






Overview

Applicable scope

NXR thermal overload relays (hereinafter abbreviated as thermal relays) are suitable for overload and phase loss protection for uninterrupted or intermittent AC motors with AC frequency of 50 Hz/60 Hz, a voltage up to 690 V, and a current of (0.1-630)A.

The thermal relays also provide temperature compensation, action indication, automatic and manual reset, stop, and testing functions. The products are characterized by stable and reliable performance. The thermal relays can be plugged into contactors or installed independently.

Compliant standards: IEC/EN 60947-4-1, IEC/EN 60947-5-1.

Structural characteristics

- Three-phase bi-metal sheet type or electronic type (NXR-200, NXR-630)Tripping
- With phase loss protection
- With a device for continuous adjustment of setting current
- With temperature compensation
- With action indication
- With testing mechanism
- With stop bottom
- With manual and automatic reset button (NXR-200 and NXR-630 only have manual reset)
- With one NO contact and one NC contact that are electrically separable
- Installation method: Plugged into contactor (NXR-12, 25, 38, 100) or installed independently (NXR-200, 630)
- Protection characteristics

Operation environment

Type	Operation and installation conditions
Installation type	III
Pollution degree	3
Compliant standards	IEC/EN 60947-4-1, IEC/EN 60947-5-1
Certification mark	CE
Enclosure protection degree	IP20 (NXR-12, 25, 38, 100)
Ambient temperature	Operation temperature limits: -35℃~+70℃. Normal operation temperature range: -5℃~+40℃. The 24-hour average temperature should not exceed +35℃. For use beyond the normal operation temperature range, see "Instructions for use in abnormal conditions" in the annex.
Altitude	Not exceeding 2000m above sea level
Atmospheric conditions	The relative humidity should not exceed 50% at the upper temperature limit of +70℃. A higher relative humidity is allowed at a lower temperature, e.g. 90% at +20℃. Special precautions should be taken against occasional condensation due to humidity variations.
Installation conditions	The angle between the installation surface and the vertical surface should not exceed ±5°.
Shock and vibration	The anti-shock performance conforms to the allowable acceleration of IEC60068-2-7： 15gn-11m； The anti-vibration performance conforms to the allowable acceleration of IEC60068-2-6 : 6gn



Description

NXR	-	12	7 — 10A
Thermal overload relay model		Frame current	Setting current range
		12 25 38 100 200 630	See the table

Frame	Setting current
12	0.1-0.16A 0.16-0.25A 0.25-0.4A 0.4-0.63A 0.63-1A 1-1.6A 1.25-2A 1.6-2.5A 2.5-4A 4-6A 5.5-8A 7-10A 9-12A

Frame	Setting current
25	0.1-0.16A 0.16-0.25A 0.25-0.4A 0.4-0.63A 0.63-1A 1-1.6A 1.25-2A 1.6-2.5A 2.5-4A 4-6A 5.5-8A 7-10A 9-13A 12-18A 17-25A

Frame	Setting current
38	23-32A 30-38A 23-32A
100	30-40A 37-50A 48-65A 55-70A 63-80A 80-93A 80-100A
200	80-160A 100-200A 125-250A
630	200-400A 315-630A



Selection example:

"NXR-25 7-10A" represents a NXR 3P thermal overload relay with a frame current class of 25 and a setting current range between 7A and 10A.

MB mounting base

Type

		Application
	MB-1	Incorporate with NXR-12 to be an independant mounted product
	MB-2	Incorporate with NXR-25 to be an independant mounted product
	MB-3	Incorporate with NXR-38 to be an independant mounted product
	MB-4	Incorporate with NXR-100 to be an independant mounted product



Quick selection and matching table

Product appearance	Rated current A	Specification of matching fuse (RT16 recommended) A	Model of matching contactor
		gG	
 NXR-12	0.1~0.16	2	 NXC-06M, 09M, 12M
	0.16~0.25	2	
	0.25~0.4	2	
	0.4~0.63	2	
	0.63~1	4	
	1~1.6	4	
	1.25~2	6	
	1.6~2.5	6	
	2.5~4 4~6	10	
	5.5~8 7~10	16	
	9~12	20	
	0.1~0.16	20	
	0.16~0.25	25	
	0.25~0.4	2	
 NXR-25	0.4~0.63	2	 NXC-06, 09, 12, 16, 18, 22, 25, 32, 38
	0.63~1	2	
	1~1.6	2	
	1.25~2	4	
	1.6~2.5	4	
	2.5~4	6	
	4~6	6	
	5.5~8	10	
	7~10	16	
	9~13	20	
	12~18	20	
	17~25	25	
		35	
		50	
 NXR-38	23~32	63	 NXC-25, 32, 38
	30~38	80	
 NXR-100	23~32	63	 NXC-40, 50, 65, 75, 85, 100
	30~40	100	
	37~50	100	
	48~65	100	
	55~70	125	
	63~80	125	
	80~93	160	
	80~100	160	
 NXR-200	80~160	315	 NXC-120, 160, 185, 225
	100~200	315	
 NXR-630	125~250	800	 NXC-225, 265, 330, 400, 500, 630
	200~400	800	
	315~630	800	

Product front view

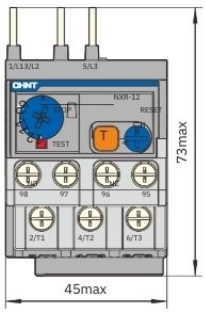


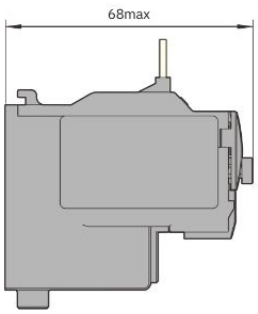
Dimensions and installation

NXR-12

Dimensions and installation



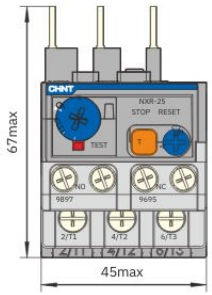


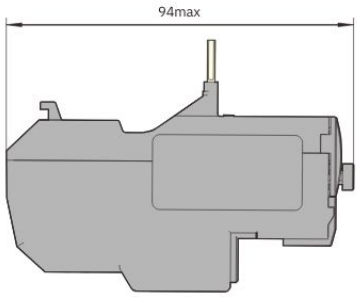


NXR-25

Dimensions and installation



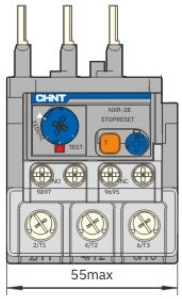


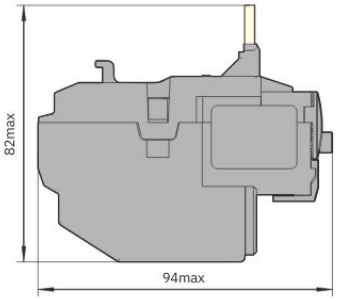


NXR-38

Dimensions and installation



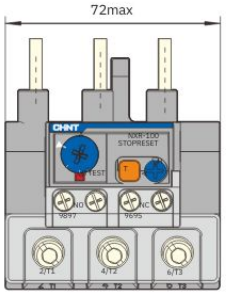


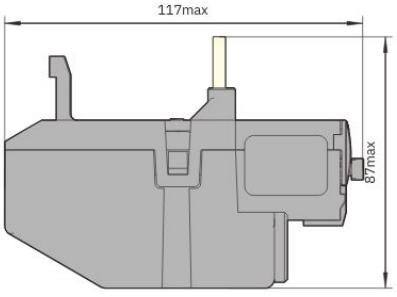


NXR-100

Dimensions and installation



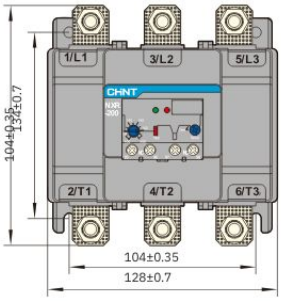


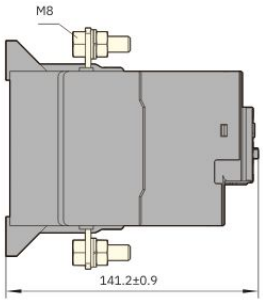


NXR-200

Dimensions and installation



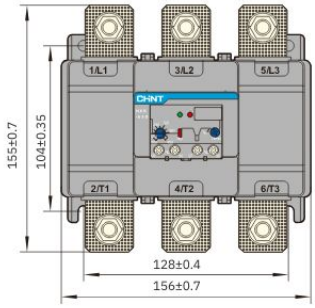


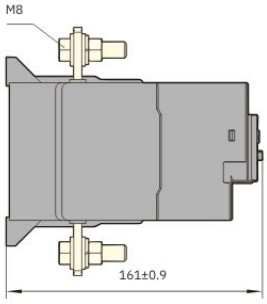


NXR-630

Dimensions and installation

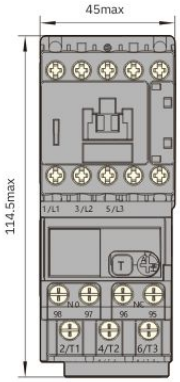


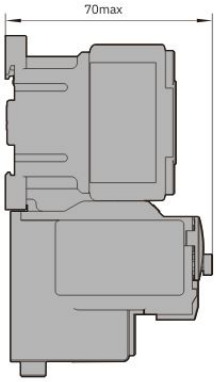


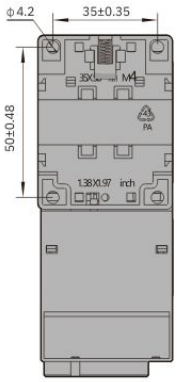


NXC-06M~12M + NXR-12

Dimensions and installation

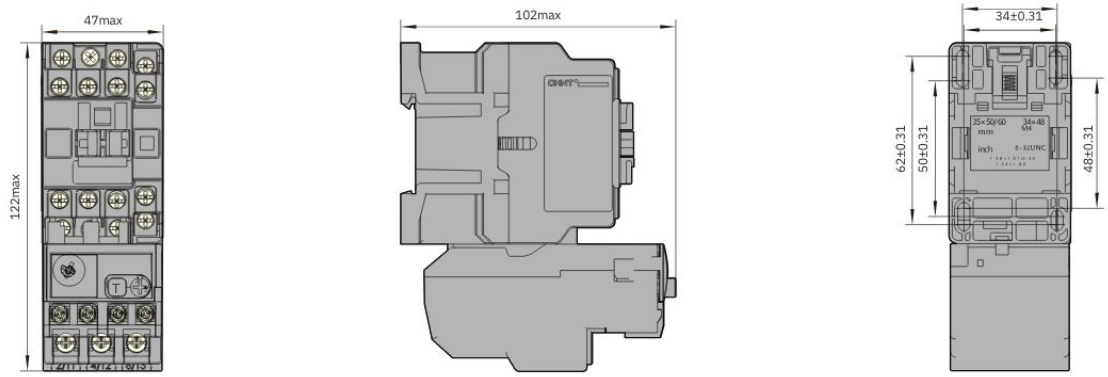






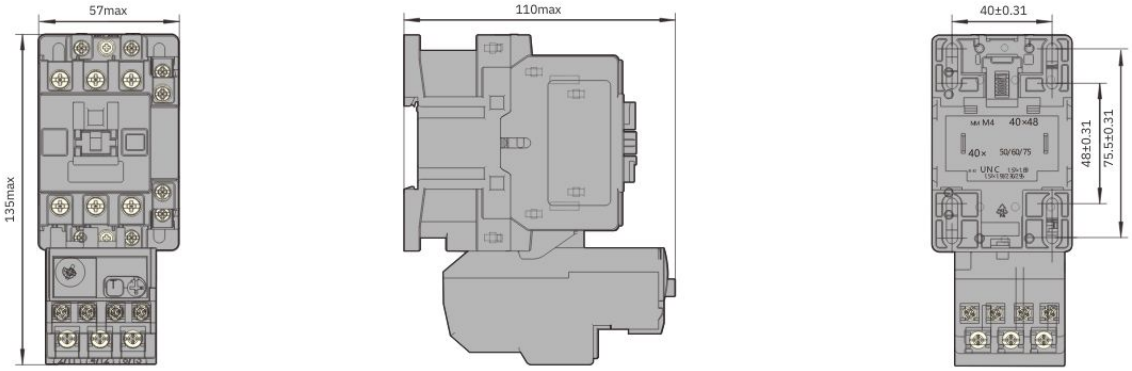
NXR-25 + MB-2

Dimensions and installation



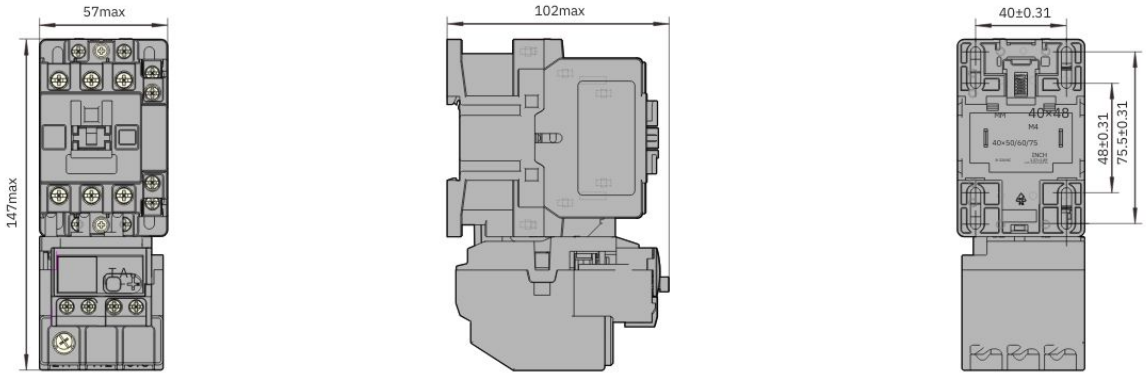
NXR-38 + MB-2

Dimensions and installation



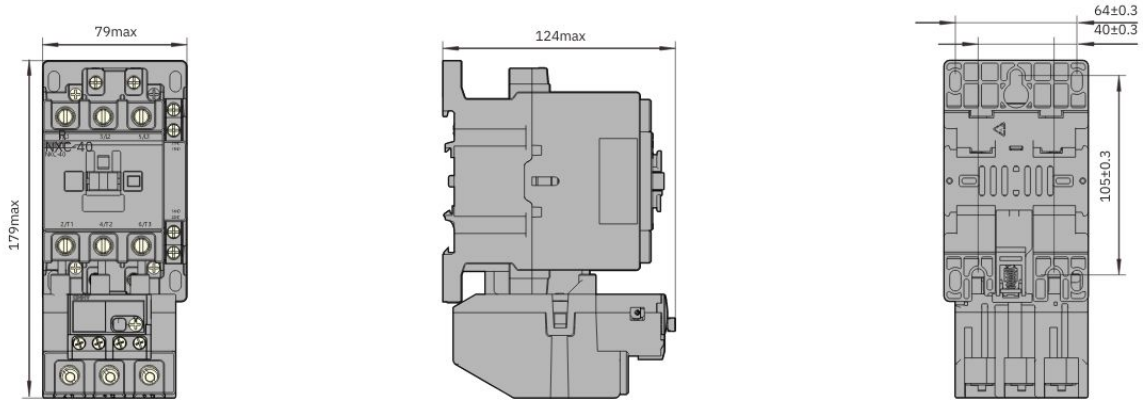
NXR-100 + MB-4

Dimensions and installation



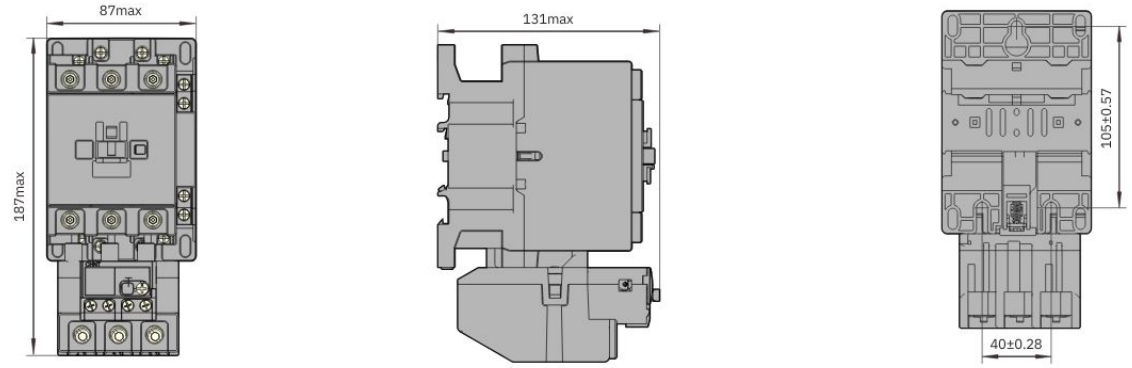
NXC-40~65 + NXR-100

Dimensions and installation



NXC-75~100 + NXR-100

Dimensions and installation



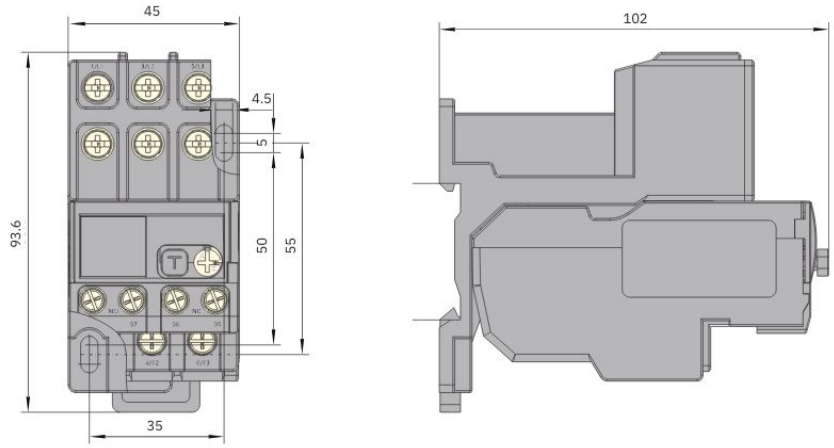
NXR-12 + MB-1

Dimensions and installation



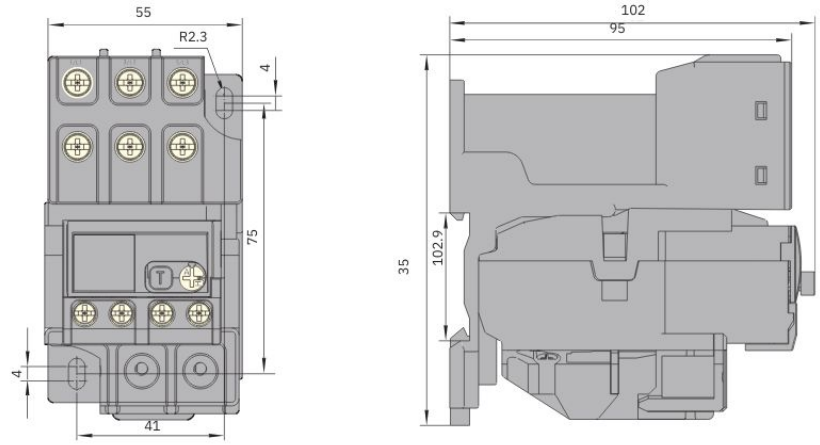
NXC-06~22 + NXR-25

Dimensions and installation



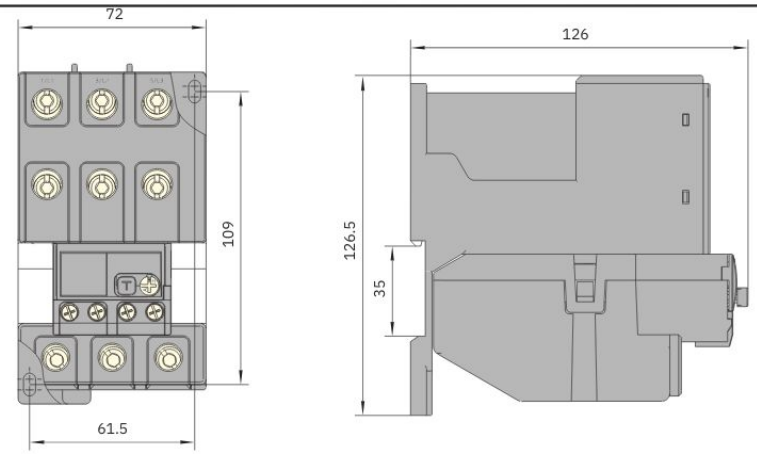
NXC-25~38 + NXR-25

Dimensions and installation



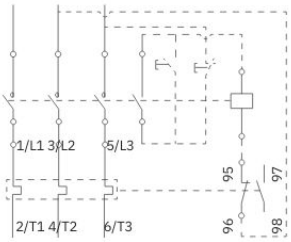
NXC-25~38 + NXR-38

Dimensions and installation

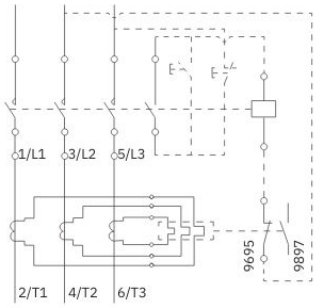


Wiring diagrams

NXR-12~100



NXR-200~630



Annex I: Instructions for use in abnormal conditions

- IEC/EN 60947-4-1 standard defines normal operation temperature range for products. Use of products in the normal range will not cause significant impact on their performance.
- At an operation temperature higher than +40°C, the tolerable temperature rise of products needs to be reduced. The rated operation current should be adjusted to prevent product damage, shortened service life, lower reliability, or impact on action characteristics.At a temperature lower than -5°C, impact of changes to the heat dissipation system on the action characteristics of the products should be considered.
- The temperature compensation coefficients at an ambient temperature higher than +40°C and lower than -5°C are given below. The compensation coefficients corresponding to -35°C and +70°C environments are given in the table below. No corrections are required for NXR-200 and NXR-630.

Operation ambient temperature		-35°C	+70 °C
Temperature compensation coefficients for NXR-12, 25, 38, 100	Multiple of stable current	1.05	0.9
	Multiple of trip current	1.4	1.2

NXR-12, 25, 38, 100

Temperature compensation curve

