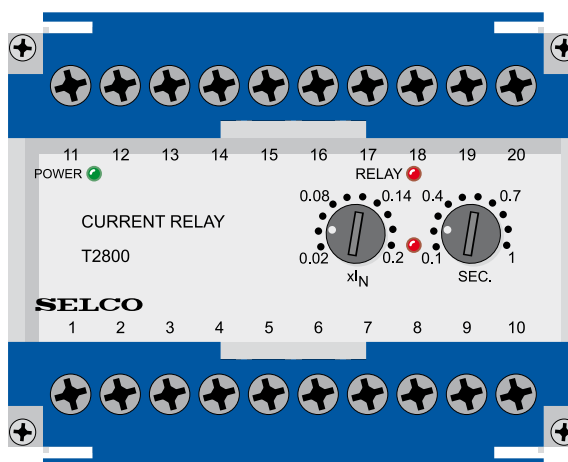


T2800 Overcurrent or Earth Fault Relay

- Protection of generators against earth faults or overcurrent
- Visual indication of power, pick-up and relay tripping
- Wide range of settings for current and delay, both in two steps.
- High precision digital countdown timer for delayed output
- Accepts high supply voltage variations: 60 - 110%
- Cost effective and highly reliable compact design
- 50 hours burn-in before final test
- Operating temperature range: -20°C to +70°C
- Flame retardant enclosure
- DIN rail or screw mounting



Application

The T2800 Overcurrent or Earth Fault Relay has a broad application as an earth fault or a single phase overcurrent detection relay. It has a wide setting range for protection, control and monitoring.

The T2800 is part of the SELCO T-Line series with modular units for protection, control and monitoring of generators.

Function

The T2800 detects the magnitude of the current and, if this exceeds the preset level ($0.02 - 2 \times I_N$), the pick-up LED will indicate and the delay timer will be started.

After the preset time (0.1 - 10 sec.) has expired the output relay and the corresponding LED will be activated, provided that the current level was exceeded for the entire delay time.

The T2800 has a normally energized output relay. The relay is a latching relay which can be reset or disabled.

Installation

The supply voltage is connected to terminals 1 and 3 or terminals 2 and 3, according to the supply source.

The T2800 is connected to the measuring current coming from the current transducer(s) secondary via terminals 5 and 6. See application diagram.

The latching of the output relays is reset or disabled by bridging terminals 15 and 16.

The current setting range ($0.02 - 0.2 \times I_N$) is multiplied by 10 ($0.2 - 2.0 \times I_N$) by bridging terminals 18 and 19.

The delay setting range (0.1 - 1.0 sec.) is multiplied by 10 (1.0 - 10 sec.) by bridging terminals 12 and 13.

The current setting can be calculated according to the following example:

Overcurrent protection of a generator.
 Required trip level: 110%
 Generator rating: 695A
 Current transformer: 800/5A
 Setting: $110 \times 695 / 800 = 96\% = 0.96 \times I_N$

Troubleshooting

- 1) If the relay is not operating please check that the power LED is on, ensuring that the supply is present.
- 2) Measure the supply voltage which must be compatible with the information label on top of the enclosure.
- 3) Measure the current levels in terminals 5 and 6 and check that the current is above setting.

For example:
 $0.08 \times I_N = 0.4A$; $1 \times I_N = 5A$

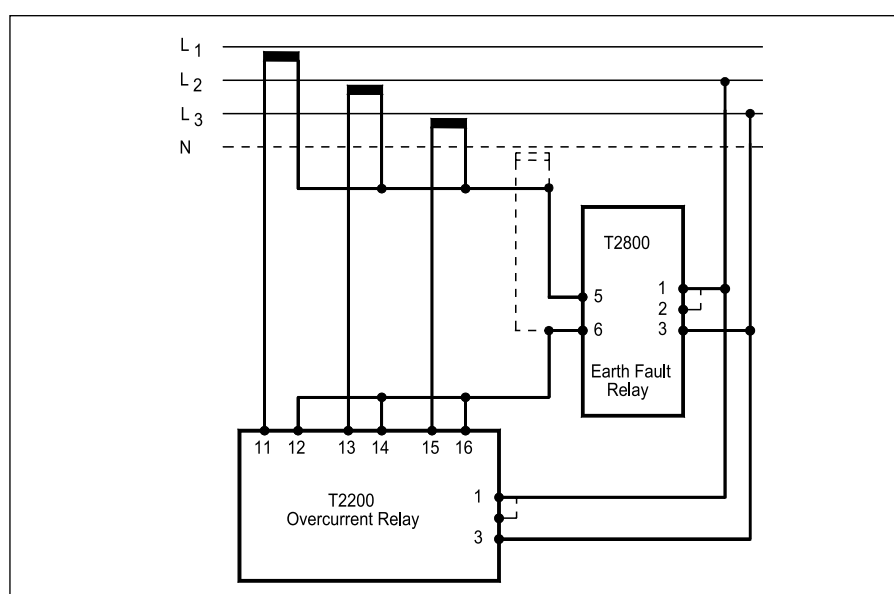
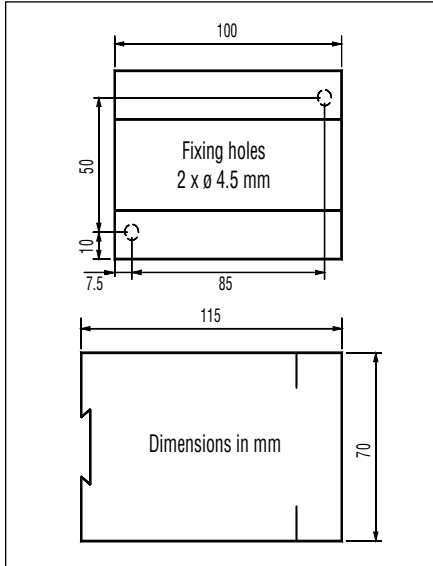


Fig. 1. Application. Earth fault detection and overcurrent detection using same transducers

Specifications

T2800 Overcurrent or Earth Fault Relay



Dimensions.

Type Approvals and Certificates

The T2800 has been designed and tested for use in harsh environments. The unit is based on standard components, providing long term durability. The T2800 carries the CE label and has been approved by the following marine classification societies:



Bureau Veritas
Russian Maritime Register of Shipping

| | |
|------------------------------|--|
| Trip level | 0.02 - 0.2 x I _N or 0.2 - 2 x I _N |
| Delay | 0.1 - 1.0 sec. or 1.0 - 10 sec. |
| Max. voltage | 660V |
| Voltage range | 60 - 110% |
| Consumption | Voltage 5VA at U _N Current 0.3VA at I _N |
| Continuous current | 2 x I _N |
| Frequency range | 45 - 400Hz |
| Output relay | Normally energized, latching, resettable |
| Contact rating | AC: 400V, 5A, 2000VA DC: 150V, 5A, 150W |
| Overall accuracy | ±5% |
| Repeatability | ±1% |
| Operating temperature | -20°C to +70°C |
| Dielectric test | 2500V, 50Hz |
| EMC | CE according to EN50081-1, EN50082-1, EN50081-2, EN50082-2 |
| Burn-in | 50 hours before final test |
| Enclosure material | Polycarbonate. Flame retardant |
| Weight | 0.5kg |
| Dimensions | 70 x 100 x 115mm (H x W x D) |
| Installation | 35mm DIN rail or 4mm (3/16") screws |

The specifications are subject to change without notice.

Type Selection Table

Standard types: I_N = 5A

| Type | Terminals | | |
|----------|-----------|------|----------------|
| | 1-3 | 2-3 | I _N |
| T2800-00 | 230V | | 5A |
| T2800-01 | 450V | 400V | 5A |
| T2800-02 | 127V | 120V | 5A |
| T2800-04 | 24V DC+AC | | 5A |
| T2800-05 | 480V | 415V | 5A |
| T2800-08 | 230V | | 1A |

Other combinations and voltages are available on request.

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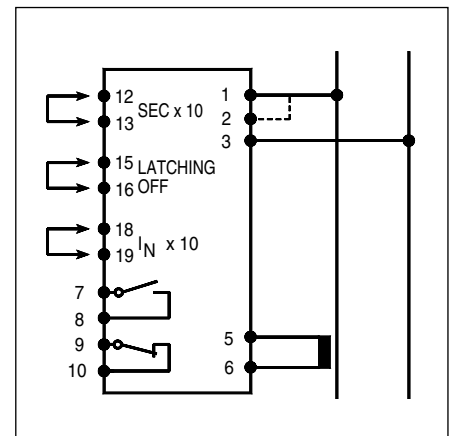


Fig. 2. Relay shown deenergized