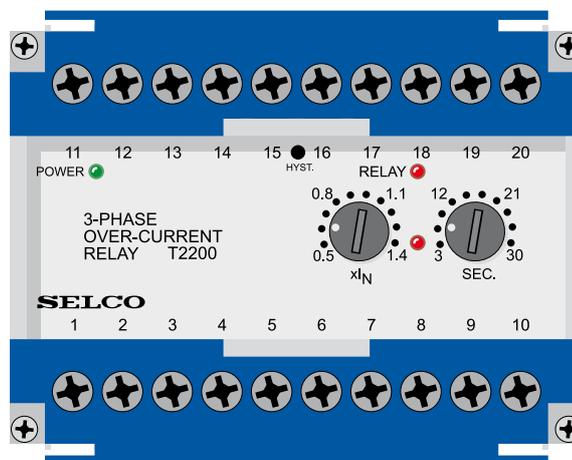


# T2200 3 Phase Overcurrent Relay

- Protection of generators against overcurrent
- Visual indication of power, pick-up and relay tripping
- 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
- Certified by major marine classification societies
- Flame retardant enclosure
- DIN rail or screw mounting



## Application

The T2200 3 Phase Overcurrent Relay has a broad application where all 3 phases or any single phase current detection will function for protection, control and monitoring.

The T2200 is part of the SELCO T-Line series with modular units for protection, control and monitoring of generators, both in marine and land-based applications. The T2200 is type approved by major marine classification societies.

## Function

The T2200 detects the highest of the 3 input currents and, if this exceeds the preset level ( $0.5 - 1.4 \times I_N$ ), the pick-up LED will indicate and the delay timer will be started.

After the preset time (3 - 30 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 T2200 can be provided with an extra output relay. See connection diagram.

The T2200 can also be provided with a latching output relay. The latching can be reset or disabled by bridging terminals 5 and 6. On units with two output relays, reset is done by disconnecting the power supply.

## Installation

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

The T2200 is connected to the measuring current coming from the current transducers secondary via terminals 11-12, 13-14 and 15-16. See connection diagram.

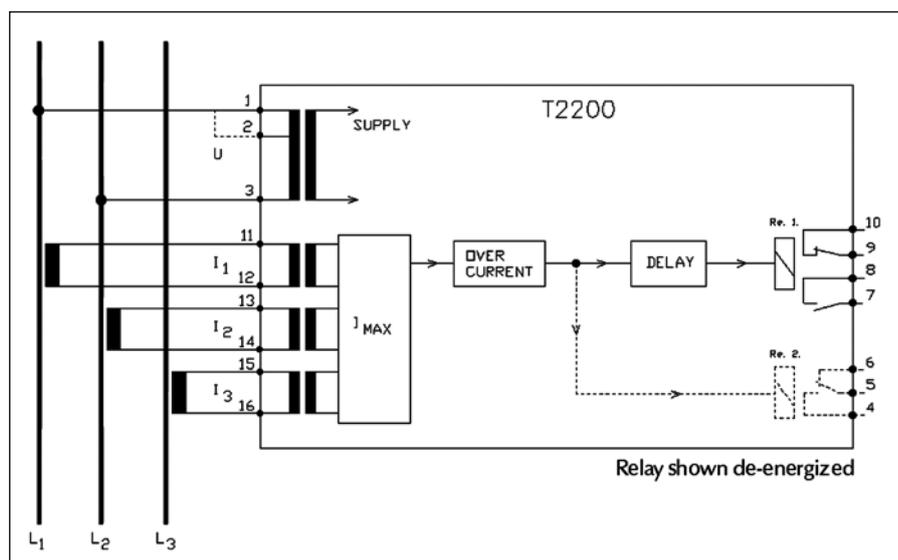
The current setting can be calculated according to the following example:

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 11-12, 13-14 and 15-16 and check that at least one of the currents is above setting.

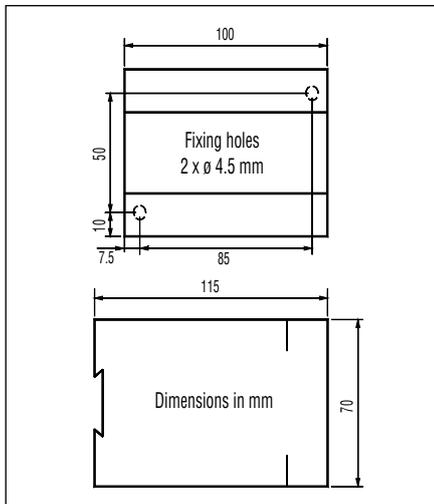
For example:  
 $0.5 \times I_N = 2.5A$ ;  $1 \times I_N = 5A$



Connection diagram. The dotted lines illustrate connection possibilities on units with an extra output relay.

# Specifications

## T2200 3 Phase Overcurrent Relay



Dimensions.

### Type Approvals and Certificates

The T2200 has been designed and tested for use in harsh environments. The unit is based on standard components, providing long term durability. The T2200 carries the CE label and has been approved by the following marine classification societies:



Bureau Veritas  
Croatian Register of Shipping  
Germanischer Lloyd  
Polish Register of Shipping  
Romanian Register of Shipping  
Russian Maritime Register of Shipping

|                              |  |
|------------------------------|--|
| <b>Trip level</b>            | 0.5 - 1.4 x I <sub>N</sub>                                       |
| <b>Delay</b>                 | 3 - 30 sec.  |
| <b>Max. voltage</b>          | 660V   |
| <b>Voltage range</b>         | 60 - 110%  |
| <b>Consumption</b>           | Voltage 5VA at U <sub>N</sub><br>Current 0.3VA at I <sub>N</sub> |
| <b>Continuous current</b>    | 2 x I <sub>N</sub>   |
| <b>Frequency range</b>       | 45 - 400Hz   |
| <b>Output relay</b>          | Normally de-energized  |
| <b>Contact rating</b>        | AC: 400V, 5A, 2000VA<br>DC: 150V, 5A, 150W                       |
| <b>Overall accuracy</b>      | ±5%  |
| <b>Repeatability</b>         | ±1%  |
| <b>Operating temperature</b> | -20°C to +70°C   |
| <b>Dielectric test</b>       | 2500V, 50Hz  |
| <b>EMC</b>                   | CE according to EN50081-1, EN50082-1, EN50081-2, EN50082-2       |
| <b>Approvals</b>             | Certified by major marine classification societies               |
| <b>Burn-in</b>               | 50 hours before final test                                       |
| <b>Enclosure material</b>    | Polycarbonate. Flame retardant                                   |
| <b>Weight</b>                | 0.5kg  |
| <b>Dimensions</b>            | 70 x 100 x 115mm (H x W x D)                                     |
| <b>Installation</b>          | 35mm DIN rail or 4mm (3/16") screws                              |

The specifications are subject to change without notice.

### Type Selection Table

Standard types: I<sub>N</sub> = 5A.

| Type       | Terminals |      | I <sub>N</sub> | Function  |
|------------|-----------|------|----------------|---|
|            | 1-3       | 2-3  |                |   |
| T2200.0010 | 450V      | 400V | 5A             | Latching output, resetable  |
| T2200.0020 | 450V      | 400V | 5A             | Normally energized output, latching, resetable                    |
| T2200.0030 | 230V      |      | 5A             | Latching output, resetable  |
| T2200.0040 | 230V      | 110V | 5A             | Latching output, resetable  |
| T2200.0050 | 230V      |      | 1A             | Latching output, resetable  |
| T2200.0060 | 450V      | 400V | 5A             | Normally energized output, latching, resetable, delay 6 - 60 sec. |
| T2200.0070 | 110V      | 100V | 5A             | Latching output, resetable  |
| T2200.0080 | 480V      | 415V | 5A             | Latching output, resetable  |
| T2200.0090 | 24V DC    |      | 5A             | Latching output, resetable  |
| T2200.0100 | 450V      | 400V | 5A             | Instantly extra output relay                                      |
| T2200.0110 | 450V      | 400V | 1A             | Instantly extra output relay                                      |

Other supply voltages and combinations are available on request.



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