



NR8 Thermal Overload Relay

1. General

Nr8 series thermal overload relay (hereinafter referred to as thermal relay) is used to provide overload and phase failure protection for AC motors with a frequency of AC 50Hz/60Hz, a voltage of up to 690V and a current of 0.1A~38A that operate continuously or intermittently.

The thermal relay also has temperature compensation, operation indication, automatic and manual reset and stop functions and stable and reliable performances.

Standard: IEC 60947-4-1.

Plug-in mounting is used between the thermal relay and the contactor.

2. Operating conditions

- 2.1 Altitude: not higher than 2000m.
- 2.2 When the ambient temperature is $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$, the mean value is no greater than $+35^{\circ}\text{C}$ within 24 hours.
- 2.3 Atmospheric conditions: When the ambient air temperature is $+40^{\circ}\text{C}$, the relative humidity of the air shall not be higher than 50%; a higher relative humidity is allowed at a lower temperature; for example, for the wettest month, the lowest temperature averaged shall not be higher than $+25^{\circ}\text{C}$, the maximum relative humidity averaged shall be 90%, and special measures shall be taken for the condensation occasionally produced due to temperature change.
- 2.4 Class of pollution: 3.
- 2.5 The inclination between the mounting plane and the vertical plane shall not exceed 5° .
- 2.6 In non-explosive media that do not contain a sufficient amount of gas or conductive dust to cause metal corrosion or insulation failure.
- 2.7 In places with rain and snow protection equipment and not full of vapor.
- 2.8 In places where there is no significant shake, impact or vibration.

3. Technical data

Item			NR8-11.5	NR8-38
Current class			13	38
Nominal insulation voltage V			690	690
Phase failure protection			Have	Have
Manual and automatic reset			Have	Have
Temperature compensation			Have	Have
Tripping indication			Have	Have
Test button			Have	Have
Stop button			Have	Have
Mounting type			Plug-in type	Plug-in type
Auxiliary contact			1NO+1NC	1NO+1NC
AC-15 230V rated current A			2.61	/
AC-15 380V/400V rated current A			1.5	1.5
DC-13 220V rated current A			0.2	0.2
Conductor cross-sectional area mm ²	Main circuit	Single-core or stranded conductor	1~2.5	1~10
		Terminal screw	M4	M4
	Auxiliary circuit	Single-core or stranded conductor	0.5~2.5	0.5~2.5
		Terminal screw	M3.5	M3.5

4. Others





4.1 Structural features

- 4.1.1 Three-phase bimetal type, tripping class 10A.
- 4.1.2 Phase failure protection.
- 4.1.3 Setting current continuously adjustable device.
- 4.1.4 Temperature compensation.
- 4.1.5 Operation indication.
- 4.1.6 Testing mechanism.
- 4.1.7 Stop button.
- 4.1.8 Manual and automatic reset button.
- 4.1.9 One N.O. contact and one N.C. contact, electrically separable.
- 4.1.10 Mounting type: plug-in mounting with the contactor.

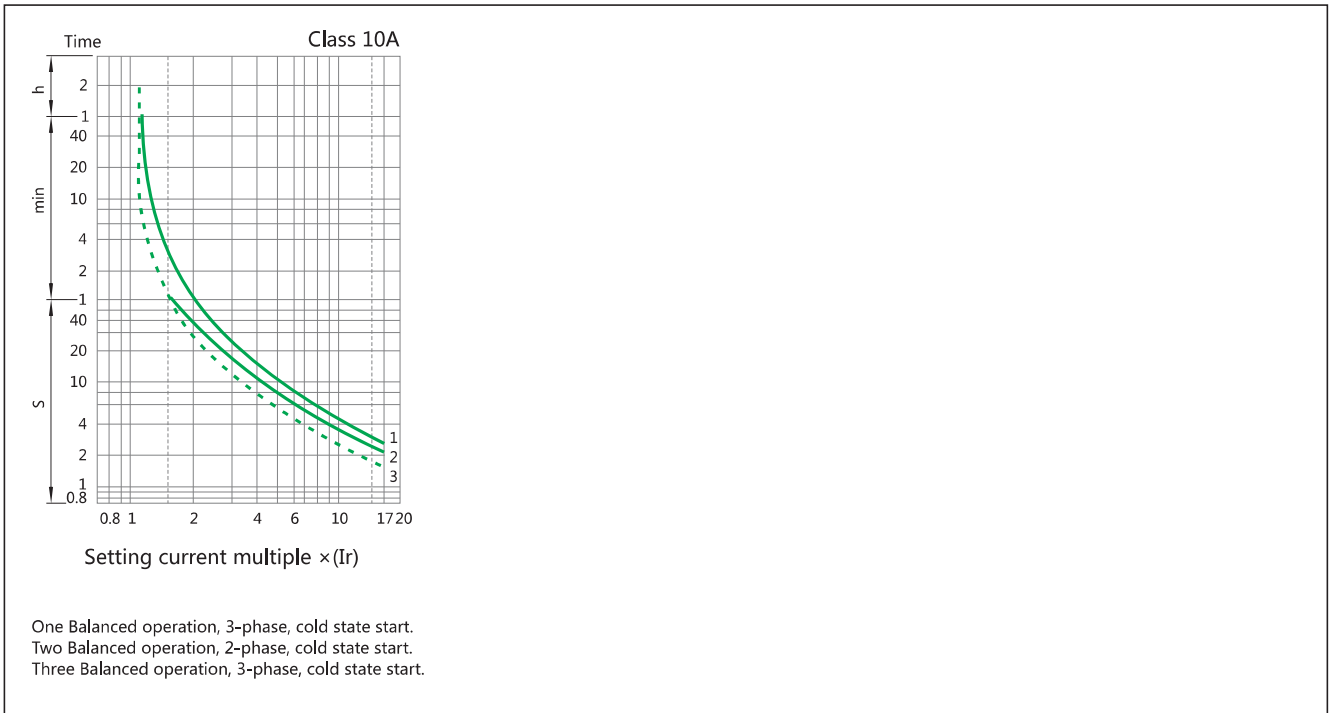
4.2 Protection characteristics

Item	No.	Setting current multiple		Operation time	Test conditions
Overload protection	1	1.05		No operation within 2h	Cold state start Hot state start (after No.1) Start when thermal equilibrium is reached after applying a 1 times setting current
	2	1.2		Operation within 2h	
	3	1.5		Operation with 2min	
	4	7.2		$2s < T_p \leq 10s$	
Phase failure protection	5	Any two phases	The other phase	No operation within 2h	Cold state start
		1.0	0.9		
	6	1.15	0	Operation within 2h	Hot state start (after No.5)

4.3 Type selection and ordering data (see the table)

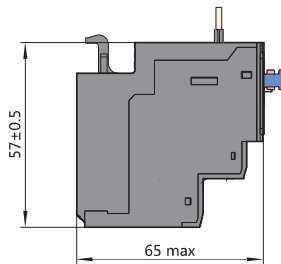
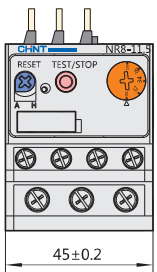
Product appearance	Rated current A	Specification of matching fuse(RT 36 is recommended) A	Model of matching contactor
		gG	
 NR8-11.5	0.1~0.16	2	 NC8-06M, NC8-06M/Z NC8-09M, NC8-09M/Z NC8-12M, NC8-12M/Z
	0.16~0.25	2	
	0.25~0.4	2	
	0.4~0.63	2	
	0.63~1	4	
	1~1.6	4	
	1.6~2.5	6	
	2.5~4	10	
	4~6	16	
	5.5~8	20	
	7~10	20	
	9~13	25	
 NR8-38	0.10-0.14	2	 NC8-09, NC8-12 NC8-18, NC8-25 NC8-32, NC8-38
	0.14-0.2	2	
	0.18-0.25	2	
	0.22-0.32	2	
	0.28-0.4	2	
	0.35-0.5	2	
	0.45-0.63	2	
	0.55-0.8	4	
	0.7-1	4	
	0.9-1.25	4	
	1.1-1.6	4	
	1.4-2	6	
	1.8-2.5	6	
	2.2-3.2	10	
	2.8-4	10	
	3.5-5	16	
	4.5-6.3	16	
	5.5-8	20	
	7.5-10	20	
	9-13	25	
12-16	35		
14-20	50		
18-24	50		
23-32	63		
30-38	80		

4.4 Tripping characteristics



5. Overall and mounting dimensions (mm)

NR8-11.5



NR8-38

