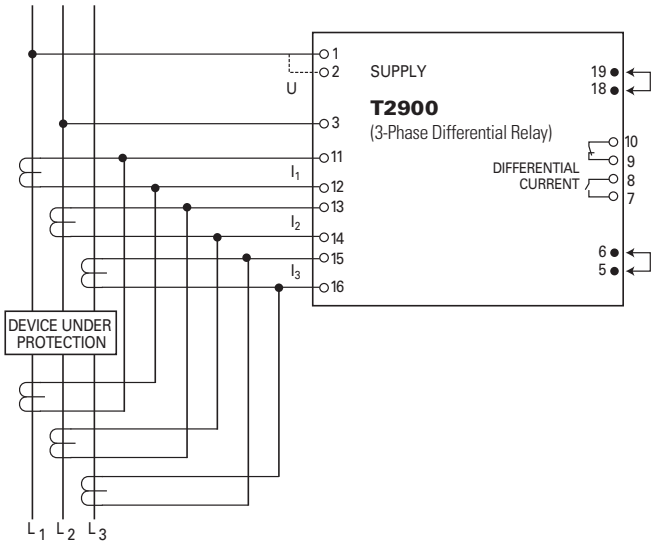
T2900 SERIES

3-Phase Differential Relay

Description

The T2900 3-Phase Differential Relay is designed for monitoring current leakage in generators. The T2900 measures the differential current of each of the 3 phases. The differential currents are measured by connecting a current transformer for each winding in parallel with inverse polarity. The highest of the 3 currents is selected and, if it exceeds the preset level (0.04-0.4 x I_N), the pick-up LED will indicate this and the delay timer will be started. After the preset time 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 time delay can be adjusted between 1-10 sec. This time delay can be reduced by a factor 10 by bridging terminals 18 and 19.

Simplified Circuit Diagram



Bridge between terminals 5 and 6 results in latching relay.
Bridge between terminals 18 and 19 reduces time delay to 0.1-1 sec.

Features & Benefits

FEATURES	BENEFITS
Accepts high supply voltage variation	Ensures correct operation in spite of voltage supply fluctuations (fulfills marine class requirement)
Visual indication of power, pick-up, and output trip	Provides quick and concise status information
Direct line-line or line-neutral voltage supply (up to 690 Vac)	Simplifies design and installation. No need for PTs.
Built-in capacitor back-up supply	Ensures correct operation in spite of drop in the supply voltage
Galvanic isolated inputs	Protects the unit against high AC voltage and currents from the installation including spikes
DIN-rail or screw-mount & adjustment by potentiometers	Easy installation

Ordering Information

ORDERING NUMBER	TERMINALS		I_N
	1-3	2-3	
T2900.0010	450 V	400 V	5 A
T2900.0020	230 V		5 A
T2900.0030	480 V	415 V	5 A
T2900.0040	110 V	100 V	5 A

Standard types: I_N = 5 A and output relay normally de-energized.
Other combinations and voltages are available on request.

Specifications

Trip Level	0.04-0.4 x I_N
Delay	1-10 sec. (0.1-1 sec. when bridging terminals 18 and 19)
Max. Voltage	660 V
Voltage Range	60-110%
Consumption	Voltage 5 VA at U_N Current 0.3 VA at I_N
Continuous Current	2 x I_N
Frequency Range	45-400 Hz
Output Relay	Normally de-energized, latching, resetable
Contact Rating	AC: 400 V, 5 A, 2000 VA DC: 150 V, 5 A, 150 W
Overall Accuracy	±5%
Repeatability	±1%
Operating Temperature	–20°C to + 70°C
Dielectric Test	2500 V, 50 Hz
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	0.5 kg
Dimensions	**H** 70 mm (2.76"); **W** 100 mm (3.94"); **D** 115 mm (4.52")
Installation	35 mm DIN rail or 4 mm (3/16") screws

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