



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 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: | 12 to 400V a.c. | terminals A1-A2 (galvanically separated) selectable via power modules TR2 |
| Tolerance: | | according to specification of power module |
| Rated frequency: | 24V d.c. | according to specification of power module terminals A1-A2 (galvanically separated) selectable via switching power supply SNT2 |
| Tolerance: | | according to specification of switching power supply |
| Rated frequency: | | according to specification of switching power supply |
| Rated consumption: | | 2VA (1.5W) |
| Duration of operation: | | 100% |
| Reset time: | | 500ms |
| Residual ripple for d.c.: | | - |
| Drop-out voltage: | | >30% of the supply voltage |
| Overvoltage category: | | III (in accordance with IEC 60664-1) |
| Rated surge voltage: | | 4kV |

6. Output circuit

1 potential free change-over contact
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

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|---|--|
| 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 (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 |

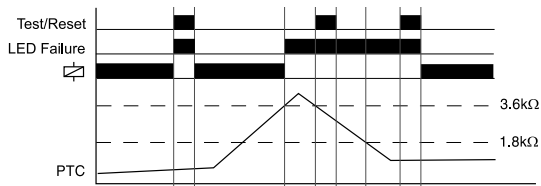
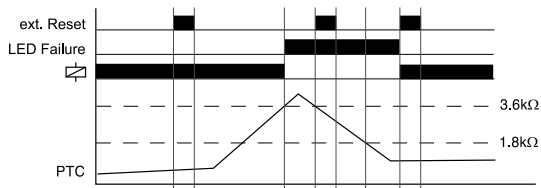
10. Ambient conditions

| | |
|------------------------|---|
| 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) |

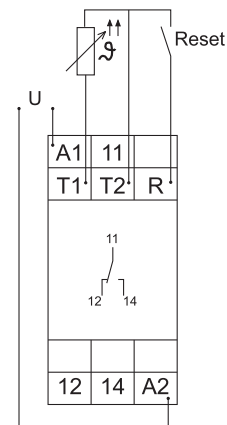
Functions

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 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 3.6kΩ (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 1.8kΩ 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

