

Shanghai Liangxin Electrical Co., Ltd.

NDZ3AT-25010H~50010H DC Contactor

Product Specification

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

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Approved	Wupeifeng	Date	2021-12-23

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1.Application Scope and Purpose

The NDZ3AT-25010~50010 series of DC contactors apply to the DC system with the working voltage of DC1500V and working current of 250~500A, 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 -	□	□	H	/ 1500V	□
1	2	3	4	5	6	7	8	9

SN	SN name	NDZ3AT
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
6	Auxiliary contact type	10: With a group of NO auxiliary contacts
7	Series subdivision code	H
7	Load working voltage	DC 1500V
8	Coil voltage	DC12V, DC24V

4. Main Technical Parameters

Parameter name		Description of the specific parameters			
		NDZ3AT-25010H	NDZ3AT-35010H	NDZ3AT-40010H	NDZ3AT-50010H
Load polarity		Without polarity	Without polarity	Without polarity	Without polarity
Coil polarity		With polarity	With polarity	With polarity	With polarity
Number of poles		Single pole			
Rated current (A)		250A	350A	400A	500A
Insulation voltage Ui		1500V			
Rated voltage DC(V)		1500V			
Type of circuit		DC			
Rated control voltage Us		DC12V、DC24V Operate Voltage: $\leq 9V(DC12V)$ 、 $\leq 18V(DC24V)$ Discharge voltage: $\geq 1.2V(DC12V)$ 、 $\geq 2.4V(DC24V)$			
Mechanical life		200,000 times, frequency: 3,600 times/h			
Electrical life (on 0.6s off 5.4s) resistive load		DC1500V 250A 200 次 DC1000V 250A 1500 次	DC1500V 350A 200 次 DC1000V 350A 1500 次	DC1500V 400A 200 次 DC1000V 400A 1500 次	DC1500V 500A 10 次 DC1000V 500A 500 次
Maximum breaking current: (on 0.6s)		DC1000V/1500A 1 time ; DC1500V/1000A 1 time			
Short-time withstand current:		2000A 1s 500A 1min 320A 10min	2000A 1s 600A 90s 400A 10min	2000A 2s 800A 2min 750A 8min	2000A 2s 900A 2min 750A 15min
Contact Resistance (20℃)		$\leq 0.3m\Omega$ ((at350A)			
Auxiliary contact	Auxiliary contact type	With a group of NO auxiliary contacts			
	The rated load	24Vd.c			
Insulation resistance:		Before Test: $\geq 1500VDC$ 1000M Ω ; After Test: $\geq 1000V$ 10M Ω			
Withstand voltage:		Before Test: 4000 Va.c. (50/60 Hz 1 min); After Test: 3000 Va.c. (50/60 Hz 1 min), (Leak Current $\leq 1mA$)			
Coil power consumption (20℃):		Starting $\leq 55W$ Retention $\leq 5.5W$			
Time (rated voltage 20℃, At Rated Voltage):		Pull-in Bounce Time: $\leq 50ms$ Discharge Time: $\leq 15ms$ Bounce Time: $\leq 5ms$			
Impact strength		Stability: (sinusoidal half-wave pulse: 11ms, detection time 10 μs) 10g Destructiveness(sinusoidal half-wave pulse: 6ms): 50g			
Vibration strength		Functional: 10Hz~55Hz, 1.5mm double amplitude.			

5. Normal Working Environment

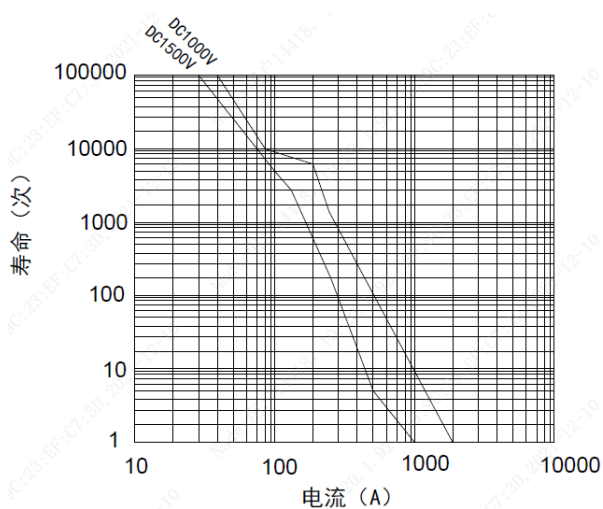
5.1: Operating ambient environment: $-40\sim 85^{\circ}\text{C}$

5.2: Operating humidity: 5%~95%

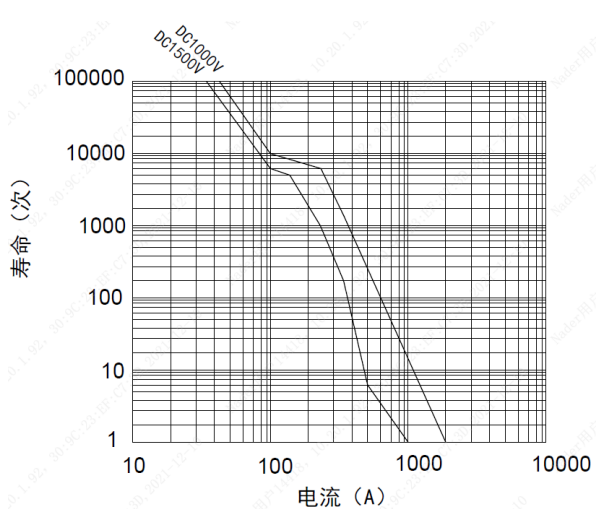
5.3: Pollution level: 3

5.4: Installation direction: Vertical installation, horizontal installation.

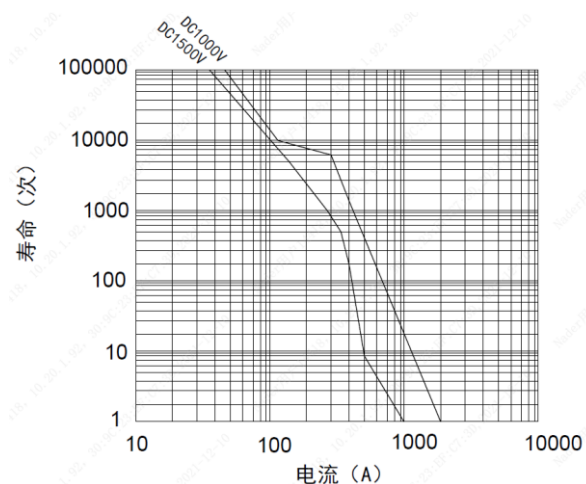
6. Electrical Endurance



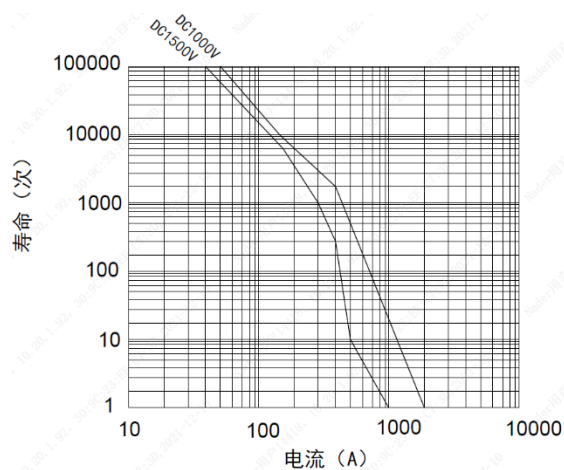
NDZ3AT-25010H



NDZ3AT-35010H

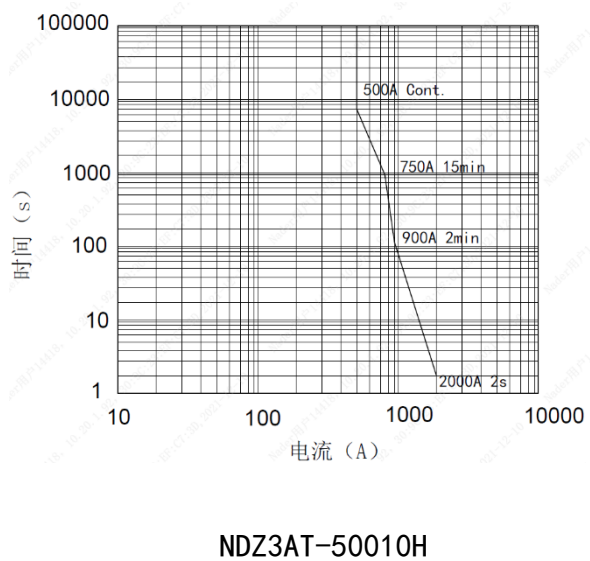
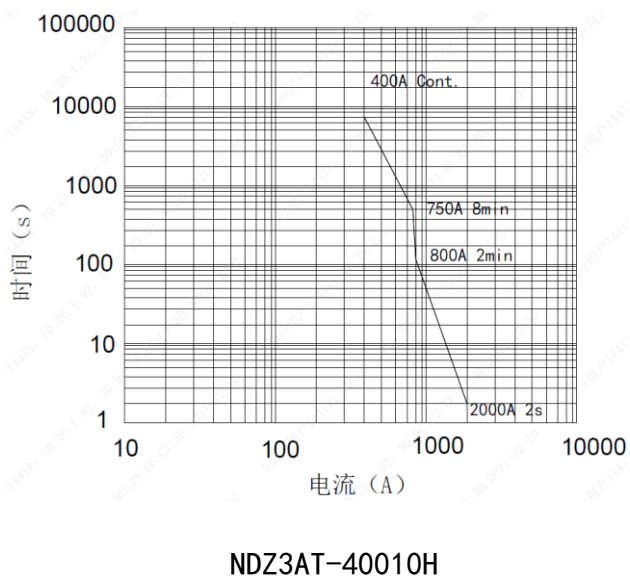
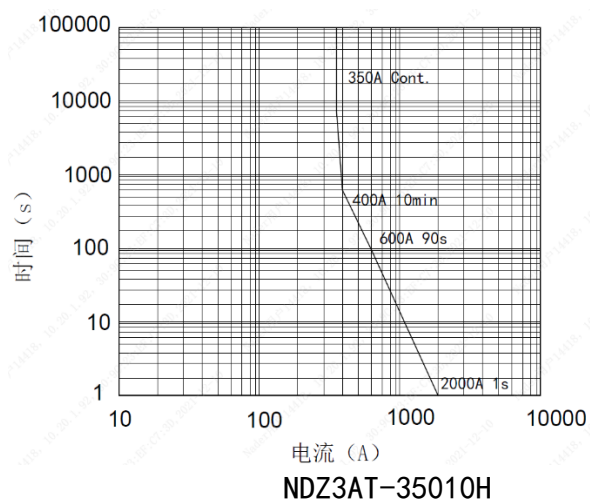
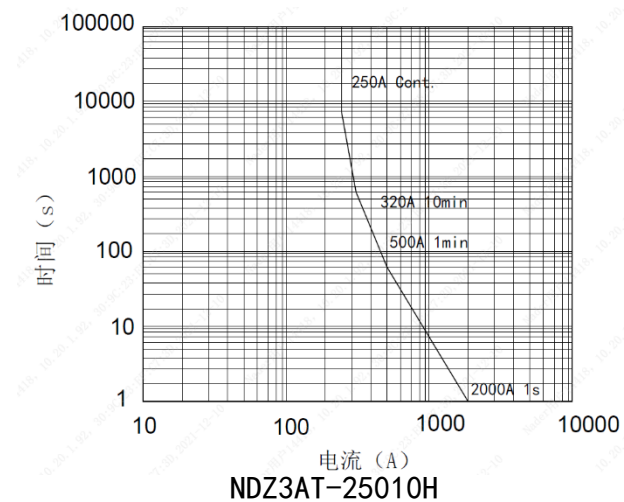


NDZ3AT-40010H

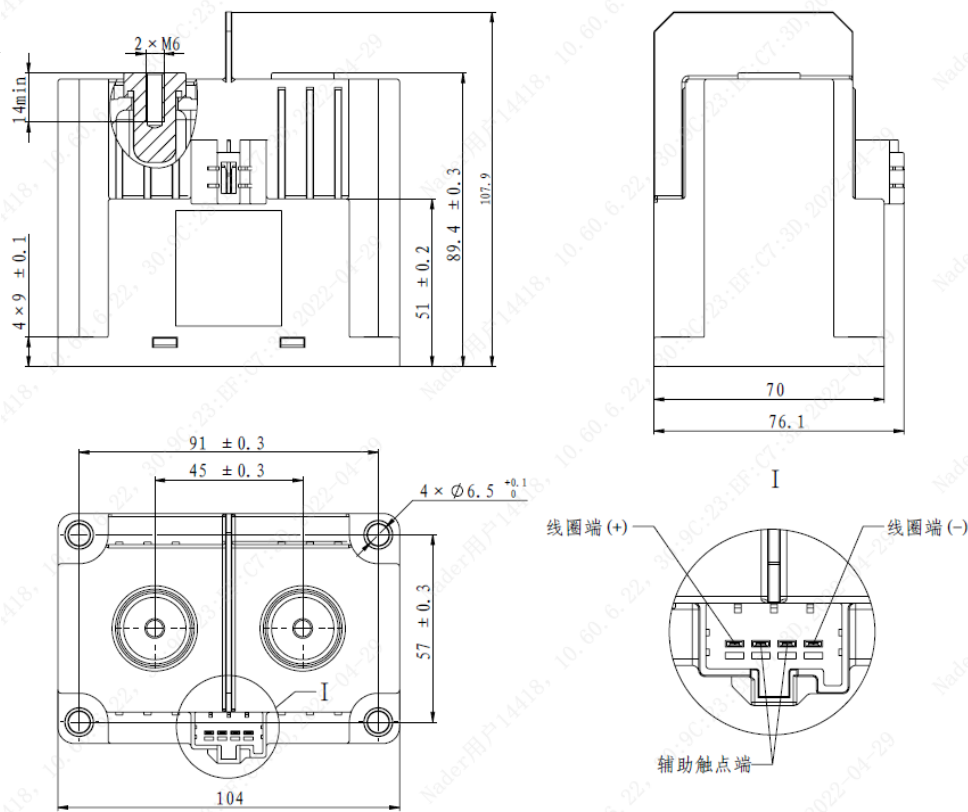


NDZ3AT-50010H

7. Current Endurance

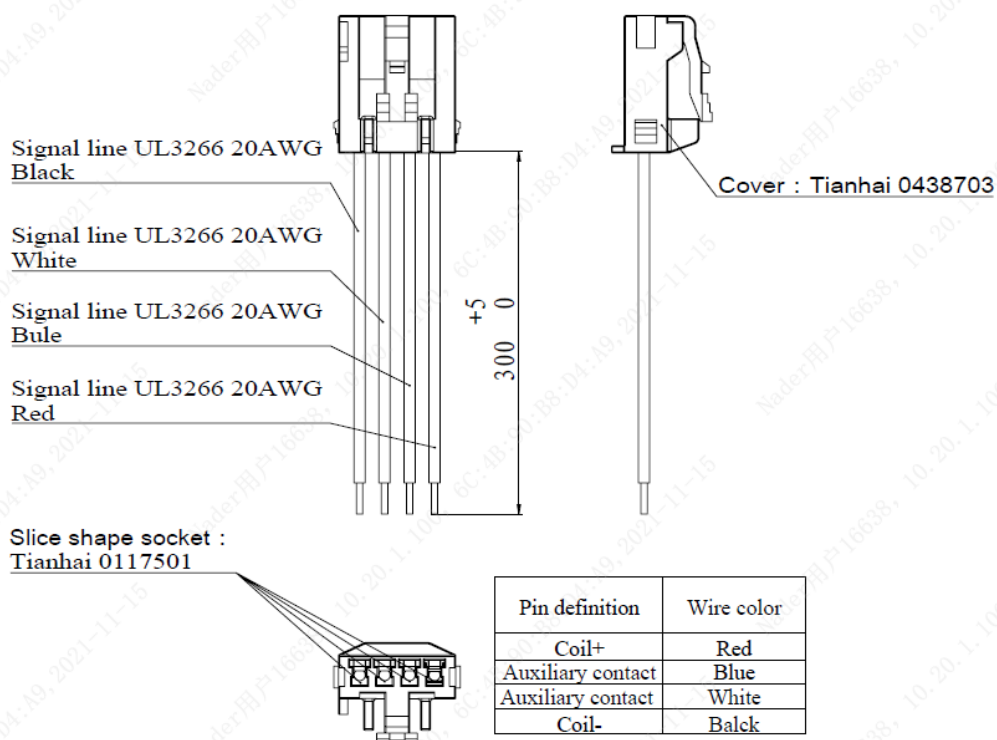


8. External Dimensions and Installation Dimensions (mm)



9. Coil connector

(mm)



10. Installation Mode

Screw mounting

11. Environmental Compliance

Comply with the RoHS directives

12. Precautions

- a. The drive circuit power of the contactor coil must be greater than the coil's starting power;
- b. It is strictly forbidden to use the product in places with strong magnetic fields or in proximity to thermal radiation;
- c. With the built-in energy-saving board, It will perform coil switching after driven for 0.2s. Do not repeat starting within $<0.2s$.
- d. It can't be driven by the slowly rising voltage; otherwise, the product will not act. It will be directly driven with the pulse voltage
- e. Wiring terminal torque
NDZ3AT-25010~50010H (M6 screw) 6~8N.m
Installation position torque
M5 screw 3~4N.m
- f. 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;
NDZ3AT-250: Wire cross-section area $\geq 75\text{mm}^2$
NDZ3AT-350: Wire cross-section area $\geq 100\text{mm}^2$
NDZ3AT-400: Wire cross-section area $\geq 120\text{mm}^2$
NDZ3AT-500: Wire cross-section area $\geq 150\text{mm}^2$