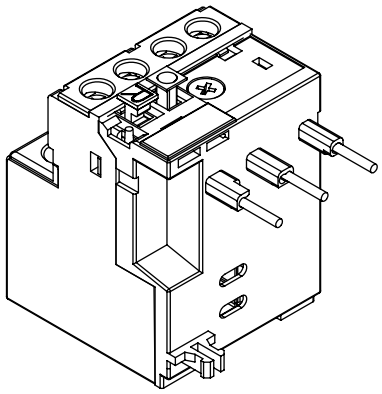
RADE KONČAR KONTAKTORI I RELEI D.O.O.

THERMAL OVERLOAD RELAY

TM 40

INSTALLATION AND OPERATION INSTRUCTIONS



TM 40

IEC 60947-4-1

UTILIZATION

Thermal overload relay TM 40 is intended to protect low voltage motors and other devices against non-permissible overloads and phase failure operation.
TM 40 is intended for use with contactors type CNN 9, CNN 12, CNN 18, CNN 22, CNN 25, CNN 30, CNN 32 and CNN 40.
When mounting the relay, avoid rooms with high humidity, dust, high temperature variations and air draft.

TECHNICAL DATA

Thermal overload relays are tested and they are fully in accordance with the international standard IEC 60947-4-1.

Main circuit	
Insulation rating Ui	690 VAC
Current ranges	Table 1
Corresponding fuses type gG	Table 1
Temperature compensation	Built-in
Phase failure protection by differential phase shift	Built-in
Ingress Protection code	IP20
Release time classification	10A
Auxiliary circuit with two galvanicaly separated contacts	1NO + 1NC
Adjust scale	Position 1 (Fig. 2)
Reset button	Position 2 (Fig. 2)
Switch position indicator	Position 3 (Fig. 2)
Test button	Position 4 (Fig. 2)
Auxiliary circuit	
Rated thermal current Ith2 at 35 °C	6 A
Switching capacity	Table 2

CONNECTING CONDUCTORS

Main circuit	
Wire - solid or stranded	1 - 6 mm^2
Wire - finely stranded with end sleeve	1.5 - 6 mm^2
Screw	M4 - PZ2
Tightening torque	1.4 Nm
Main circuit with additional terminals	
Wire - solid or stranded	10 mm^2
Wire - finely stranded with end sleeve	10 mm^2
Screw	M5 - PZ2
Tightening torque	2 Nm
Auxiliary circuit	
Wire	0.75 - 2.5 mm^2
Screw	M3.5 - PZ2
Tightening torque	0.8 Nm

TRIPPING CHARACTERISTICS

The current time curves give correlation between the tripping time and the multiplicator of the present current Ie (Fig. 1).

CAUTION

Ensure that right thermal overload relay is selected.

Adjust the current setting selector of thermal overload relay according to full load current specified on the motor.

Turn off the power before carrying out any repair or maintenance work.

Operating temperature: -5 °C to +50 °C
Storage temperature: -40 °C to +70 °C
Relative humidity: 45 % to 85 %

Table 1

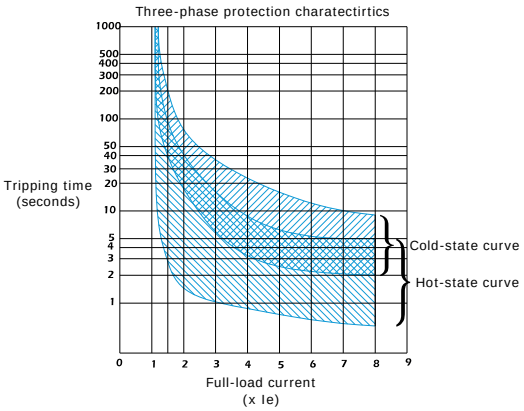
Thermal overload relay model	Overload current setting range (A)	Main circuit fuse size gG (A)
TM 40	0.1 - 0.16	1
	0.16 - 0.25	1
	0.25 - 0.4	2
	0.45 - 0.63	2
	0.55 - 0.8	2
	0.75 - 1	2
	0.9 - 1.3	4
	1.1 - 1.6	6
	1.4 - 2.0	6
	1.8 - 2.5	6
	2.3 - 3.2	10
	2.9 - 4.0	10
	3.5 - 4.8	16
	4.5 - 6.3	16
	5.5 - 7.5	20
	7.2 - 10	25
	9 - 12.5	25
	11.3 - 16	40
	15 - 20	40
	21 - 25*	50
	24.5 - 30*	50
	29 - 36*	63
	33 - 38*	63

*** With additional screw terminals**

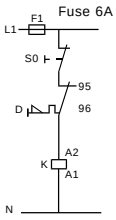
Table 2

AC 15		DC 13	
Ue / V~	Ie / A	Ue / V=	Ie / A
240	3	110	0.25
400	1.7	230	0.1
500	1		

Figure 1



Permanent contact switch operation



Pushbutton operation

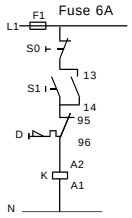
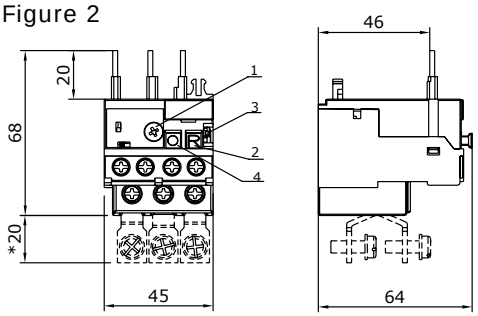
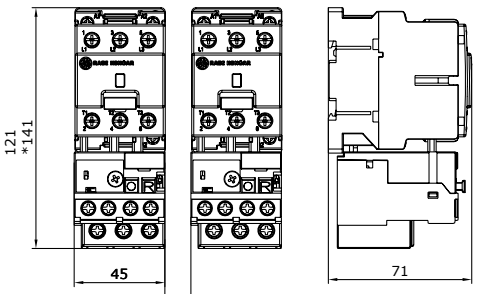


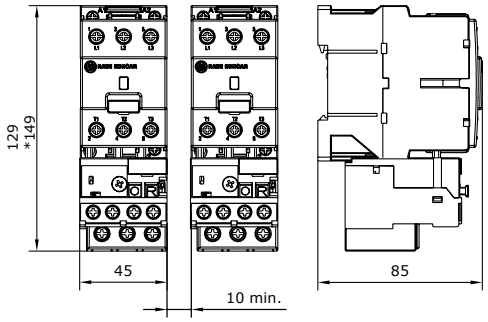
Figure 2



TM 40
+
CNN 9
CNN 12
CNN 18
CNN 22
CNN 25
CNN 30

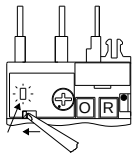


TM 40
+
CNN 32
CNN 40

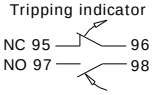


Operating instructions

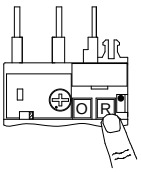
Trip test

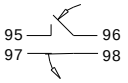


Tripping indicator

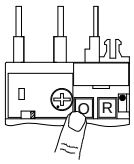


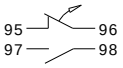
Reset function



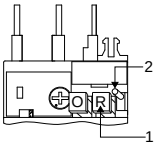


Stop function





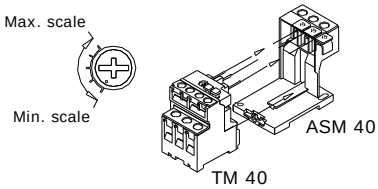
Setup of Auto-restart



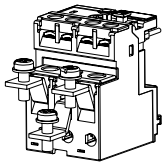
Press and hold button 1 "R" and then pull the lever 2 to the lowest end position

not correct correct

Installation method
TM 40 + ASM 40



*** Installation method TM 40 with additional screw terminals**



- If reset function can't be carried out after conducting trip test, push back the indicator through the indicator window.
- If NC contact can't work after conducting stop function, pull up the stop button.
- Operate the above functions carefully! Check other devices if the functions don't work.
- All of the functions will be correctly operated in the setting range between min. and max. scale.

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