E3TF01

Monitoring relays - ENYA series

- Tripping unit for temperature monitoring of the motor winding with and without short circuit monitoring of the thermistor line (selectable by means of terminals)
- Optional evaluation of one thermal contact
- Test function with integrated reset key
- Rated isolated voltage on the sensor circuit up to 690V
- 1 change over contact
- ► Width 35mm
- Installation design





Technical data

■ 1. Functions

Temperature monitoring of the motor winding (max. 6 PTC) with fault latch for temperature sensors in accordance with DIN 44081, short circuit monitoring of the thermistor line (selectable by means of terminals), integrated test/reset key.

2. Time ranges

Adjustment range

Start-up suppression time (Start): Tripping delay (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 mulitcore cable end

1 x 4mm² without mulitcore cable end

2 x 0.5 to 1.5mm 2 with/without mulitcore cable end 2 x 2.5mm 2 flexible without mulitcore cable end

5. Input voltage

Supply voltage: 230V AC Terminals: A1-A2

Rated voltage Un: see table ordering information or

Tolerance: printing on the unit
-15% to +10% of Un
Rated consumption: 1,3VA (1W)
Rated frequency: AC 48 to 63Hz
Duty cycle: 100%

Duty cycle: 100% Reset time: 250ms Residual ripple for DC: 50ms

Drop-out voltage: >30% of the supply voltage
Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 6kV

6. Output circuit

1 potential free change over contact Terminals: 11-12-14 Rated voltage: 250V AC

Switching capacity: 1250VA AC1 B300/P300

(in accordance with IEC 60947-5-1);

therm. constant current 5A

Fusing: 5A fast acting
Mechanical life: 20 x 10⁶ operations
Electrical life: 2 x 10⁵ operations
at 1000VA resistive los

at 1000VA resistive load max. 6/min at 1000VA resistive load

(in accordance with IEC 60947-5-1)
III. (in accordance with IEC 60664-1)

Rated surge voltage: 6kV

7. Measuring circuit

Terminals: T1-T2 or T1-T3 Initial resistance: <1.5k Ω Response value (relay in off-position): $23.6k\Omega$ Release value (relay in on-position): $21.65k\Omega$ yes at T1-T2 no at T1-T3 Measuring voltage T1-T2: 27.5 V at R 24.0k Ω

(in accordance with EN 60947-8)

Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage:

8. Control contact R

Function: connection of an external reset key

Loadable: no

Line length R1-R2: max. 10m (twisted pair)

Control pulse length: min. 50ms

Reset: potential free normally open contact,

terminals R1-R2

Note: The terminals R2-T2 are internal affiliated with each other!!

9. Accuracy

Base accuracy: ±5%
Adjustment accuracy
Repetition accuracy: ≤1%
Voltage influence: -

Temperature influence: ≤0.15% / °C

■ 10. Ambient conditions

(in accordance with IEC 60721-3-3

class 3K3)

Pollution degree: 2, if built in 3

(in accordance with IEC 60664-1)

■ 11. Weight

Single packing: 137,20g

Switching frequency:

Overvoltage category

Subject to alterations and errors

Functions

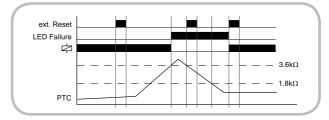
Temperature monitoring of the motor winding with fault latch

If the supply voltage U is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than $3.6 k\Omega$ (standard temperature of the motor), the output relay switches into on-position.

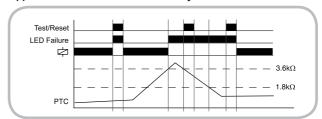
Pressing the test/reset key under this conditions forces the output relay to switch into off-position. It remains in state as long as the test/reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective by using an external reset key. When the comulative resistance of the PTC-circuit exceeds $3.6 k\Omega$ (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 switches into on-position again (red LED not illuminated), if the cumulative resistance drops below 1.65k Ω 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.

Application of an external Reset

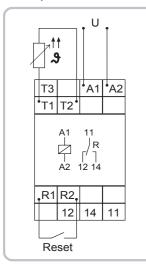


Application of internal Test/Reset - key

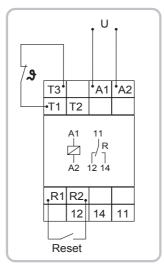


Connections

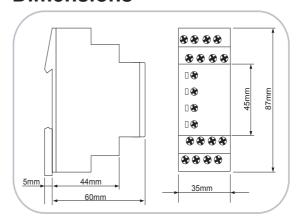
Monitoring Temperature sensor



Monitoring Thermal contact



Dimensions



Note:

Only one of this circuit versions (either monitoring of the temperature sensor or monitoring of the thermal contact) can be executed!!

Ordering informations

Туре	Rated voltage Un	LEDs	Part Nr. (PQ 1)
E3TF01	230V AC	U, failure	1341600

