Monitoring Relays Motor temperature Types DTA01, PTA01, DTA02, PTA02







- Motor temperature monitoring relay
- Measuring ranges: PTC according to EN 44081
- Remote and local alarm reset (DTA02, PTA02)
- Output: 8 A SPDT (PTA01/DTA01/DTA02) or SPST (DTA01) relay, normally energized
- For mounting on DIN-rail in accordance with DIN/EN 50 022 (DTA01, DTA02) or plug-in module (PTA01, PTA02)
- 22.5 mm Euronorm housing (DTA01, DTA02) or 36 mm plug-in module (PTA01, PTA02)
- LED indication for relay and power supply ON (DTA02, PTA02)
- Galvanically separated power supply

Product Description

DTA01, DTA02, PTA01 and PTA02 are precise thermistor monitoring relays.

They can be used to monitor the temperature of the coils of a motor with built-in PTC's. The alarm status of the relay can be reset by either an external contact or an internal button (DTA02, PTA02).

The test button allows the simulation of the fault condition (DTA02, PTA02).

The red LED indicates the alarm status.

Ordering Key Housing Function Type Item number Output DTA 01 C 230

Type Selection

Mounting	Output	Supply: 24 to 48 VAC/DC	Supply: 115 VAC	Supply: 230 VAC
DIN-rail	SPST	DTA 01 CD 48	DTA 01 C 115	DTA 01 C 230
Plug-in	SPDT	PTA 01 CD 48	PTA 01 C 115	PTA 01 C 230
DIN-rail	SPDT	DTA 02 CD 48	DTA 02 C 115	DTA 02 C 230
Plua-in	SPDT	PTA 02 CD 48	PTA 02 C 115	PTA 02 C 230

Power supply -

Input Specifications

Input Specifications				
Input (PTC)	DTA01, DTA02: PTA01, PTA02:	Terminals T1, T2 Terminals 5, 6		
Alarm setpoi Return setpo Short-circuit Measuremer	C resistance nt bint detection nt voltage	1500 Ω 3100 Ω ± 10% 1650 Ω ± 10% 0 to 10 Ω ≤ 2.5V (acc. to IEC 60034-11)		
Contact inpur DTA02 PTA02 Disabled Enabled Alarm reset	t	Terminals Z1, Z2 Terminals 8, 9 > 10 k Ω < 500 Ω > 500 ms		

Output Specifications

Output Rated insulation voltage	SPST or SPDT relay 250 VAC	
Contact ratings (AgSnO ₂) Resistive loads AC 1	μ 8 A @ 250 VAC	
DC 12 Small inductive loads AC 15 DC 13	5 A @ 24 VDC 2.5 A @ 250 VAC 2.5 A @ 24 VDC	
Mechanical life	≥ 30 x 10 ⁶ operations	
Electrical life	\geq 10 ⁵ operations (at 8 A, 250 V, cos ϕ = 1)	
Operating frequency	≤ 7200 operations/h	
Dielectric strength Dielectric voltage Rated impulse withstand volt.	≥ 2 kVAC (rms) 4 kV (1.2/50 µs)	



Supply Specifications

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Power supply Rated operational voltage through terminals: A1, A2 (DTA01, DTA02) 2, 10 (PTA01, PTA02)		Overvoltage cat. III (IEC 60664, IEC 60038)	
_,	D48:	24 to 48 VAC	/DC ± 15%
		45 to 65 Hz, i	nsulated
115:		115 VAC ± 15%	
		45 to 65 Hz, i	
230:		230 VAC ± 15%	
		45 to 65 Hz, i	nsulated
Dielectric voltage (1.2/50 µs)		DC supply	AC supply
Supply to	input	2 kV	4 kV
Supply to	output	4 kV	4 kV
Input to c	output	4 kV	4 kV
Rated operational power			
AC	-	2.5VA	
DC		1.5W	

Mode of Operation

DTA01, DTA02, PTA01 and PTA02 monitor the resistance value of the PTC resistors connected to the terminals T1 and T2 (or 5 and 6). This value is related with their temperature (often the three coils of a motor) so to offer a prompt reaction to over temperature.

Example 1 - DTA01 or PTA01

The relay operates as long as the measured resistance is below the rated value. The relay releases if the measured resistance (i.e. the temperature of the motor coils) exceeds the rated value

Example 2 - DTA02 or PTA02

The relay operates and the vellow LED is ON as long as the measured resistance is below the rated value. The relay releases and the yellow LED is OFF if the measured resistance (i.e. the temperature of the motor coils) exceeds the rated value. Provided that the resistance has dropped below the rated value (i.e. the temperature of the motor coils has returned cold), the relay operates when the interconnection between terminals Z1, Z2 or 8, 9 is interrupted or the reset button on the front of the unit is pressed.

General Specifications

Conorai Specifican	U 115	
Reaction time Alarm ON delay	< 150 ms	
Reset delay	(resistance rising from -20% to +20% set value) < 500 ms (resistance decreasing from +20% to -20% set value)	
Accuracy	(15 min warm-up time)	
Temperature drift	± 1000 ppm/°C	
Repeatability	± 0.5% on full-scale	
Indication for		
Power supply ON	LED, green	
Relay ON	LED, yellow	
Environment	(EN 60529)	
Degree of protection	IP 20	
Pollution degree	3 (DTA01, DTA02), 2 (PTA01, PTA02)	
Operating temperature	-20 to 60°C, R.H. < 95%	
Storage temperature	-30 to 80°C, R.H. < 95%	
Housing	00 to 00 0, 1 11 0 00 70	
Dimensions DTA01, DTA02	22.5 x 80 x 99.5 mm	
PTA01, PTA02	36 x 80 x 94 mm	
Material	PA66 or Noryl	
Weight	Approx. 150g	
Screw terminals		
Tightening torque	Max. 0.5 Nm	
	acc. to IEC 60947	
Product standard	EN 60255-6	
Approvals	UL, CSA	
CE Marking	L.V. Directive 2006/95/EC	
-	EMC Directive 2004/108/EC	
EMC		
Immunity	According to EN 60255-26	
Emissions	According to EN 61000-6-2	
Emissions	According to EN 60255-26 According to EN 61000-6-3	
	7.000.ding to EN 01000-0-0	

Operation Diagrams

DTA01, PTA01 Power supply 3100Ω 1650Ω Relay ON



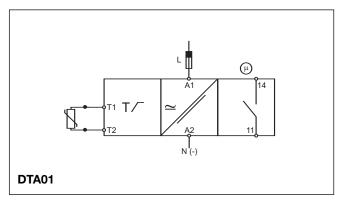
Reset contact

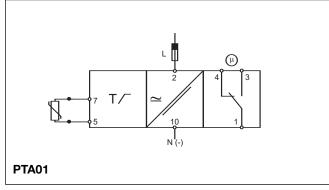


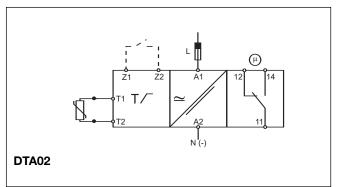


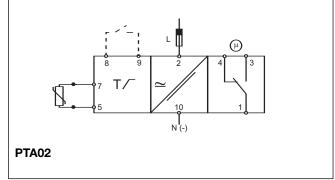


Wiring Diagrams









Dimensions

