

## TCS – TRP10

### DESCRIPTION

This model relay is for supervision of the trip circuit of a circuit breaker with one trip coil. This relay is supervised of the trip circuit whilst the circuit breaker is open or close. The supervision current is always less than 1.4 mA thus avoiding unwanted operation of the trip coil. Correct operation is shown with a green LED and Faulty status is shown with a yellow LED, that both LED place on the front panel. The TRP-10 series front panel LCD supports local data display for count circuit breaker is open and close.

### شرح دستگاه

این مدل رله جهت نظارت بر عملکرد مدار Trip در مدار کلیدهای با یک بوبین Trip استفاده می‌شود. این رله صحت عملکرد مدار Trip را در حالت قطع و وصل کلید بررسی می‌کند.

جریان عبوری از بوبین مدار کمتر از 1.4 میلی‌آمپر می‌باشد و بدین ترتیب باعث جلوگیری از عملکردهای ناخواسته‌ی مدار می‌گردد. در این رله عملکرد صحیح مدار با استفاده از یک LED سبز، حالت خطا با یک LED زرد و تعداد دفعات قطع و وصل کلید با استفاده از LCD، که همگی بر روی صفحه‌ی جلوی دستگاه می‌باشند، نمایش داده می‌شوند.

### CHARACTERISTICS

### مشخصات فنی

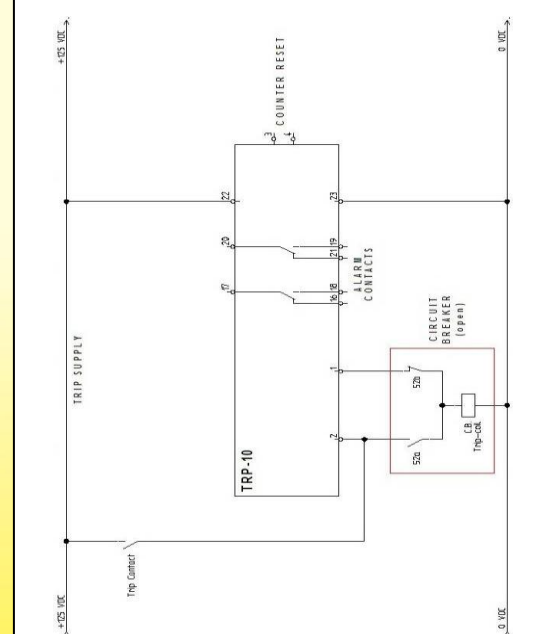
- Standard voltage and Consumption

<b>Un</b> [V dc]	<b>Voltage range</b> [V dc]	<b>Consumption</b> [mA]	<b>Drop-out-voltage</b> [V dc]
<b>120</b>	<b>80 -140</b>	<b>20</b>	<b>40</b>

- Drop-out time: typically 5ms
- Contacts:
  - Permanent current: 8A
  - Instantaneous current: 15A
  - Inrush current max: 15A for 20ms
  - Test voltage contact open: 1'500Veff 1min
  - Nominal voltage coil (Un): 110 V DC
  - Operating range: (0.75... 1.4)Un
- Mechanical life: 50 million cycles
- Thermal resistance: 50K/W
- Temperature limit for coil: 120°C



### CONNECTIONS



Circuit breaker is open.

## FUNCTION

## TRP-10

### CONSTRUCTION STANDARD

#### Circuit monitored

Rated voltage Un	80-140 V dc
Operation voltage	70-160 V dc
Supervision current	1.4 mA
Drop out time <sub>bod</sub> (Microcontroller)	2 microseconds
Consumption	20 mA

#### Opto-Isolator

Isolation voltage (BV <sub>s</sub> )	
AC	2500Vrms, 1min.
AC, in oil	5000Vrms, 1sec.
DC, in oil	5000Vdc, 1min.
Isolation resistance	10 <sup>11</sup> ohm
Peak Repetitive Reverse Voltage (VRRM)	1000V
Operating temperature range	-55°C ~ +100°C

#### Time circuit

Operate delay (constant)	2 sec.
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#### Display

Digital LCD	3.1/2 digit
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#### Counter reset

Minimum pulse width	1.5 microseconds
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#### Output relay

Contact configuration	2 CO (DPDT)
Contact outputs, change-over contact	16-17-18/19-20-21
Type of contact	AgCuNi
Switching voltage range	50~250 VDC/VAC
Switching frequency, mechanical	20Hz
Insulation class IEC 60664-1	250VAC
Protection class II	VDE 0106
Fire protection requirements	UL 94 / V1

#### Memory

Standard capacity (EEPROM)	512B
Data Retention	20 years at 85°C/ 100 years at 25°C

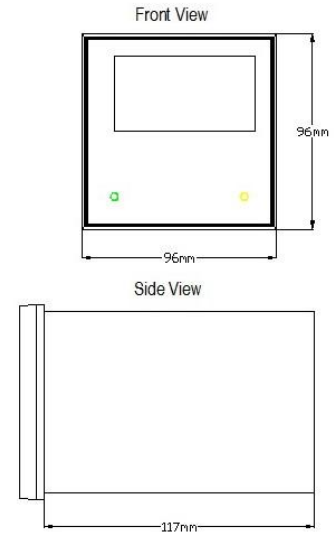
#### Thermal conditions

Service temperature range	-10°C ~ +55°C
Ambient temperature range (Relay)	-40°C ~ +70°C
Operation temperature range (Microcontroller)	-40°C ~ +85°C

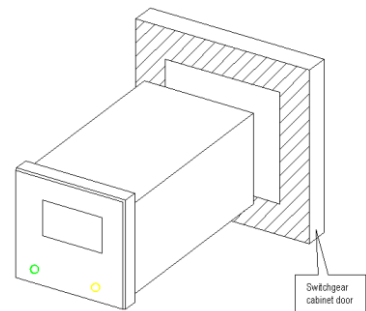
#### Mounting and weight

Mounting	Flash Mounted
Weight	about 0.3 kg

#### • Dimensions



#### • Panel mounting cut-out



Fits in 90 x 90mm panel cutout.

#### • Base sockets



Captured-wire terminals:

Rated voltage:	300V
Rated current:	20A
Insulation resistance:	500Mohm/500V
Withstanding voltage:	AC2000V/1Min
Wire range:	22-14 AWG
Temperature range:	-40°C ~ +130°C
Maximum torque value:	8kg.cm