 \sim 8\text{N}\cdot\text{m}$	

c. Avoid adhering grease and other foreign matters on the wiring terminal and use the connecting conductor with the following specifications, which may otherwise lead to the abnormal heating of the wiring part;



Type	Wire cross-section area
NDZ3AT-120/150	$\geq 50\text{mm}^2$
NDZ3AT-200	$\geq 60\text{mm}^2$
NDZ3AT-250	$\geq 100\text{mm}^2$