Multi-functional protection relay

Cost-effective multi-functional protection relay

Fast, simple and multi-functional, the programmable MTR-4P protection relay offers up to 13 different protection functions in six different logical categories: Voltage, current, frequency, asymmetry, load and loss of Mains (LoM). Simultaneously, the MTR-4P can be used as a dedicated measuring point reachable by communication and capable of measuring and calculating more than 50 parameters such as AC voltage, AC current, active/reactive apparent power, power factor, frequency, kWh, kvar, THD, dynamic and maximum demands.

MTR-4P is designed for use as a stand-alone protection and measuring unit or as component in large application solutions on single-phase or three-phase electrical power networks that require marine approval.

Featuring a universal power supply, the MTR-4P withstands high AC voltage inputs of up to 1000 V L-L and currents of up to 20 A. The typical response time less than 50 ms, from error occurs to trip. This makes the MTR-4P flexible and easy to install in new buildings, as replacement in retrofit projects, or even as a flexible spare part. Simply connect a USB 2.0 interface for fast and easy configuration of all setting parameters and outputs.

MTR-4P features

► Up to 1,000 V L-L AC voltage input

► Up to 20 A AC current input

► Accuracy class: 0.5

► Password protection

► Trip time typically below 50 ms

► Two-stage trip setting

► Start-up delay

► 13 different protection functions

► RS-485 serial Modbus communication

► Fast and simple commissioning and setup from M-set

► Universal power supply of 19 to 300 V DC/40 to 276 V AC

► Marine approval by GL/DNV

Variants	Relay output	RS-485
MTR-4P105	1	
MTR-4P205	2	
MTR-4P415	4	X

ANSI code	Protection function	Symbol
59	Over-voltage	$<U, <<U$
27	Under-voltage	$>U, >>U$
50	Over-current	$>I, >>I$
50N/G	Over-current – earth	$>I_E, >>I_E$
87N	Over-current – differential	$>I_{diff}, >>I_{diff}$
71O	Over-frequency	$>f, >>f$
81O	Under-frequency	$<f, <<f$
32	Directional power	$>P, >>P$
32R/U	Power underrun	$<P, <<P$
46	Phase imbalance	$>I_{im}, >>I_{im}$
47	Voltage unbalance	$>U$
78	Phase shift	$> dPhi/dt$
81R	ROCOF	df/dt