Temperature monitoring of the motor winding

G2TF02 24-240V

Monitoring relays - GAMMA series

Zoom voltage 24 to 240V a.c./d.c.

2 change-over contacts

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 60715
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:	
24 to 240V a.c./d.c.	terminals A1-A2 (galvanically separated)
Tolerance:	
24 to 240V d.c.	-20% to +25%
24 to 240V a.c.	-15% to +10%
Rated frequency:	
24 to 240V a.c.	48 to 400Hz
48 to 240V a.c.	16 to 48Hz
Rated consumption:	4.5VA (1W)
Duration of operation:	100%
Reset time:	500ms
Wave form for a.c.:	Sinus
Residual ripple for d.c.:	10%
Drop-out voltage:	>15% of the supply voltage
Overvoltage category:	III (in accordance with IEC 60661-1)
Rated surge voltage:	4kV

6. Output circuit
2 potential free change-over contacts

Rated voltage:	250V a.c.
Switching capacity:	750VA (3A / 250V a.c.)
If the distance between the devices is less than 5mm.	
Switching capacity:	1250VA (5A / 250V a.c.)
If the distance between the devices is greater than 5mm.	
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 (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
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 d.c. at R ≤4.0kΩ (in accordance with DIN VDE 0660 part 302)
Overvoltage category:	III (in accordance with IEC 60664-1)
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

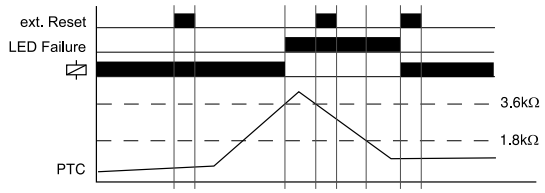
Base accuracy:	±10% (of maximum scale value)
Frequency response:	-
Adjustment accuracy:	-
Repetition accuracy:	≤1%
Voltage influence:	≤2.2%
Temperature influence:	≤0.1% / °C

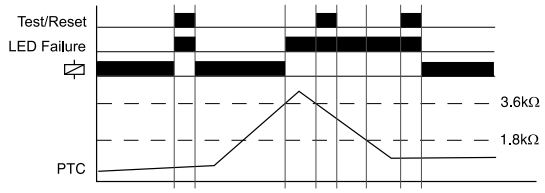
10. Ambient conditions

Ambient temperature:	-25 to +55°C (in accordance with IEC 60068-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 60068-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 60068-2-27)

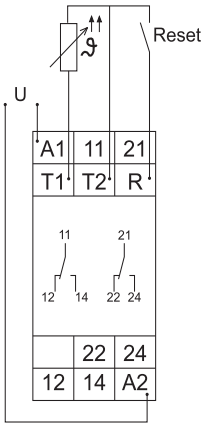
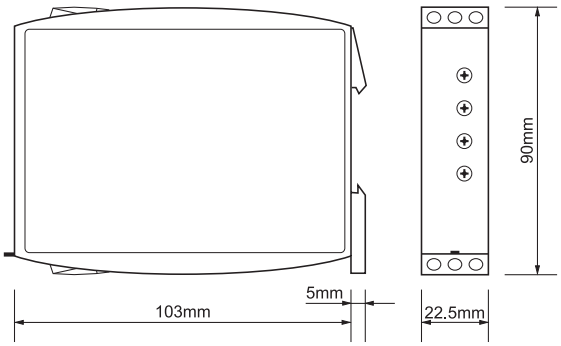
Functions

If the supply voltage U is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than 3.6kΩ (standard temperature of the motor), the output relays switch into on-position. Pressing the test/reset key under this conditions forces the output relays 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 3.6kΩ (at least one of the PTCs has reached the cut-off temperature), the output relays switch into off-position (red LED illuminated). The output relays again switch into on-position (red LED not illuminated), if the cumulative resistance drops below 1.8kΩ 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