Tripping unit for temperature monitoring

E3TF01

Monitoring relays - ENYA series

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 1.5mm² with/without mulitcore cable end
- 2 x 2.5mm² flexible without mulitcore cable end

5. Input voltage

Supply voltage:	230V AC
Terminals:	A1-A2
Rated voltage Un:	see table ordering information or printing on the unit
Tolerance:	-15% to +10% of Un
Rated consumption:	1,3VA (1W)
Rated frequency:	AC 48 to 63Hz
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 10^6 operations
Electrical life:	2 x 10^5 operations at 1000VA resistive load
Switching frequency:	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:	6kV

7. Measuring circuit

Terminals:	T1-T2 or T1-T3
Initial resistance:	<1.5kΩ
Response value (relay in off-position):	≥3.6kΩ
Release value (relay in on-position):	≤1.65kΩ
Disconnection (short circuit thermistor):	yes at T1-T2 no at T1-T3
Measuring voltage T1-T2:	≤7.5V at R ≤4.0kΩ (in accordance with EN 60947-8)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	6kV

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

Ambient temperature:	-25 to +55°C
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:	2, if built in 3 (in accordance with IEC 60664-1)

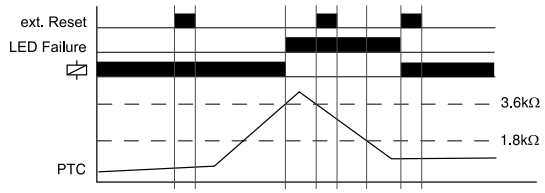
11. Weight

Single packing:	137,20g

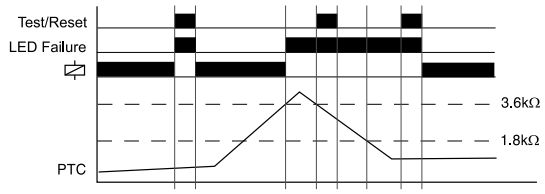
Functions

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 3.6kΩ (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. 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 3.6kΩ (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 switches into on-position again (red LED not illuminated), if the cumulative resistance drops below 1.65kΩ 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

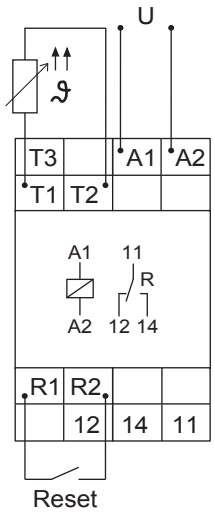


Application of internal Test/Reset - key

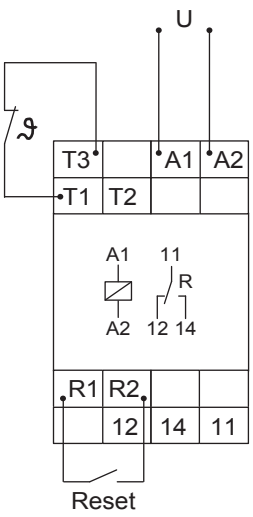


Connections

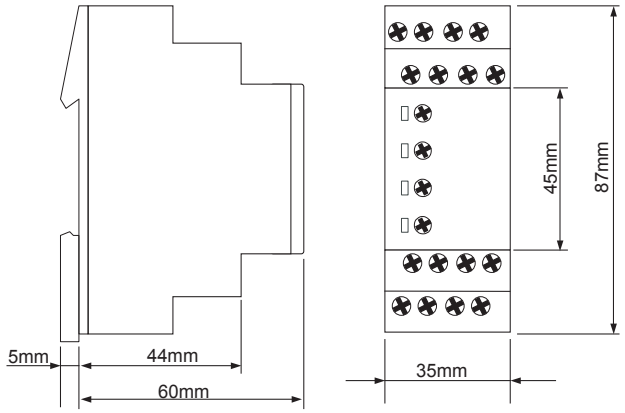
Monitoring temperature sensors



Monitoring thermal contact



Dimensions



Ordering Informations

Types	Rated voltage U_N	LEDs	Part. No.
E3TF01	230V	U, falure	1341600

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Subject to alterations and errors