DTA

Motor thermistor relay

Benefits

- **High operating safety.** The thresholds are determined by the Motor 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.
- **One or two outputs.** It is possible to select the 1 or 2 outputs version. The 2 ouputs version provides, besides interrupting the the Motor supply, the addition signal for a lamp, PC or PLC.
- **Low profile DIN rail mounting.** These devices can be mounted on classic din rail in a cabinets or in a electrical panel, The 60mm height allows installation in many applications.
- **Bi-colour front LED.** These devices indicate alarms for temperature and PTC.

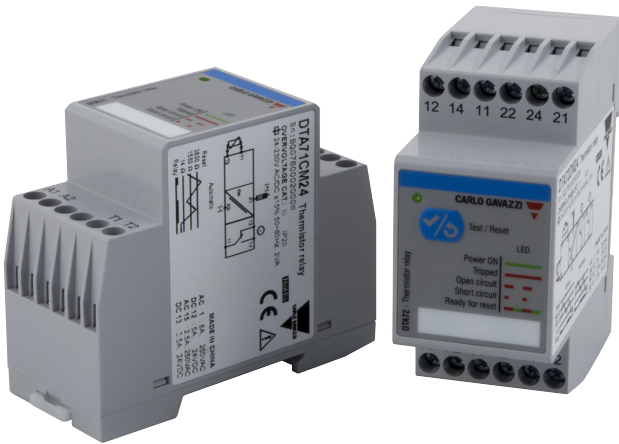### Description

DTA71 and DTA72 are precise Motor thermistor monitoring relays.

They can monitor up to 6 motor temperatures through the motor internal temperature.

PTCs are connected in series when multiple motors are monitored.

DTA71 features 1 output, AUTO reset and no TEST switch.

DTA72 features, besides the 2 outputs, the TEST switch and the local or remote manual RESET.

It can also be configured as AUTO.

The bi-colour front LED, through colours and blinks, indicates Power ON, PTC failures, alarms and when it is ready for RESET.

Applications

This product is extremely suitable for pumps 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.

DTA72

Monitor thermistor relay

Main features

- Reset input for remote pushbutton.
- 35mm low profile DIN enclosure.
- Screw terminals
- CE & UL approved.

Main function

- Motor thermistor monitoring.
- Up to 6 monitored motors.
- Configurable Auto or Manual reset.
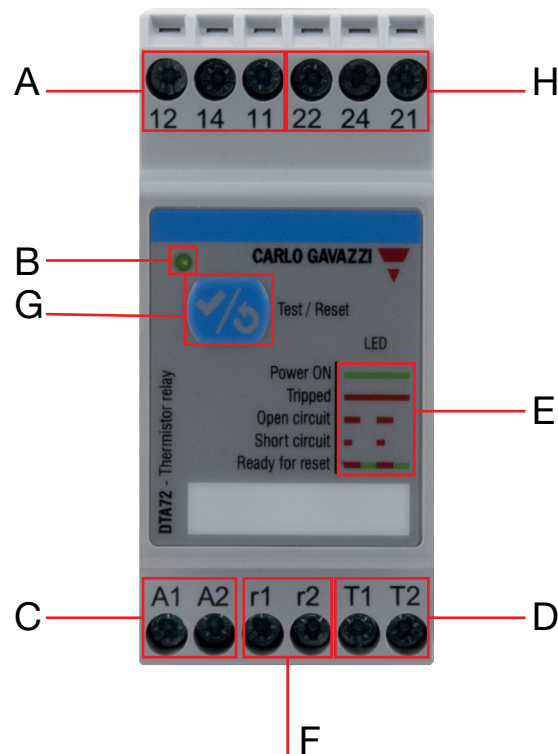- Multifunction LED.
- PTC short / open failure detection.

Description

DTA72 is a Motor thermistor monitoring relay.
It can monitor up to 6 motor temperatures through the motor internal PTC.
DTA72 features 2 SPDT Electromechanical Outputs, it also has an input for the remote RESET pushbutton connection. Reset function can be either set auto or manual.
It has manual TEST/RESET button on the front panel.
The bi-colour front LED, through different colours and blinks, indicates Power ON, PTC failures, Alarm and the ready to RESET state.

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
A	Output 1 terminals SPDT electromechanical relay.
B	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	Power Supply terminals A1 (+ or L) A2 (- or N)
D	PTC input Up to 6 PTCs in series can be connected
E	LED Key table
F	Remote RESET pushbutton terminals To configure the device as Autoreset they shall be jumpered.
G	TEST / RESET pushbutton Operates as test at motors normal temperatureTEST button when the motor is running at normal temperature. It simulates PTC overtemperature. Operates as reset button when device in "ready to reset" state.
H	Output 2 terminals SPDT electromechanical relay

Features

► General

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

► Power supply

Power supply	18 to 265 Vac/Vdc: 45 to 65 Hz, or dc
Consumption	2.5VA (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
Salinity	No saline environment
UV resistance	No UV exposure

► Compatibility and conformity

Standard compliancce	EN60255-6
Approvals	UL 508, 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

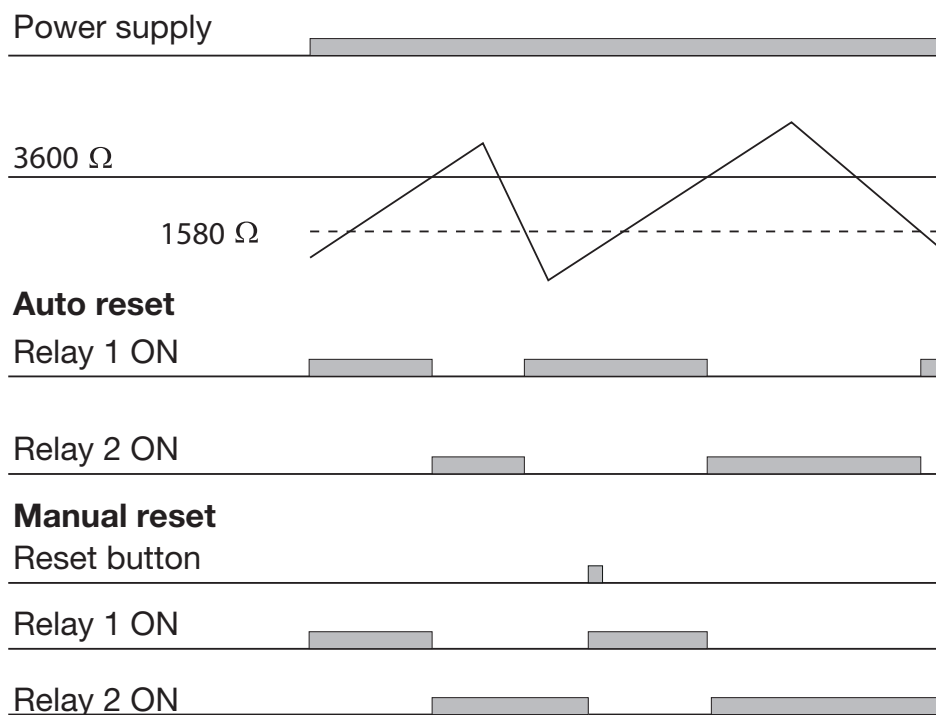| **Type**	2 x SPDT electromechanical relay
Logic **Output 1** **Output 2**	De-energized on alarm Energized on alarm
Contact rating	NEMA B 300 240 Vac AC1 8 A @ 250 Vac DC12 5 A @ 24 Vdc AC15 2.5 A @ 250 Vac DC13 2.5 A @ 24 Vdc

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 the Output relay is de-energized. The LED is ON red. Output relays will switch.
When the motor normal temperature is restored, if the DTA72 is wired as "Auto reset", the operation is restarted automatically.
If the DTA72 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.

Power supply

3600 Ω

1580 Ω
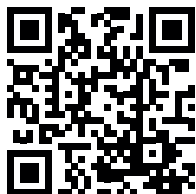
Auto reset
Relay 1 ON

Relay 2 ON

Manual reset
Reset button

Relay 1 ON

Relay 2 ON

Connection Diagrams

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

References

▶ **Further reading**

Information	Document	Where to find it
-	-	-

▶ **Order code**

☞ **DTA72DM24**

▶ **CARLO GAVAZZI compatible components**

Purpose	Component name/code	Notes
-	-	-

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