Product Specification

Product Name: Thermal Overload Relay

Product Model: NDR2-38

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Revision History

Version	Revision Content	Revision Date	Revised by
0	New addition	20181224	Zhu Simin

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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

ND R 2 — 38 □ □

- G : rail or screw discrete installation. With contactor installation has no such code
- Current spec. code（See table 1）
- Product spec.code（See table 1）
- Design code
- Thermal overload relay
- Enterprise code（Shanghai Liangxin Electrical Co. Ltd.）

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 ℃			-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
		Rated operational current Ie A	0.25	0.12

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	
	4	7.20		2s＜Tp≤10s	Cold condition	

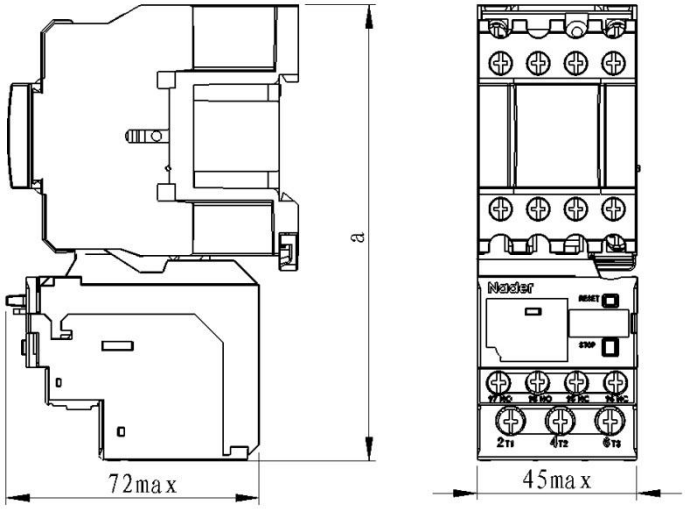
Temperature compensation performance	1	1.00	＞2h	Cold condition	40±2
	2	1.20	＜2h	After test No.1	
	3	1.50	＜2min	After test No.1	
	4	1.05	＞2h	Cold condition	-5±2
	5	1.30	＜2h	After test No.3	
	6	1.50	＜4min	After test No.1	

7. Product Outline and Installing Dimensions

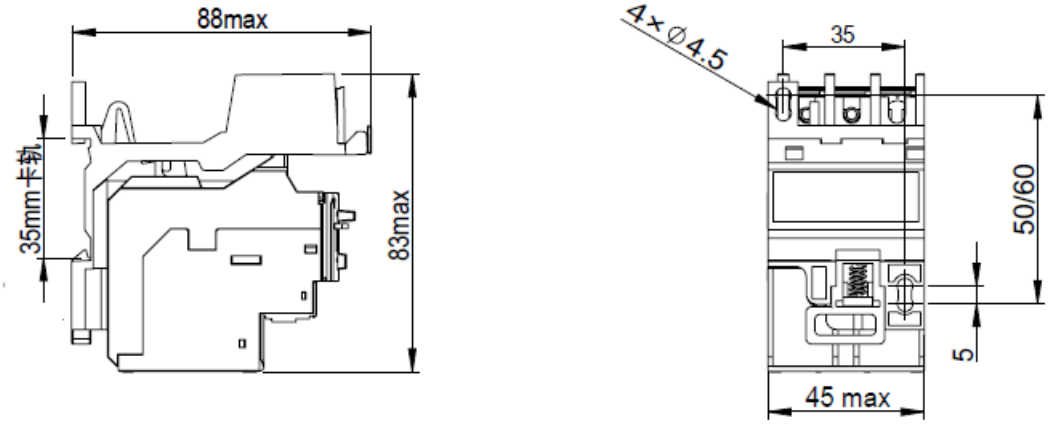
7.1 NDR2-38+NDC1-09~38 Installation outline and dimensions of thermal relay combined contactor

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



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℃; 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.