

1. INTRODUCTION

In the ComatReleco plug-in 35 mm series a thermo protection relay is available. This device is a especially made for the protection of motors and transformers. In the device is available an input for PTC-resistor or thermo switch. By crossing over a maximum resistance (9) and by line break / start circuit an alarm is activated. The alarm can be reset by pushing a button or by switching off the device (self-reset option). The "ok" Status is indicated by a green LED, the "failure" status is indicated by a red LED.

As output are two power contacts -anti valence- circuit available (change over 6A 250V).

Availability and technical specifications subject to change without notice

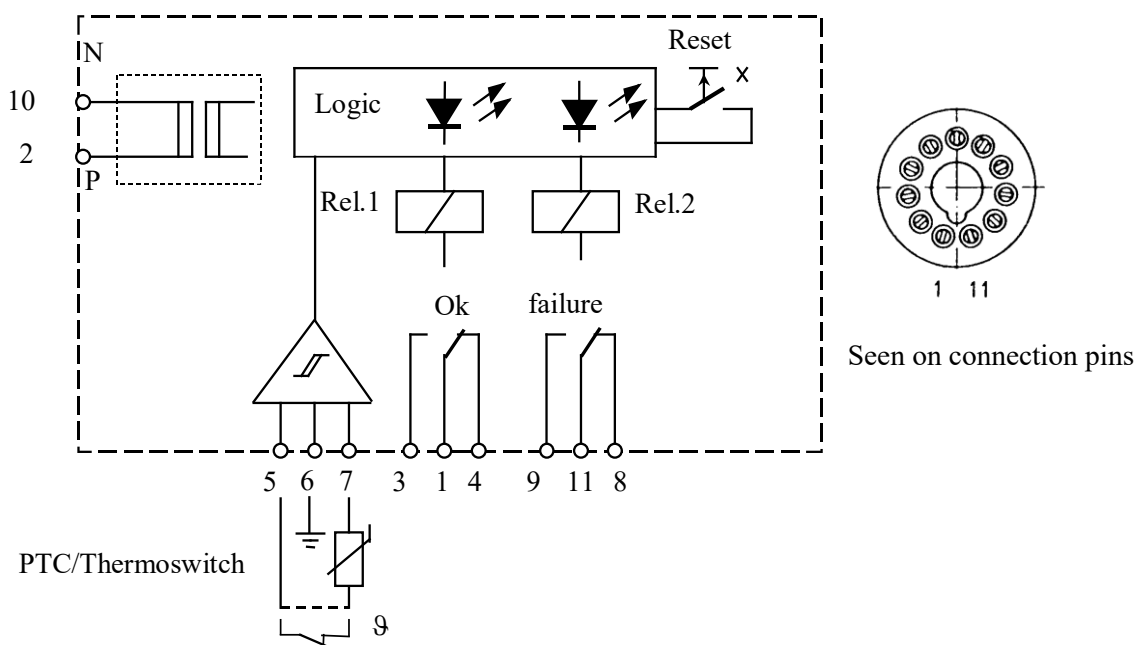
2. ORDER TYPES

TSR18/AC230V,
TSR18/AC115V
TSR19/UC24-48V

Assessories

Socket C11A, CS-11, EC-11

3. BASIC CIRCUIT DIAGRAM / CONNECTION COVER



Fo-61.01-D-401

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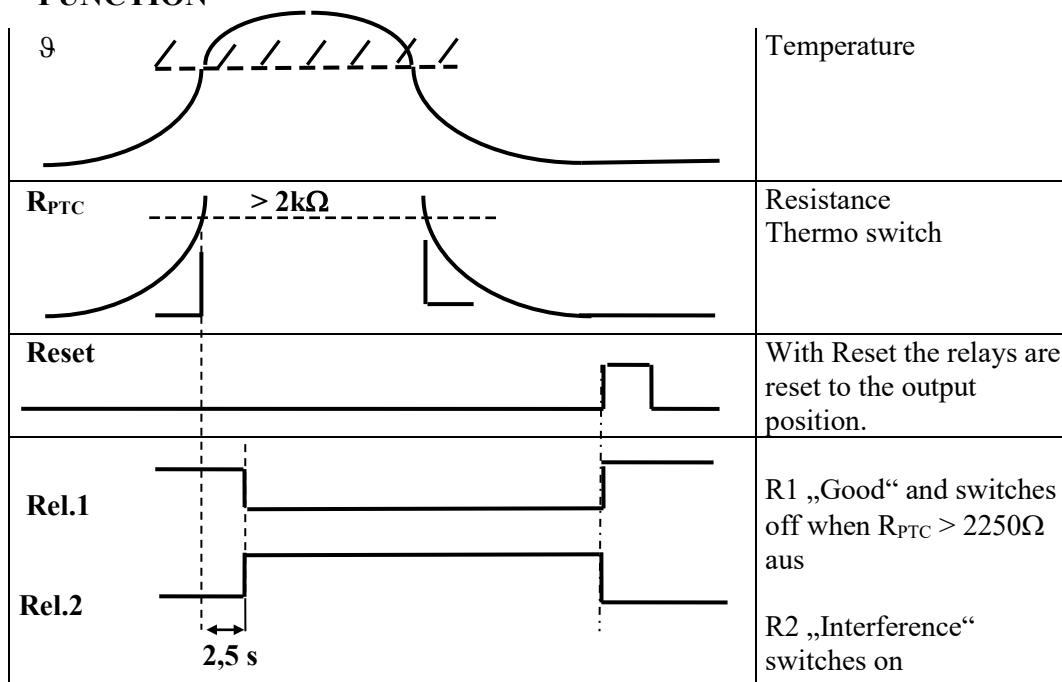
Datasheet

TSR19

Thermo protection relay

55026 - 53 - 57 - 401

4. FUNCTION



Special feature: In a case of a short-circuit against earth (ground)the device goes into failure status.

5. TECHNICAL DATA

5.1. General data

5.1.1. Mechanical data

Housing system	ComatReleco S3, 35 mm, 11 Pol. plug-in
Housing material	Noryl SE1/Xantar MX1000 (UL 94V-1)
Colour	green
Dimensions	b=38, l=78, h=72
Weight	210 g
Fastening	plug-in socket with clips
Connections	plug-in pin 11 poles, ms tinned, according to IEC67-1-18a
Vibration- and shock-proof	IEC 68-2-6; IEC 571, TW 80, IEE323, IE344

5.1.2. Ambient conditions

Storage temperature range	- 40°C ÷ +85°C
Operating temperature range	-25°C ÷ +60°C
Relative humidity	10 % ÷ 95 % no cond.
Protection	IP40 (electrical) IP20 (connections)
Transient voltage protection	single pulse 5kV/0,5 Ws

5.1.3. Working life

Expected lifetime	>>100000 at $\vartheta < 40^{\circ}\text{C}$
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5.2. Electrical data

Nominal operating voltage	UC24-48V	AC115V 50/60Hz	AC230V 50/60Hz
Switching UB	19V ÷ 60V	92 ÷ 132V	190 ÷ 265V
Power consumption		2,5VA / 1,5W	
Supply failure protection		50ms	
Parallel load energy		50mWs/1Hz	
The supply is performed with a solid short-circuit protected transformer.			

5.3. Input

PTC / Thermo switch “Good”	R _{min} 0Ω - R _{max} 1.8kΩ / R _{min} 0Ω - R _{max} 1.8kΩ
“Failure condition”	≥2250Ω or <1kΩ towards ground (earth)
Max. layed changed Voltage (50 Hz)	R _{min} 5V _{ss} , R _{max} 20V _{ss}
Reset with supply interruption	200msec
Max. power resistance	20Ω
Sensor voltage	<15V
Short circuit current	<5mA
Isolation supply	≥4kVrms
Isolation contact	≥2kVrms

5.4. Time reaction

Alarm delay	2,5sec ±20 %
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5.5. Output

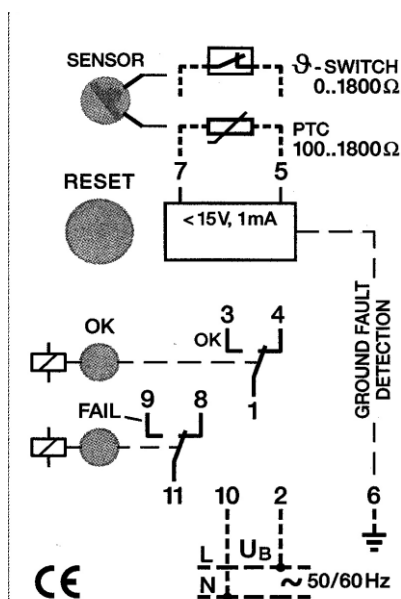
2 changeover contact	μ / AgNi
Switching current	≤5A
Switching voltage	250V
Switching power	1500VA/ ...180W
Inrush current	30A / 10ms
Recommended minimum load	12V, 10mA
Contact resistance	≤100mΩ /1A, 24V
Isolation over the contacts	≥2kVrms
Working life mechanical	≥ 3 x 10 ⁷
Working life electrical	≥ 150000 // 250V / 6A AC1
Indication:	The integrated contacts are approved for 8A. The limit is based on the operation security and the life.

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6. OPERATION

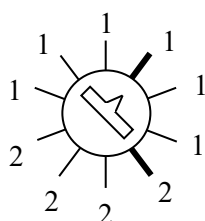


* PTC or Temp. switch

Good The contact (1, 3) closes, when the supply is connected and no interference occurs

Alarm The contact (9,11) closes; the “good-contact” is in quiet position

Operation After interference the condition can be deleted with “out” (200 ms) c by pressing the “reset-key”.



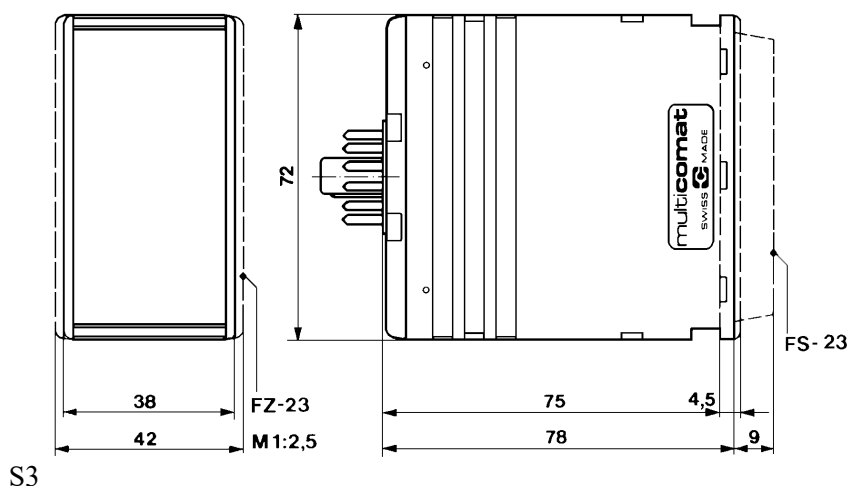
Possible switch positions
1: Thermo switch
2: PTC

7. NORM, DIRECTIVES

SEV, CE-Conform

EN 61010-1 / EN 60947-4-1 / EN 60947-S-1

8. CASE



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