

T2300 3 Phase Short Circuit Relay

- Protection of generators against short circuit
- Visual indication of power, pick-up and relay tripping
- 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
- Operating temperature range: -20°C to +70°C
- Certified by major marine classification societies
- Flame retardant enclosure
- DIN rail or screw mounting

Application

The T2300 3 Phase Short Circuit Relay is intended as a protection relay for generators, power transmissions and consumer's supply by tripping the main circuit breaker.

The T2300 protects against faults causing high currents.

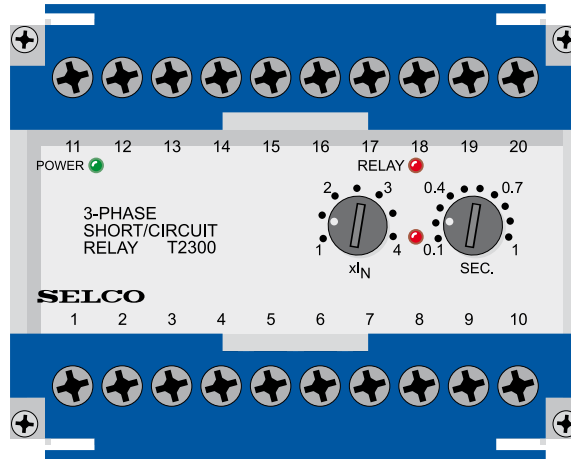
The T2300 is part of the SELCO T-Line series with modular units for protection, control and monitoring of generators, both in marine and land-based applications. The T2300 is type approved by major marine classification societies.

Function

The T2300 detects the highest of the 3 input currents and, if this exceeds the preset level ($1.0 - 4.0 \times I_N$), the pick-up LED will indicate and the delay timer will be started.

After the preset time (0.1 - 1.0 sec.) has expired, the normally energized output relay will de-energize and the relay LED will be activated, provided that the current level was exceeded for the entire delay time.

The T2300 has a normally energized output relay and contains an energy source, sufficient for proper supply during the maximum time delay, ensuring normal function and safe operation, even upon loss of supply voltage.



The output relay is a latching relay. The latching can be reset or disabled by bridging terminals 5 and 6.

Short circuit protection of a generator.
 Required trip level: 300%
 Generator rating: 695A
 Current transformer: 800/5A
 Setting: $300 \times 695 / 800 = 261\% = 2.6 \times I_N$

Installation

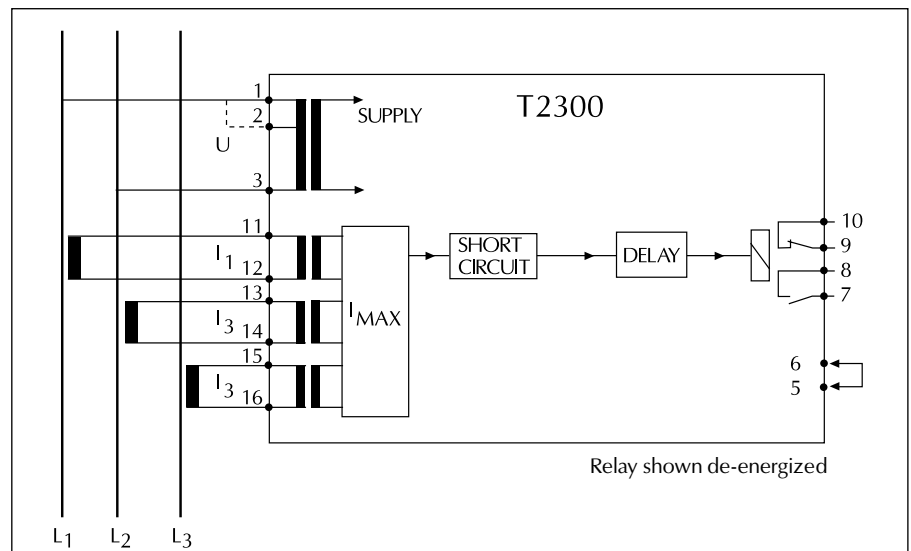
The supply voltage is connected to terminals 1 and 3 or terminals 2 and 3, according to the supply source.

The T2300 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:

Troubleshooting

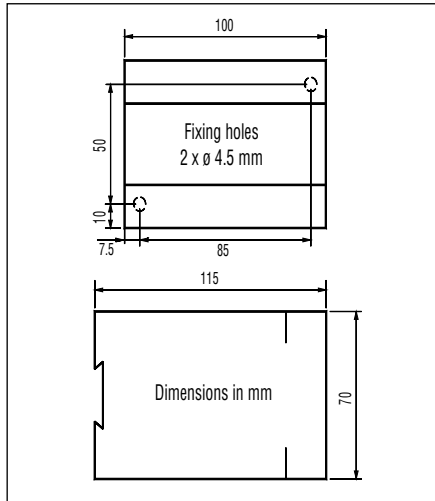
- 1) If the relay is not operating please check that the power LED is on, ensuring that the supply is present.
- 2) Measure the supply voltage which must be compatible with the information label on top of the enclosure.
- 3) Measure the current levels in terminals 11-12, 13-14 and 15-16 and check that at least one of the currents is above setting.
 For example:
 $1 \times I_N = 5A$; $2 \times I_N = 10A$



Connection diagram.

Specifications

T2300 3 Phase Short Circuit Relay



Dimensions.

Type Approvals and Certificates

The T2300 has been designed and tested for use in harsh environments. The unit is based on standard components, providing long term durability.

The T2300 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

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, 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
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

Type	Terminals		I _N	Function
	1-3	2-3		
T2300.0100	230V		5A	
T2300.0020	450V	400V	5A	
T2300.0030	24V DC		5A	
T2300.0040	24V DC		1A	
T2300.0050	450V	400V	5A	Normally de-energized output
T2300.0060	480V	415V	5A	
T2300.0070	230V		1A	

Other supply voltages and combinations are available on request.

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