

Shanghai Liangxin Electrical Co., Ltd.

NDZ3T-40~300 High-voltage DC Contactor

Product Specification

(IPD-ENG-DEV-T20 A0 10/20/2017)

Product Name: High-voltage DC Contactor

Product Model: NDZ3T-40~300

Date: 2018-11-7

Prepared by	Xie Qiangqiang	Date	11/7/2018
Reviewed by	Yu Yipeng/Zhang Xifeng	Date	11/7/2018
Approved by	Wu Peifeng	Date	11/7/2018

Revision History					
Version	Revision Reason/Content	Implementation Date	Prepared by	Reviewed by	Approved by
0	New addition	2018-11-7	Xie Qiangqiang	Yu Yipeng	Wu Peifeng
1		2019-5-10	Xie Qiangqiang	Yu Yipeng	Wu Peifeng

1. Application Scope and Purpose

The NDZ3T-40~300 series of high-voltage DC contactors apply to the DC system with the working voltage of DC750V and working current of 40~300A, which are mainly used in electric vehicles, charging piles, charging stations and other fields.

2. Picture of the Product



NDZ3T-40



NDZ3T-100



NDZ3T-100P



NDZ3T-150



NDZ3T-150P



NDZ3T-200



NDZ3T-200P



NDZ3T-300P

3. Specification and Model Description

$\frac{\text{ND}}{1}$
 $\frac{\text{Z}}{2}$
 $\frac{3}{3}$
 $\frac{\text{T}}{4}$
 $\frac{\square}{5}$
 $\frac{\square}{6}$
 $\frac{750}{7}$
 $\frac{\square}{8}$

SN	SN name	NDZ3T
1	Enterprise code	ND "Nader" brand low-voltage electrical device
2	Product code	Z DC contactor
3	Design SN	3
4	Package type	T: Ceramic package
5	Basic specification code	Rated current value
6	Load outlet form	P: Busbar; none: Without a busbar
7	Load working voltage	DC 750V
8	Coil voltage	DC12V, DC24V, DC48V

Note: 40A without a busbar; 300A with a busbar

4. Main Technical Parameters

Parameter name	Description of the specific parameters				
Shell frame current level	40A	100A	150A	200A	300A
Load polarity	Without polarity	With polarity	With polarity	With polarity	With polarity
Coil polarity	Without polarity	Without polarity	Without polarity	With polarity	With polarity
Number of poles	Single pole				
Rated current (A)	40	100	150	200	300
Rated voltage DC(V)	750				
Insulation voltage Ui	1000V				
Type of circuit	DC				
Rated control voltage Us	DC12/24V/48V Pull-in voltage: 75%~110%Us Discharge voltage: 10%~60%Us				
Mechanical life	200,000 times, frequency: 3,600 times/h				
Forward electrical life (on 0.6s off 5.4s) resistive load	750VDC 40A 1,000 times	750VDC 100A 1,000 times	750VDC 150A 1,000 times	750VDC 200A 1,000 times	750VDC 300A 1,000 times
	500VDC 40A 20,000 times	500VDC 100A 3,000 times	500VDC 150A 3,000 times	500VDC 200A 3,000 times	500VDC 300A 3,000 times
Reverse electrical life (on 0.5s off 4.5s) resistive load	-500VDC 40A 20,000 times	-500VDC 100A 1,000 times	-500VDC 150A 1,000 times	-500VDC 200A 1,000 times	-500VDC 300A 1,000 times
Maximum breaking current:	DC300V 400A more than once	DC600V 1000A more than once	DC300V 1500A more than once	DC750V 2000A more than once	DC600V 2500A more than once
Short-time withstand current:	10Ie 600ms				
Insulation resistance:	≥1000MΩ, 1000VDC				
Withstand voltage:	3000VAC 60s				
Coil power consumption (20°C):	≤3.3W	≤4.5W	≤6W	Starting≤35W Retention≤4.5W	Starting≤45W Retention≤4.5W
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: ≤30ms Discharge: ≤10ms
Impact strength	Stability: (sinusoidal half-wave pulse: 11ms, detection time 10μs) ON:20g;OFF:10g Destructiveness: 50g (sinusoidal half-wave pulse: 6ms)				
Vibration strength	10~500Hz 5g				
Product weight	160g	400g with a busbar; 365g without a busbar	410g with a busbar; 377g without a busbar	609g with a busbar; 527g without a busbar	800g

5. Normal Working Environment

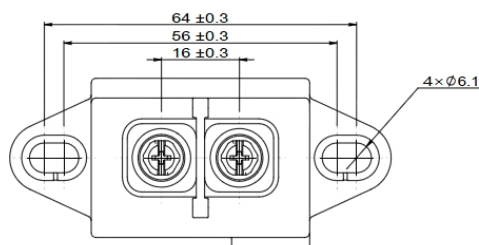
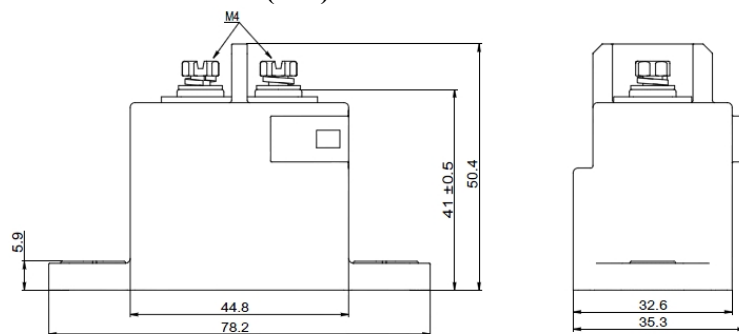
5.1: Operating ambient environment: $-40\sim 85^{\circ}\text{C}$

5.2: Operating humidity: 5%~95%

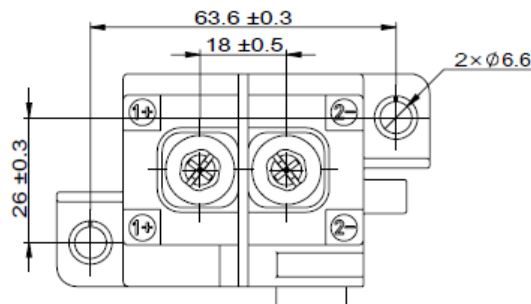
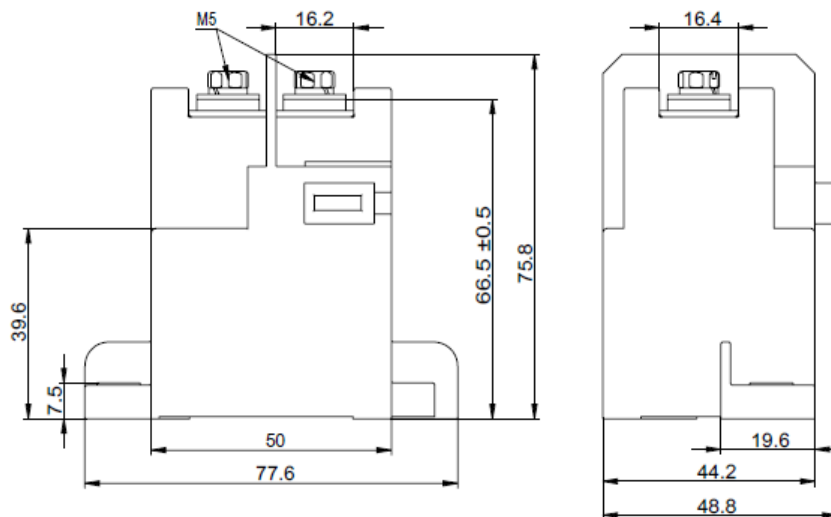
5.3: Pollution level: 3

5.4: Installation direction: Vertical installation, horizontal installation.

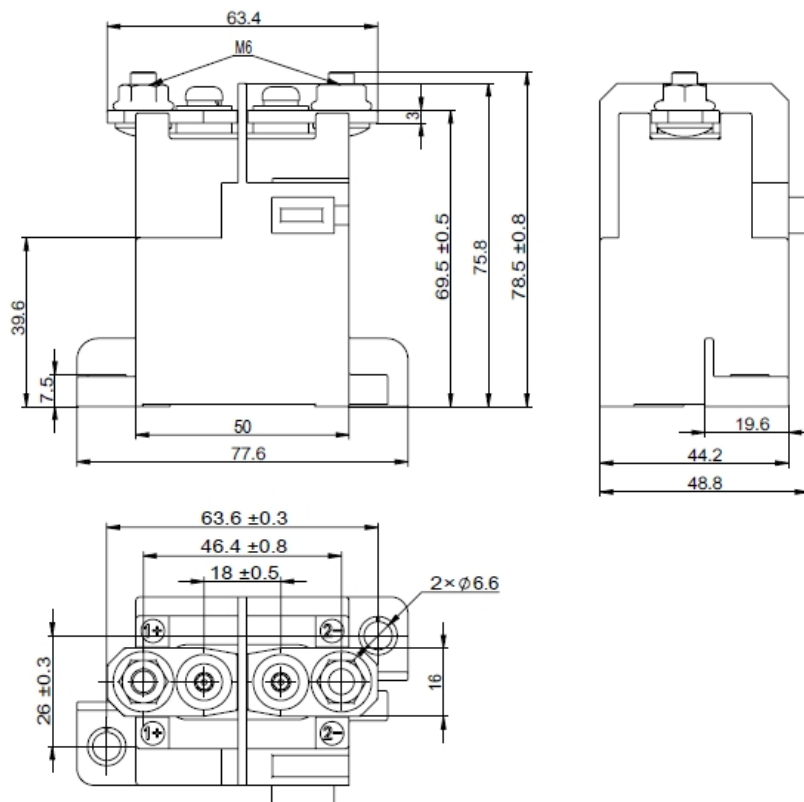
6. External Dimensions and Installation Dimensions (mm)



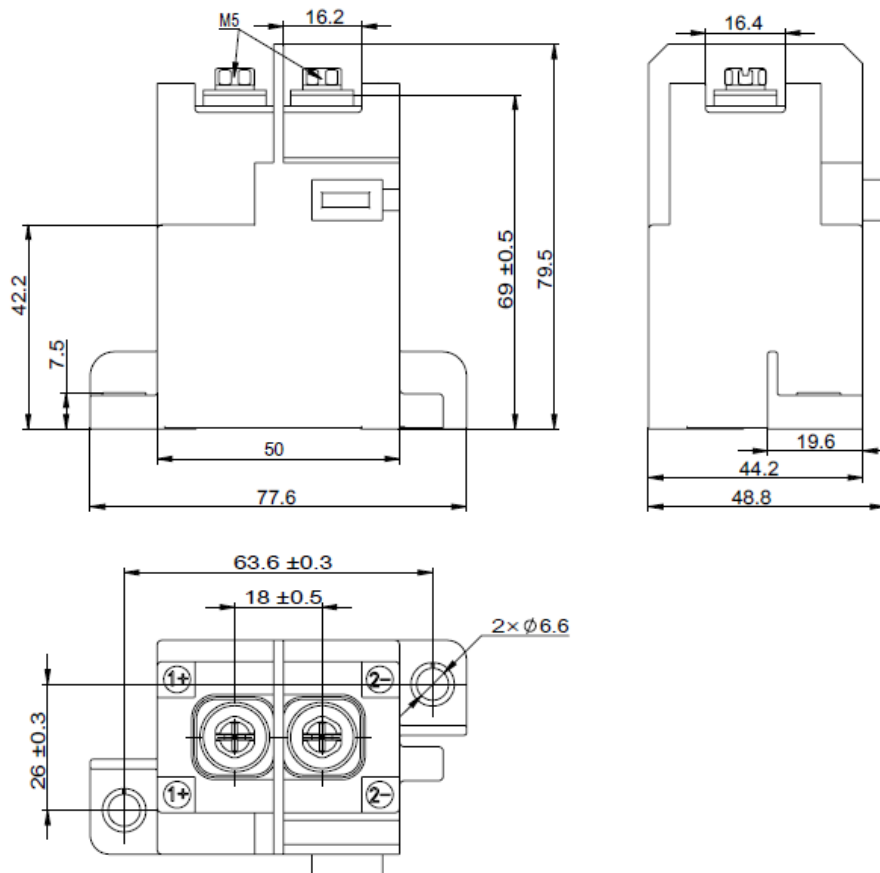
NDZ3T-40



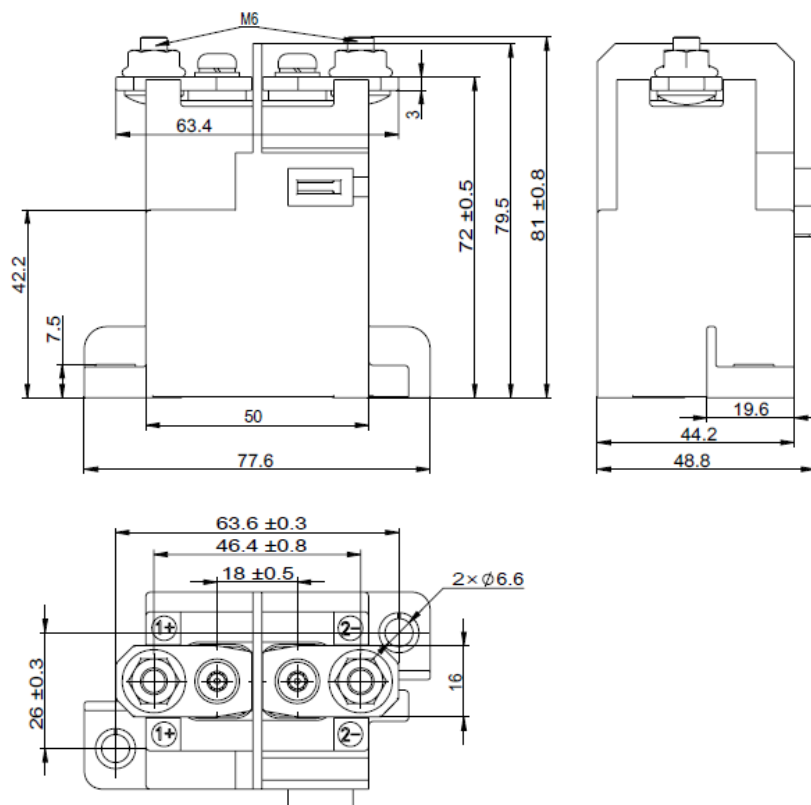
NDZ3T-100



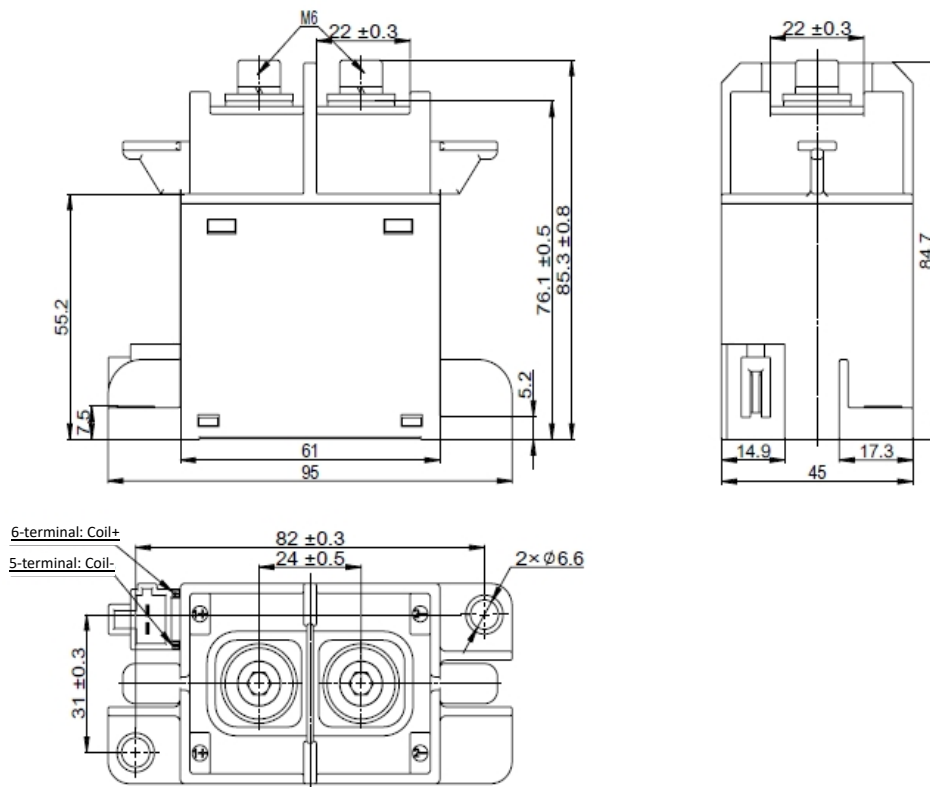
NDZ3T-100P



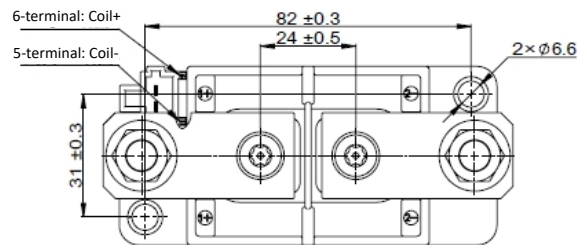
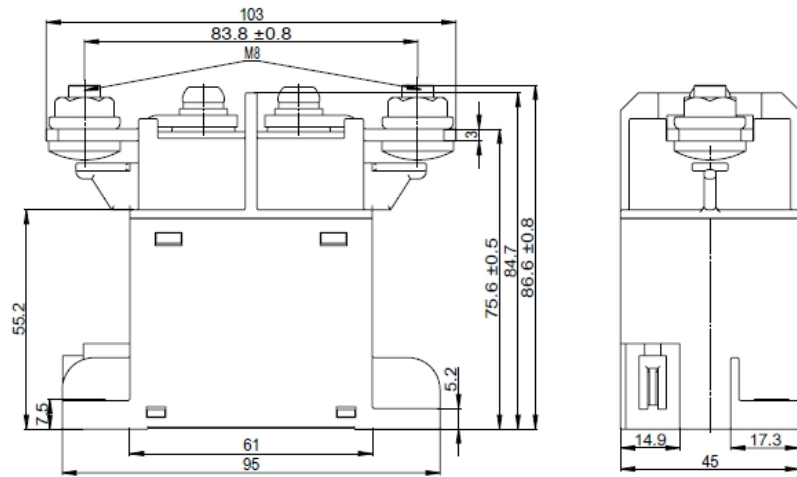
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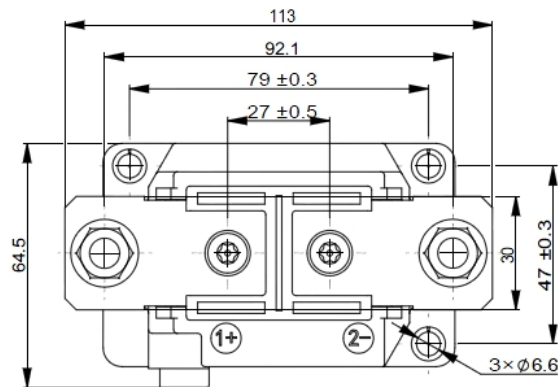
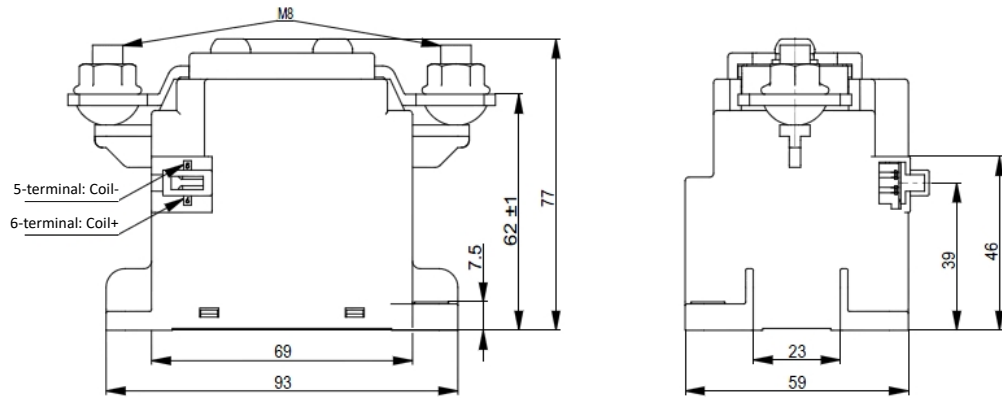
NDZ3T-150P



NDZ3T-200



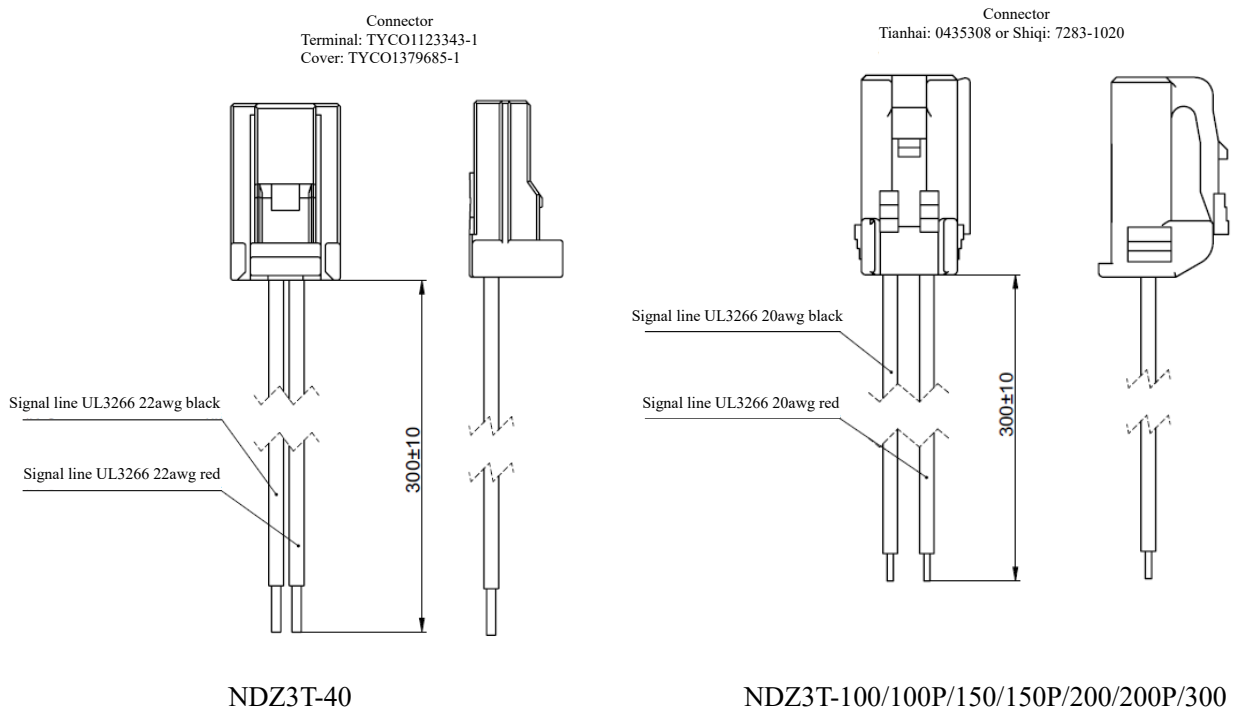
NDZ3T-200P



NDZ3T-300P

7. Coil connector

(mm)



NDZ3T-40

NDZ3T-100/100P/150/150P/200/200P/300

8. Installation Mode

Screw mounting

9. Environmental Compliance

Comply with the RoHS directives

10. Precautions

- The drive circuit power of the contactor coil must be greater than the coil's starting power;
- It is strictly forbidden to use the product in places with strong magnetic fields or in proximity to thermal radiation;
- With the built-in circuit board, NDZ3T-200/200P/300P will perform coil switching after driven for 0.2s. Do not repeat starting within $<0.2s$.
- NDZ3T-200/200P/300P can't be driven by the slowly rising voltage, ; otherwise, the product will not act. It will be directly driven with the pulse voltage.
- Wiring terminal torque

NDZ3T-40 (M4 screw)	2~3N.m
NDZ3T-100 /150 (M5 screw)	3~4N.m
NDZ3T-100P /150P (M6 screw)	6~8N.m
NDZ3T-200 (M6 screw)	6~8N.m
NDZ3T-200P/300P (M8 screw)	9~11N.m

 Installation position torque
 M5 screw 3~4N.m
- 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;

NDZ3T-40: Wire cross-section area $\geq 10\text{mm}^2$;

NDZ3T-100/100P: Wire cross-section area $\geq 40\text{mm}^2$;

NDZ3T-150/150P: Wire cross-section area $\geq 50\text{mm}^2$;

NDZ3T-200/200P: Wire cross-section area $\geq 60\text{mm}^2$;

NDZ3T-300P: Wire cross-section area $\geq 100\text{mm}^2$;