DTA72

Motor thermistor relay

Benefits

- **High operating safety.** The thresholds are determined by the Motor internal PTC. Beyond the specified temperature the output stops the motor/s.
- **Save time and costs.**There is no need to connect other additional and expensive controllers.
- **Ensure continuous production process in your plant**. This type of controller allows limitation of false alarms which may be the cause of useless interruptions of production systems when comparing with other electrical measures (i.e. current or power).
- **Two outputs.** The 2 ouputs provide, besides interrupting the motor supply, an additional signal for a lamp, PC or PLC.
- **Bi-colour front LED.** It provides indications about alarm status and alarm discrimination.

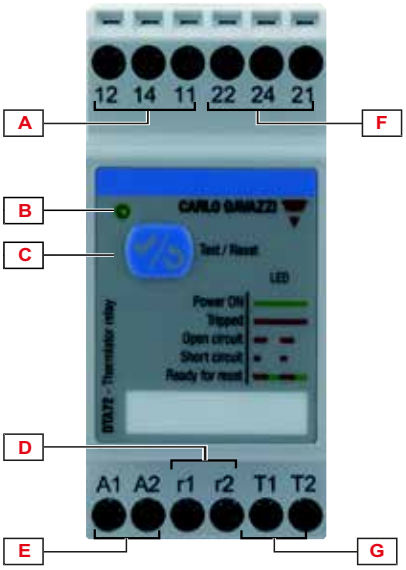
Description

DTA72 is a motor thermistor monitoring relay.
Through the motor internal PTC or PTCs the DTA detects when one or more motor windings are exceeding the maximum operating winding temperature.
The PTC type installed in the motor is different according to the motor insulation temperature. The temperature triggering threshold is detemined by the PTC Type.
DTA72 is equipped with 2 outputs which operate in a complementary mode.
It can be set to operate as MANUAL or AUTO reset.

Applications

This product is extremely suitable for pumps temperature monitoring. It can be useful in all applications where motors are used especially where overloads are frequent and may cause motor damages: pumping stations, water treatment, conveyors, material handling, HVAC, chillers. etc.

Structure

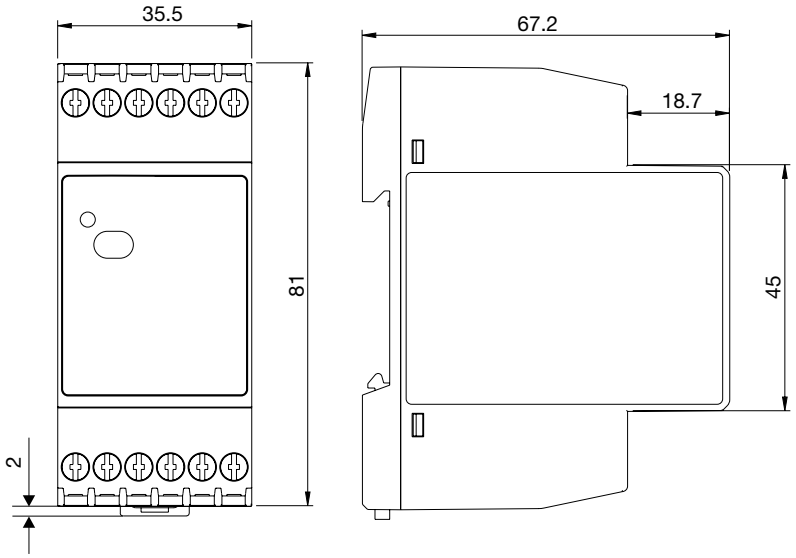


Element	Component	Function
A	Output 1 terminals	SPDT electromechanical relay contacts output. Energised during normal operation, it is de-energised upon alarm
B	Information LED	Green ON steady: no alarm Red ON steady: over-temperature alarm Fast Red blinking: open circuit PTC Slow Red blinking: short-circuit Red and Green alternate: ready for reset
C	TEST / RESET pushbutton	When no overtemperature alarm is present, this double function pusbutton, operates as TEST by simulating the PTC overtemperature: motor stops as long as pushbutton is pressed, as soon as pushbutton is released the normal operation is restored. The pushbutton operates as RESET when the motor had been stopped by overtemperature, the setting is for MANUAL reset and the LED shows the "Ready for reset" situation.
D	Remote RESET pushbutton terminals	To configure the device as Autoreset they shall be jumpered
E	Power Supply terminals	A1 (+ or L) A2 (- or N)
F	Output 2 terminals	SPDT electromechanical relay contacts output. De-energised during normal operation, it is energised upon alarm.
G	PTC input	Up to 6 PTCs in series can be connected

Features

General

Material	PA66 or Noryl
Assembly	DIN rail mounting (According to EN 50022)
Protection degree	IP20
Weight	150 g
Terminals	Screw terminals. AWG30 to AWG12 (0.06 mm^2 to 3.3 mm^2) stranded or solid



Power supply

Power supply	24 to 240 VAC/DC (18 to 265 VAC/DC), 50 to 60 Hz (45 to 65 Hz) or DC
Consumption	3 VA (AC supply) / 1.5W (DC supply)

Environmental

Working temperature	-25° C to 60° C (-13° F to 140° F)
Storage temperature	-40° C to 80°C (-40° F to 176° F)
Relative humidity	5-95% non condensing
Pollution degree	2
Operating max altitude	2000 m amsl (6560ft)
Salinity	No saline environment
UV resistance	No UV exposure

Compatibility and conformity

Standard compliance	EN60255-6
Approvals	c UL us LISTED (UL508, CSA 22.2)
CE Marking	L.V. Directive EN60947-5-1, EMC Directive EN 60947-8

Inputs

	Measuring ranges
Resistance measuring	Input from a series of 1 to 6 PTC according to EN44081 or IEC34-11-2
Cable length	Max. 600m (wire 1.5mm^2) or 200m (wire 0.5mm^2)

	Alarm detection
Over-temperature trip	> 3600 Ω
Over-temperature reset	< 1580 Ω
Short-circuit protection	14 Ω (reset 16Ω)
Open circuit detection	20 kΩ (reset < 18 kΩ)
Switching frequency	< 1Hz
Refresh time	500 ms

Outputs

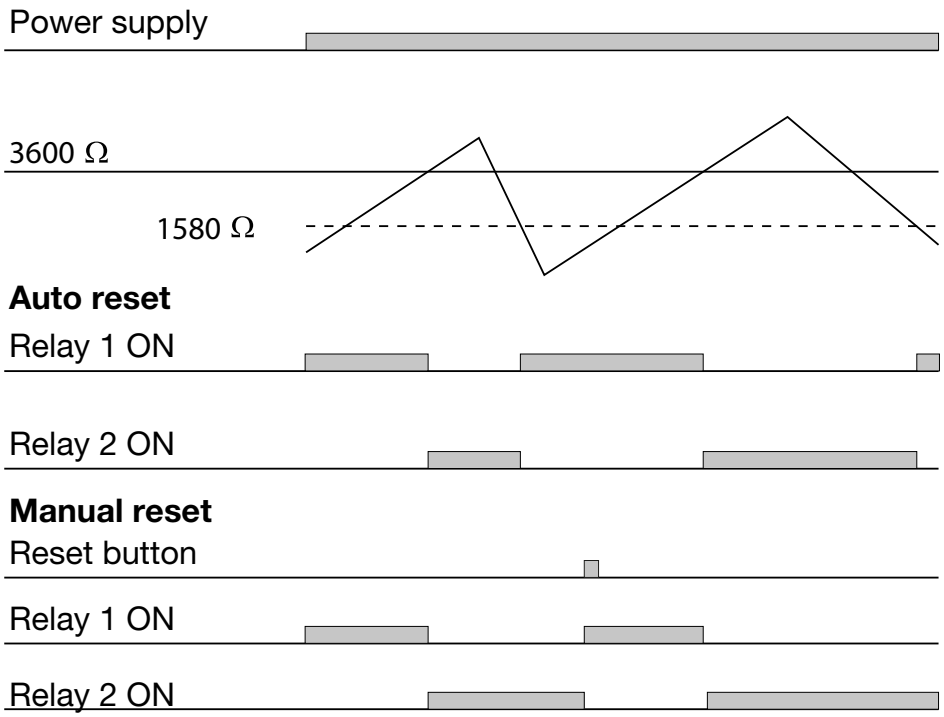
Type	2 x SPDT electromechanical relay
Logic **Output 1** **Output 2**	 De-energised on alarm Energised on alarm
Contact rating	NEMA B 300 240 Vac AC1 8 A @ 250 Vac DC12 5 A @ 24 Vdc AC15 2.5 A @ 250 Vac DC13 2.5 A @ 24 Vdc

Insulation

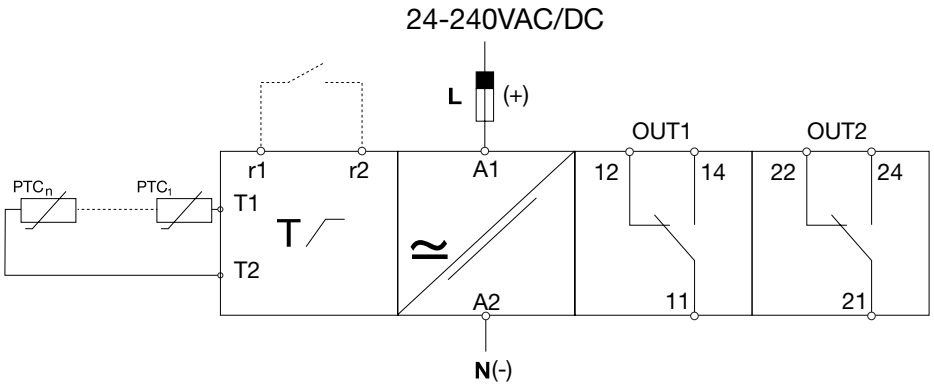
	Basic Insulation
Inputs to output 1	2.5KVrms, 4KV impulse 1.2/50us
Inputs to output 2	2.5KVrms, 4KV impulse 1.2/50us
Inputs to supply	2.5KVrms, 4KV impulse 1.2/50us
Output 1 to supply	2.5KVrms, 4KV impulse 1.2/50us
Output 2 to supply	2.5KVrms, 4KV impulse 1.2/50us
Output 1 to output 2	2.5KVrms, 4KV impulse 1.2/50us

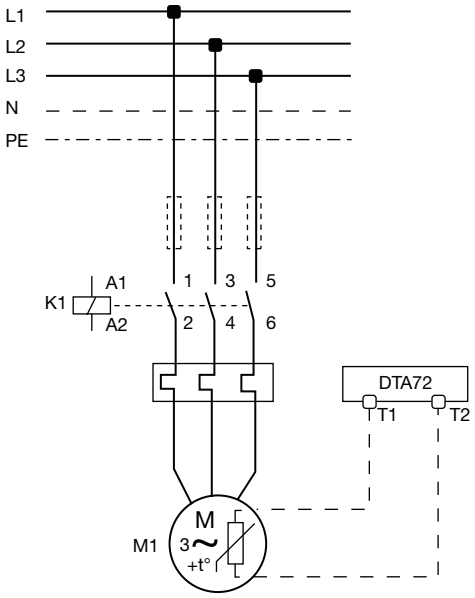
Operating diagram

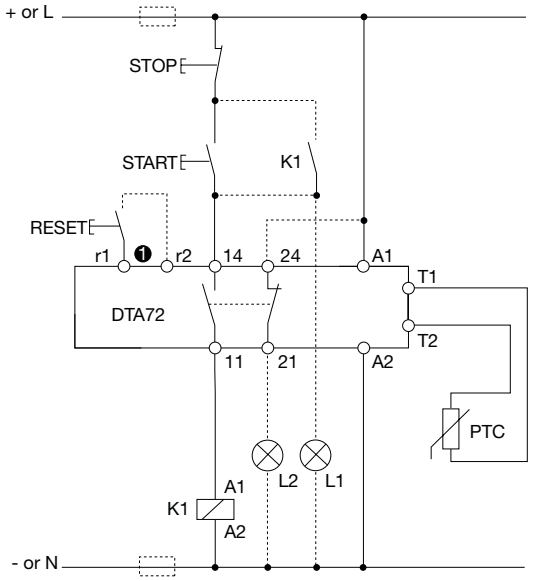
When the temperature of one of the PTCs in series is exceeded, output relays will both switch: relay 1 is de-energised and output relay 2 is energised. The LED is ON red.
When the motor normal temperature is restored, if the DTA04 is wired as "Auto reset", the operation is restarted automatically.
If the DTA04 is wired as manual reset when the normal motor temperature is restored the LED starts blinking alternatively red and green indicating it is ready for reset. When the front or the remote RESET buttons are pressed the operation starts again. The LED turns to green and the output relays switch back to original position.



Connection Diagrams







Code	Description
K1	Main contactor
START	Machine start pushbutton
STOP	Machine stop pushbutton
RESET	Remote reset button
L1	Green lamp (OK)
L2	Red lamp (Alarm)
❶	For Auto Reset operation r1 and r2 shall be jumpered

References

Order code

DTA72DM24

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