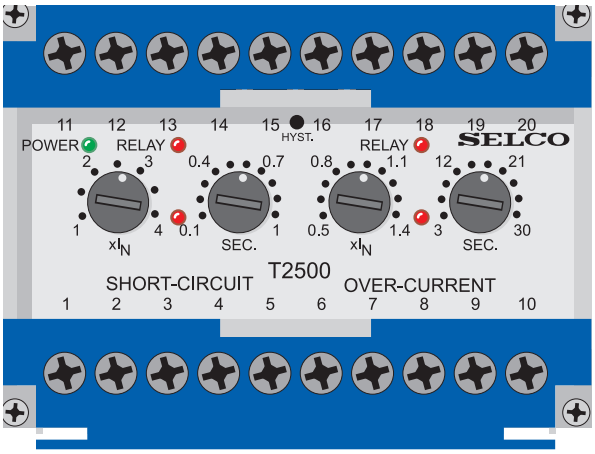
T2500 3 Phase Overcurrent and Short Circuit Relay Relay

- Protection of generators against overcurrent and short circuit
- Price competitive, due to the combined functions
- Visual indication of power, pick-up and relay tripping on both relays
- High precision digital countdown timer for delayed output
- Normal function upon loss of supply due to built-in energy source
- Accepts high supply voltage variations: 60 - 110%
- Cost effective and highly reliable compact design
- 50 hours burn-in before final test
- Certified by major marine classification societies
- Flame retardant enclosure



Application

The combined T2500 3 Phase Over-cur-rent and Short Circuit Relay is intend-ed as a protection relay for generators, power transmissions and consumer's supply by tripping the main circuit breaker. The short circuit relay protects against faults causing high currents and the over-current relay protects against thermal damage.

The T2500 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 T2500 is type approved by major marine classification societies.

Function

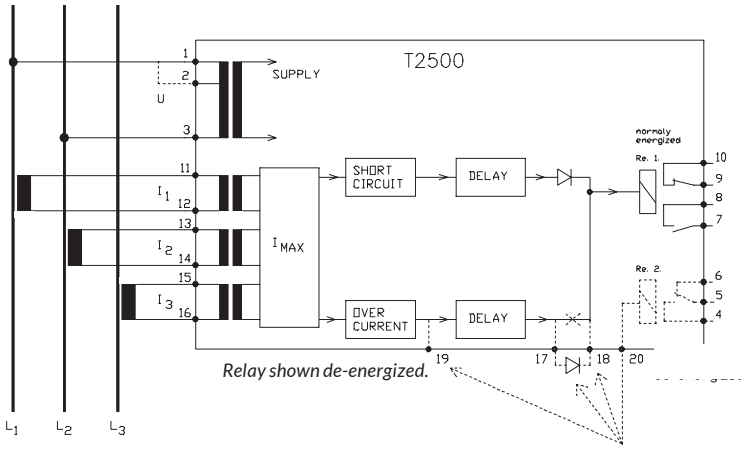
The T2500 consists of two circuit parts, fundamentally alike, but with different cur-rent settings and time delays. Each circuit part detects the highest of the 3 input cur-rents and, if this exceeds the preset level (1 - 4 x IN or 0.5 - 1.4 x IN), the corresponding pick-up LED will indicate and the delay timer will be started.
After the preset time (0.1 - 1 sec. or 3 - 30 sec.) has expired, the combined normally energized output relay will de-energize and the corresponding relay LED will be activated, provided that the current level was exceeded for the entire delay time.
The T2500 has a normally energized out-put relay and it contains an energy source, sufficient for supply during the maximum short circuit time delay, ensuring normal function and safe operation, even upon loss of supply voltage.
The T2500 can be supplied with an extra output relay (normally de-energized). See connection diagram.

Installation

The supply voltage is connected to terminals 1 and 3 or terminals 2 and 3, according to the supply source.
The T2500 is connected to the measuring current coming from the current trans-ducers 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 trip level: 110%.
Generator rating: 695A.
Current transformer: 800/5A.
Setting: 110 x 695/800 = 96% = 0.96 x I_N.

Short circuit trip level: 300%.
Generator rating: 695A.
Current transformer: 800/5A.
Setting: 300 x 695/800 = 261% = 2.6 x I_N.



The dotted lines illustrate the connection possibilities on units with an extra output relay.
Connection between 20 and 19 gives instant operation of Relay 2.
Connection between 20 and 17 gives delayed operation of Relay 2.
Connection between 20 and 18 gives synchronized operation of Relay 1 and Relay 2.
Disconnecting the diode between 17 and 18 will disable operation of Relay 1 from overcurrent.
Latching output relays can be reset or disabled by bridging terminals 5 and 6.

SELCO

Specifications

T2500 3 Phase Overcurrent and Short Circuit Relay

Overcurrent trip level	0.5 - 1.4 x I_N
Delay	3 - 30 sec.
Short circuit trip level	1.0 - 4.0 x I_N
Delay	0.1 - 1.0 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
Extra output relay	Normally de-energized
Contact ratings	AC: 400V, 5A, 2000VA DC: 150V, 5A, 150W
Overall accuracy	±5%
Repeatability	±1%
Operating temperature	-20°C to +70°C
Dielectric test	2500V, 50Hz
Test standards	According to IEC/EN 61000-6-1/2/3/4, IEC/EN 60255-5/26/27
Approvals	Certified by major marine classification societies
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 and output relay normally energized.

	Terminals			
Type	**1-3**	**2-3**	**I_N**	**Function**
T2500.0010	450V	400V	5A	Latching output, resetable
T2500.0020	230V		5A	Latching output, resetable
T2500.0030	480V	415V	5A	Latching output, resetable
T2500.0040	450V	400V	1A	Latching output, resetable
T2500.0050	24V DC		5A	Latching output, resetable
T2500.0060	230V		5A	De-energized extra output relay
T2500.0070	450V	400V	5A	De-energized extra output relay
T2500.0080	450V	400V	5A	De-energized extra output relay, latching outputs
T2500.0090	480V	415V	5A	De-energized extra output relay
T2500.0100	24V DC		1A	De-energized extra output relay
T2500.0110	450V	400V	5A	De-energized extra output relay, latching short circuit output
T2500.0120	24V DC		5A	De-energized extra output relay, de-energized relay 1, no internal power backup

Latching output relays can be reset or disabled by bridging terminals 5 and 6.

Other combinations and voltages are available on request.

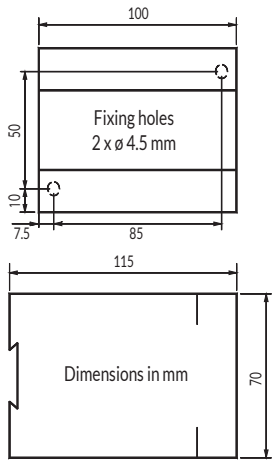
Troubleshooting

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: 1 x I_N = 5A; 2 x I_N = 10A.



Dimensions.

Approvals & Certificates

The T2500 has been approved by major marine classification societies.

For more information about the individual certificates, please visit **selco.com**

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