Thermal Overload Relays

Tripping Class 20

New

Motor Protection — general

It is very important to choose an adequate protective device for the safety of the motor during operation and for its durability. The efficiency of protection methods varies according to the application. The overview below will help you to choose.
There is no general rule and we are available to advise you for special applications and especially in the case of difficult starting. An economic and effective protection are thermal overload relays with protection against:

> Overload
> Phase failure imbalance
> Phase loss

Description

- Available for starter construction with A Line contactors and separate panel mounting
- Designed for close couple mounting – separate base mounting available for all overload relays
- Full automatic function, Manual reset, Test phase or Reset can also be adjusted to function as a stop button
- Remote trip and reset option available
- Screwdriver guide holes, all terminal screws are available from the front
- Trip indication
- Ambient compensation -25 °C to +55 °C (-13 °F to +131 °F)

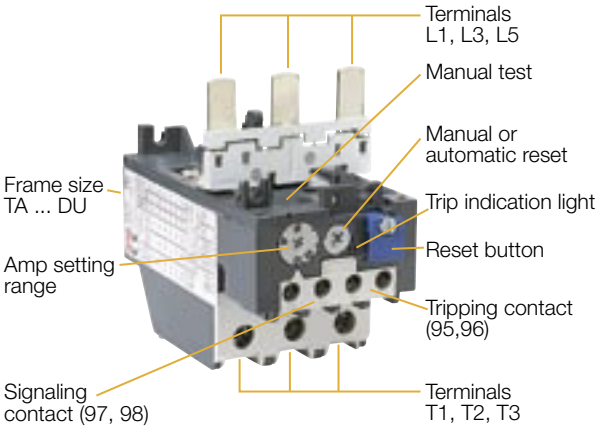
Tripping classes of the thermal overload relays

Standard tripping classes are 10 A, 10, 20, 30. The tripping class indicates according to IEC 60947-4-1 the maximum tripping time in seconds under specified conditions of test at 7.2 times the setting current and specifics tripping and non tripping times for 1.5 and 7.2 times the setting current.

Construction and function

• General

Thermal O/L relays and their accessories meet UL, Nema, CSA and most other important international standards (IEC), European standards (EN) and the most important national standards. They meet the certification and approval directives required throughout the world.
Thermal overload relays are 3 pole. The motor current flows through their bimetals (1 per phase) which are indirectly heated. Under the effect of the heating, the bimetals bend, cause the relay to trip and the position of the auxiliary contacts to change. The relay setting range is graduated in amps. In compliance with international and national standards, the setting current is the motor nominal current and not the tripping current (no tripping at 1.05 x setting current, tripping at 1.2 x setting current). The tripping curves (cold or warm starting, 3 phases and 2 phases) are shown in the main catalog.
The relays are built to be self protecting in the event of an overload until the short circuit protection device is activated.



Function of the thermal overload relays

Press blue button	Contacts	Relay tripped		Relay not tripped	
		Manual	Automatic	Manual	Automatic
	NC 95-96 NO 97-98	open closed	open closed	closed open	closed open
Button R		Reset	–	–	–
	NC 95-96	closes when Button's pressed	–	–	–
	NO 97-98	opens when Button's pressed	–	–	–
Button R/O		Reset	–	–	–
	NC 95-96	closes when Button's released	–	opens when Button's pressed closes when Button's released	opens when Button's pressed closes when Button's released
	NO 97-98	opens when Button's pressed	–	–	–