

Product Specification

Product Name: Thermal Overload Relay

Product Model: NDR2-38

Date: 20181224

Prepared by	Reviewed by	Approved by
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Revision History

File No.	NDT2930467	Version	0	Implementation Date	20181224
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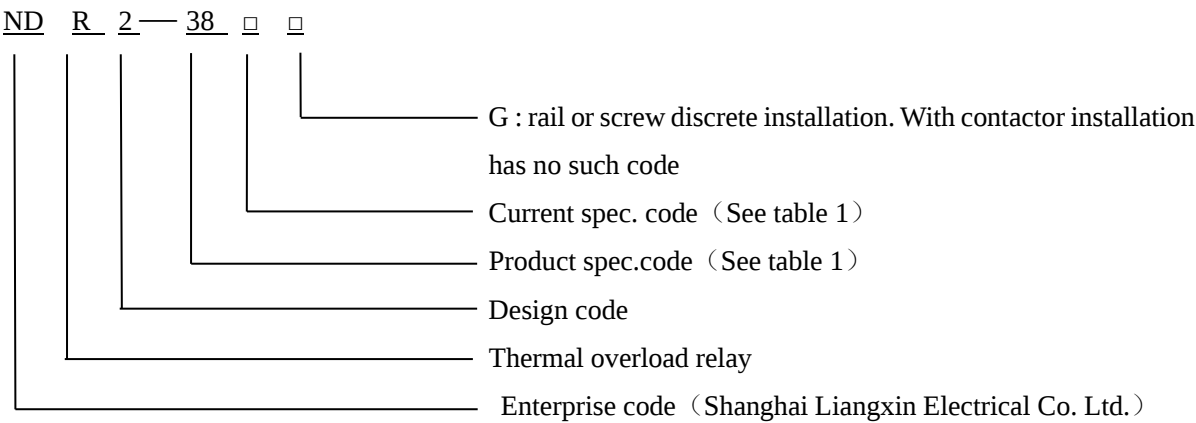
1. Application

NDR2-38 series bimetal thermal overload relay is applicable to circuits with AC 50 Hz or 60Hz, rated working voltage up to 690V and rated current of 0.1~38A, for overload and phase loss sensitive protection of AC motors.

2. Product Picture



3. Explain Specifications of the products



File No.	NDT2930467	Version	0	Implementat ion Date	20181224
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Table 1 Basic Parameters of Current Spec

No.	Current Spec Code	Setting Current Range (A)	Use (SCPD) Fuse (A)		Product spec.code	Matching 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

4. Main Technical Parameters

Table 2 Technical Parameters

Model			NDR2-38	
Setting current range Ie A			0.1~38	
Rated insulation voltage Ui V			690	
Rated impulse withstand voltage Uimp kV			6	
Trip level			10A	
Compensation temperature °C			-5~+40	
Enclosure rating			IP20	
Auxiliary contact	Type		1NO+1NC	
	Conventional free-air themal current Ith A		5	
	AC-15	Rated operational voltage Ue V	220	380
		Rated operational current Ie A	1.63	0.94
	DC-13	Rated operational voltage Ue V	110	220

File No.	NDT2930467	Version	0	Implementation Date	20181224
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		Rated operational current Ie A	0.25	0.12
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Table 3 Connection Capacity of Connection Terminal

Product type		NDR2-	3801-3821	3822-3835
Connection capacity (min/max) mm ²	Main circuit	Cord (without precast end) 1 pc	1.5/10	1.5/10
		Cord (with precast end) 1pc	1/4	1/6
		Hard wire 1pc	1/6	1.5/10
		Tightening torque N.m	1/2.5	1/2.5
	Auxiliary circuit	Cord (without precast end) 1 or 2 pcs	1/2.5	
		Cord (with precast end) 1 or 2 pcs		
		Hard wire 1 or 2 pcs		
		Tightening torque N.m	0.6~0.8	

5. Normal Operational Temperature

5.1 Use environment

- a Ambient temperature: storage temperature -25~+55℃; working temperature-5~+40℃;
- b Altitude: the altitude of the installation site should not exceed 2000m;
- c Humidity: When the max temperature is +40℃, the relative air humidity cannot exceed 50%; higher relative humidity is allowed at lower temperature, for example humidity can be 90% at 20℃.
- d Pollution level: the pollution level at the installation site is level 3;
- e Installation category (overvoltage category): installation category is Class III;
- f Shock and vibration: The user and the company should negotiate with us if they have the requirements for shock and vibration

5.2 Rated work system

- a Eight-hour work system;
- b Uninterrupted work system;
- c Intermittent cycle work system(operation frequency≤12times h-1, Load factor 40%)。

6. Trip Characteristics

Table 4 Operation Characteristics

Operation characteristics	No.	Setting current multiple		Operation time	Starting condition	Ambient air temperature℃
		Any two phases	The other phase			
When the loads of the phases are unbalanced	1	1.00	0.90	>2h	Cold condition	20±5
	2	1.15	0	<2h	After test No.1	
When the loads of the phases are balanced	1	1.05		>2h	Cold condition	20±5
	2	1.20		<2h	After test No.1	
	3	1.50		<2min	After test No.1	

File No.	NDT2930467	Version	0	Implementation Date	20181224
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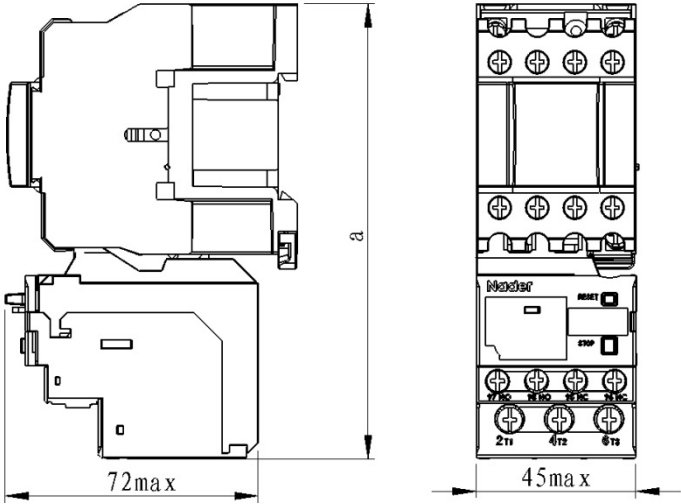
	4	7.20	$2s < T_p \leq 10s$	Cold condition	
Temperature compensation performance	1	1.00	$> 2h$	Cold condition	40±2
	2	1.20	$< 2h$	After test No.1	
	3	1.50	$< 2min$	After test No.1	
	4	1.05	$> 2h$	Cold condition	-5±2
	5	1.30	$< 2h$	After test No.3	
	6	1.50	$< 4min$	After test No.1	

7. Product Outline and Installing Dimensions

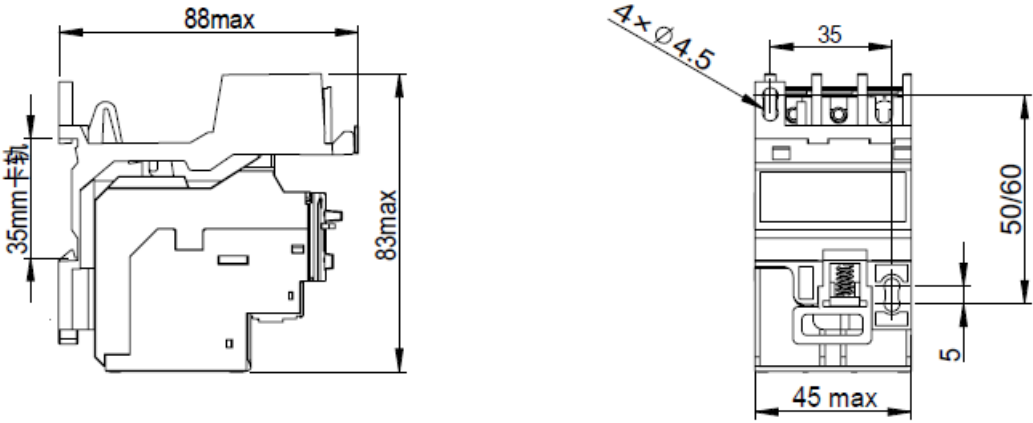
7.1 NDR2-38+NDC1-09~38 Installation outline and dimensions of thermal relay combined contactor

Table 5 NDR2-38+NDC1 Outline and dimensions of stack mounting

NDR2-38+NDC1	09、12、18	25、32、38
a	129max	139max



7.2 NDR2-38+NA2-38 Installation dimensions of guide rail and screw



File No.	NDT2930467	Version	0	Implementation Date	20181224
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8. Installation Methods

- a. Stack mounting: directly plug onto NDC1 contactor
- b. Concrete installation: use screw or TH35 guide rail

9. Packaging and Storage

The minimum packaging capacity of the product is 1pc/box. The storage temperature of the product after packaged into a box is -25~+55°C; the corresponding relative humidity is below 80%, and it is stored in the warehouse where there is no acid, alkaline or other corrosive gas in the surrounding air.

10. Precautions

- a. Pre-adjust the setting current;
- b. When leaving factory, the product is set to the manual reset state;
- c. After the product trips, if the reset button is at the automatic position, it can be automatically reset within 5 minutes. If the reset button is at the manual position, press the reset button to reset after 5 minutes;
- d. The inlet and outlet wiring screws of the thermal relay should be tightened, otherwise it will affect the operating characteristics of the contactor;
- e. The user should not open the product cover to adjust the action mechanism when using it.

