

NRE8 Series
Electronic Overload Relay

User Instruction

Safety Warning

- ① Only professional technicians are allowed for installation and maintenance.
- ② Installation in any damp, condensed-phase environment with inflammable and explosive gas is forbidden.
- ③ When the product is being installed or maintained, the power must be switched off.
- ④ You are prohibited from touching the conductive part when the product is operating.

1 Use Purpose

NRE8 electronic overload relay (hereinafter referred to as relay) is applicable to circuits with frequency of AC 50Hz or 60Hz, rated operating voltage up to 690V and current from 0.6 to 100A. It is used for overload protection and phase-failure protection of long-term operating or intermittent operating AC motor.

2 Key Technical Parameters

Table 1 Environmental conditions and technical parameters of main circuit

Environmental conditions	
Ambient temp. (°C)	-5°C~+40°C, average temperature should not exceed +35°C within 24h
Hot and humid atmospheric conditions	Relative humidity should not exceed 50% at +40°C; up to 90% at +20°C;
Altitude	No influence below 2000m
Pollution class/installation category	Class 3/III

Technical parameters of main circuit

No.	Model	Frame size rated current A	Rated current A	Adjustment range of setting current A	Fuse gG Amax
1	NRE8-25	25	1.2	0.6~1.2	4
2			2.4	1.2~2.4	6
3			4	2~4	10
4			8	4~8	16
5			10	5~10	20
6			12	7~12	25
7			20	10~20	40
8			25	20~25	50

No.	Model	Frame size rated current A	Rated current A	Adjustment range of setting current A	Fuse gG Amax
9	NRE8-25	25	32	22~32	80
10	NRE8-38	38	1.2	0.6~1.2	4
11			2.4	1.2~2.4	6
12			4	2~4	10
13			8	4~8	16
14			10	5~10	20
15			12	7~12	25
16			20	10~20	40
17			38	19~38	80
18	NRE8-40	40	4	2~4	10
19			8	4~8	16
20			10	5~10	20
21			20	10~20	40
22			40	20~40	80
23	NRE8-100	100	65	30~65	160
24			100	50~100	200

Table 2 Technical parameters of auxiliary circuit

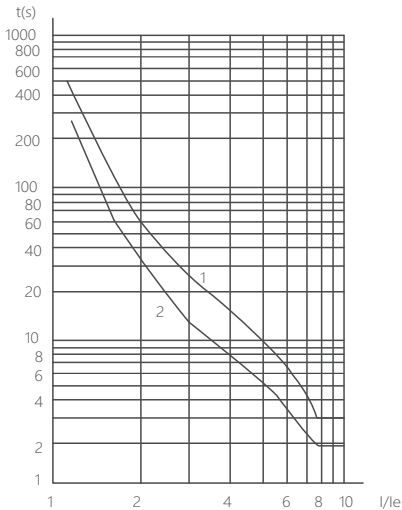
Application category	AC-15		DC-13
Rated operating voltage V	230	400	220
Rated operating current A	2.5	1.5	0.2
Conventional thermal current A	5		

Table 3 Technical parameters and performance

No.	Content	Parameters
1	Rated insulation voltage of main circuit $U_i(V)$	AC690
2	Rated insulation voltage of auxiliary circuit $U_i(V)$	AC400
3	Rated frequency (Hz)	50/60Hz
4	Rated duty system, specify intermittent duty level (if any)	8 hour duty system or uninterrupted duty system
5	Rated impulse withstand voltage $U_{imp} (kV)$	6kV
6	Enclosure protection class	IP20

Table 4 Anti-interference parameters

Item	Level
Electrostatic discharge tolerance	$\pm 8kV$ (air discharge) $\pm 10\%$
Radio frequency electromagnetic field tolerance	Test electric field intensity 10 (V/M) $\pm 10\%$
Fast transient tolerance	To control circuit 2kV, duration: 1min
Surge tolerance	Test voltage 2.0kV



1---Cold state 2---Thermal state

Figure 1 Relay time - current characteristic curve

3 Installation

1) Installation

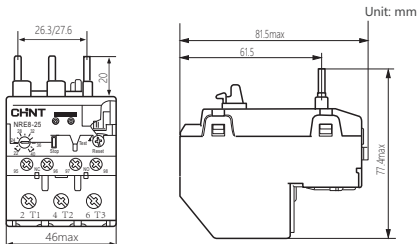


Figure 2 Overall and installation dimensions of NRE8-25

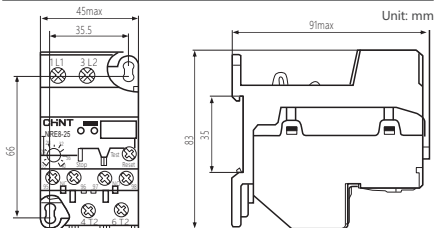


Figure 3 Overall and installation dimensions of NRE8-25/F (with mounting bracket)

Unit: mm

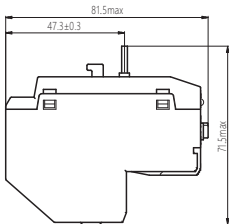
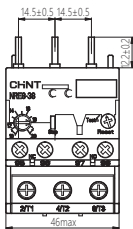


Figure 4 Overall and installation dimensions of NRE8-38

Unit: mm

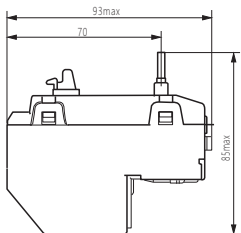
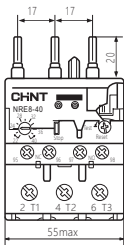


Figure 5 Overall and installation dimensions of NRE8-40

Unit: mm

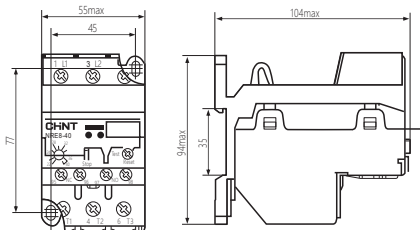


Figure 6 Overall and installation dimensions of NRE8-40/F (with mounting bracket)

Unit: mm

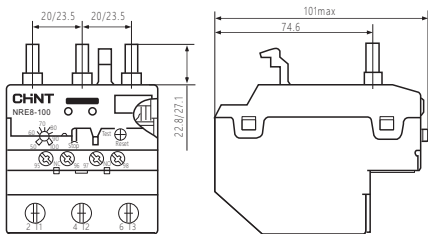


Figure 7 Overall and installation dimensions of NRE8-100

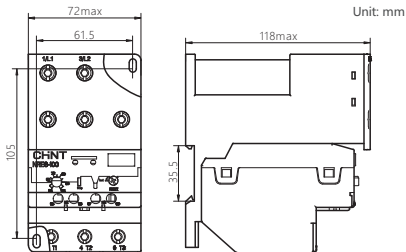


























Figure 8 Overall and installation dimensions of NRE8-100/F
(with mounting bracket)

Table 5 Wiring capacity of terminals

										
				mm ²	mm ²	mm ²	mm ²	mm ²	mm ²	
	M3.5  1.2 N.m	 	NRE8 Series	0.75~25	0.75~25	0.75~25	0.75~25	0.75~25	0.75~25	 A > 3.5mm, L < 8mm
	M4  1.7 N.m	 	NRE8-25 NRE8-38	1~10	1~10	1~10	1~10	1~10	1~10	 A > 3mm, L < 10mm
	M5  2.5 N.m	 	NRE8-40	-	-	4~10	4~10	4~10	4~10	 A > 5mm, L < 12mm
	M10  10 N.m	 	NRE8-100	-	-	6~35	-	6~35	-	

2) Operation and commissioning

Indicator status	Circuit working status
Green light flashing, red light off	Normal
Green light flashing, red light on	Overload delay
Green light on, red light flashing	Phase-failure delay

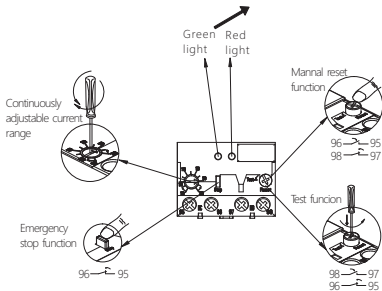


Figure 11 Relay panel layout

4 Maintenance

Clean the dust on the electronic overload relay timely. Conduct product test and maintenance every half a year to ensure the smooth operation of the product and the good contact of NO and NC contacts. Tighten the terminal screws with specified torque and align the load protection capability of the electronic overload relay according to commissioning requirements. (See Figure 12)

Please be careful when handling and installing the thermal relay. It is prohibited to move the product by crane with strong impact so that the product will not be damaged and its protection characteristics will not change.

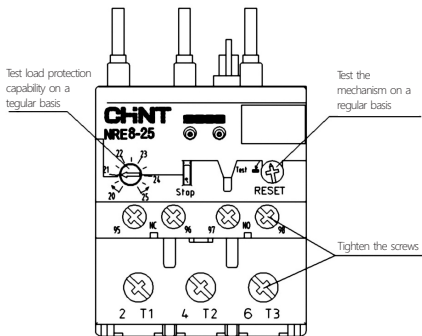


Figure 12 Maintenance diagram of relay panel

Table 6 Analysis and Troubleshooting of Faults

Symptoms	Cause analysis	Troubleshooting method and precautions
Misoperation of thermal relay without the motor being overloaded	Size is too small.	Change to product with bigger size.
	The set current value is smaller than the actual operating current of the motor.	Fine tune the cam clockwise so that the set current matches the actual motor current.
	Strong shock or vibration	Check installation status and conduct troubleshooting. Do not place the product in environment with strong shock or vibration.
Thermal relay does not operate.	The size is too big.	Change to product with smaller size.
	The set current value is bigger than the actual operating current of the motor.	Fine tune the cam counter-clockwise so that the set current matches the actual motor current.
Thermal relay does not work.	The product is not reset.	Press the reset button to reset the relay.
	Auxiliary contacts are not powered-on.	Replace thermal relay.
	Main circuit or auxiliary circuit is burnt.	Replace thermal relay.

5 Environmental Protection

In order to protect the environment, the product or product parts should be disposed of according to the industrial waste treatment process, or be sent to the recycling station for assortment, dismantling and recycling according to local regulations.

CHINT

QC PASS

NRE8 Series
Electronic Overload Relay
IEC/EN 60947-4-1

Check 24

Test date: Please see the packing

ZHEJIANG CHINT ELECTRICS CO.,LTD.

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**NRE8 Series
Electronic Overload Relay
User Instruction**

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