



Monitoring relays - GAMMA series

Supply voltage selectable via power modules

1 change-over contact

External reset key connectable

Width 22.5mm

Industrial design



Technical data

1. Functions

Temperature monitoring of the motor winding (max. 6 PTC) with fault latch, for temperature probes in accordance with DIN 44081

Test function with integrated test/reset key

2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	-

3. Indicators

Green LED ON:	indication of supply voltage
Red LED ON/OFF:	indication of failure

4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40

Mounted on DIN-Rail TS 35 according to EN 50022

Mounting position: any

Shockproof terminal connection according to VBG 4 (PZ1 required),

IP rating IP20

Tightening torque: max. 1Nm

Terminal capacity:

- 1 x 0.5 to 2.5mm² with/without multicore cable end
- 1 x 4mm² without multicore cable end
- 2 x 0.5 to 1.5mm² with/without multicore cable end
- 2 x 2.5mm² flexible without multicore cable end

5. Input circuit

Supply voltage:	12 to 400V AC	terminals A1-A2 (galvanically separated) selectable via power modules TR2 according to specification of power module
Tolerance:		according to specification of power module
Rated frequency:		according to specification of power module
Rated consumption:	2VA (1.5W)	
Duration of operation:	100%	
Reset time:	500ms	
Residual ripple for DC:	-	
Drop-out voltage:	>30% of the supply voltage	
Overvoltage category:	III (according to IEC 664-1)	
Rated surge voltage:	4kV	

6. Output circuit

1 potential free change-over contact	
Rated voltage:	250V AC
Switching capacity (distance <5mm):	750VA (3A / 250V AC)
Switching capacity (distance >5mm):	1250VA (5A / 250V AC)
Fusing:	5A fast acting
Mechanical life:	20 x 10 ⁶ operations
Electrical life:	2 x 10 ⁵ operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
Overvoltage category:	III (according to IEC 664-1)
Rated surge voltage:	4kV

7. Measuring circuit

Input:	terminals T1-T2
Initial resistance:	<1.5kΩ
Response value (relay in off-position):	≥3.6kΩ
Release value (relay in on-position):	≤1.8kΩ
Disconnection (short circuit thermistor):	no
Measuring voltage T1-T2:	≤2.5V DC at R ≤4.0kΩ (according to DIN VDE 0660 part 302)
Overvoltage category:	III (according to IEC 664-1)
Rated surge voltage:	4kV

8. Control contact R

Function:	external reset key
Loadable:	no
Line length R-T2:	max. 10m (twisted pair)
Control pulse length:	-
Reset:	potential free normally open contact, terminals R-T2

9. Accuracy

Base accuracy:	±10% (of maximum scale value)
Frequency response:	-
Adjustment accuracy:	-
Repetition accuracy:	≤1%
Voltage influence:	≤2.2% / V
Temperature influence:	≤0.1% / °C

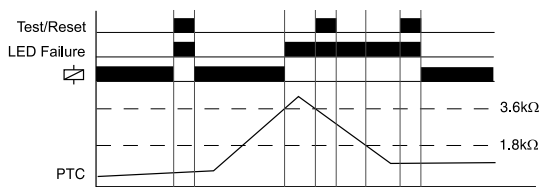
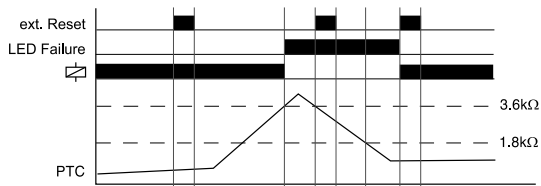
10. Ambient conditions

Ambient temperature:	-25 to +55°C (according to IEC 68-1) -25 to +40°C (according to UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 class 3K3)
Pollution degree:	3 (according to IEC 664-1)
Vibration resistance:	10 to 55Hz 0.35mm (according to IEC 68-2-6)
Shock resistance:	15g 11ms (according to IEC 68-2-27)

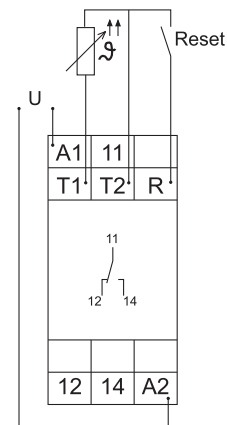
Functions

If the supply voltage U is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than $3.6\text{k}\Omega$ (standard temperature of the motor), the output relay switches into on-position. Pressing the test/reset key under this conditions forces the output relay to switch into off-position. They remain in this state as long as the test/reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective using an external reset key.

When the cumulative resistance of the PTC-circuit exceeds $3.6\text{k}\Omega$ (at least one of the PTCs has reached the cut-off temperature), the output relay switches into off-position (red LED illuminated). The output relay again switch into on-position (red LED not illuminated), if the cumulative resistance drops below $1.8\text{k}\Omega$ by cooling down of the PTC and either a reset key (internal or external) was pressed or the supply voltage was disconnected and re-applied.



Connections



Dimensions

