

MiCOM P1 14S

Numerical CT powered three phase and earth fault overcurrent relays



MiCOM P1 14S are numerical relays designed to offer overcurrent and earth fault protection without requiring any external auxiliary supply.

They can be applied to medium-voltage electrical systems. They are particularly suitable for all applications where small dimensions and/or optimised costs of whole protective systems (CTs and secondary equipment) are required.

MiCOM P1 14S are connected to specific ring CTs (ordered with relay) to integrate protective system in the optimum way.

A capacitance discharge output capable of putting out sufficient power to a low energy trip coil of circuit breaker.

An external flag indicator is used to indicate remotely or locally that a trip has occurred.

All settings are made by using DIP switches.



Customer Benefits

- No need of auxiliary supply
- Small dimensions of protection system (CTs and relay)
- Optimized cost of secondary equipment
- Fast setting via DIP switches
- Easy testing of protection system (CT test winding)

APPLICATION

MiCOM P114S numerical overcurrent protection relays provide a simple and cost-efficient solution where no external auxiliary power supply is available or guaranteed.

Typical applications are:

- A cost-optimized MV switchboard with small dimensions (for example: a gas-isolated ring, main unit type FBX)
- Industrial plants
- Low-end MV utilities substation

P114S is connected to specific ring phase current transformers to optimize protective system (doesn't work with traditional 1A/5A CTs).

GLOBAL FUNCTIONS

The following functions are generally available in P114S:

- CT-powered
- Specific ring phase CTs ordered with relay
- Earth fault current internally derived from phase CTs
- Compact case with small dimensions (HxWxD): 175x106x46
- DIP switches for setting
- Sockets on the front panel of the relay for direct connection of test equipment
- Four version of CTs cover a wide range of primary nominal current: 16A to 448A only
- Adjusting of nominal current in P114S
- Settings referred to primary nominal current

FUNCTIONS OVERVIEW

50/51	Three-phase overcurrent $I_{l>>}$ (DT)
50/51	Three-phase overcurrent $I_{l>}$ (DT or IDMT: SI, VI, EI, LTI, RI, HV-Fuse, FR-Fuse)
50N/51N	Earth fault overcurrent $I_{lo>}$ (DT)
	External Voltage Trip Input (P114S is supplied from this voltage input)
	Output for low energy CB coil (24VDC, 0.1J)
	Output for Flag Indicator (24V, 0.01J)
	Fault record for the 5 most recent trips
	USB port for local downloading of settings and/or fault records (the relay can be supplied via USB port)
	Setting software MiCOM S1 (USB port)

MAIN FUNCTIONS

The hardware architecture and software algorithms have been studied to operate on very short failure detection times.


P114S relay is equipped with circuit breaker trip output (24VDC, 0.1J). A capacitance discharge output is capable of putting out sufficient power to a low energy trip CB coil.

An external Flag Indicator can be connected to an independent energy output (24VDC, 0.01J).

The available functions, including protection, inputs and outputs are easily programmable by means of user friendly front panel interface and the S1 software interface.

The 4 digit LED display provides the user with key information (faults, measurements, settings etc.).



 MiCOM P114S simplifies secondary circuits

FUNCTIONS

Three-phase overcurrent protection (50/51)

MiCOM P114S relays provide three phase current inputs. Two independent stages are available. For the first stage (I₁>) the user may independently select definite time delay or inverse time delay with different type of curves (SI, VI, EI, LTI, RI, HV-Fuse). The second stage can be configured with definite time only.

Earth fault overcurrent protection (50N/51N)

MiCOM P114S relays provide earth fault protection. The earth fault current is derived from the three-phase current. One stage is available (I₀>) with DT characteristic.

Remote trip input

Remote trip input allows to open circuit breaker if the next outgoing line (line application) or LV side of MV/LV transformer (transformer application) has had trip signal.

The AC auxiliary voltage on the terminals supplies P114S and gives trip signal which opens CB, even if there is no current on the terminals of P114S.

This input is electrically isolated and can be loaded continuously.

Tripping time delay is less than 1s.



Fault recording

The last 5 faults are stored in FRAM memory of P114S relay.

MiCOM S1 support software

Support Software MiCOM S1 is available for the entire MiCOM family, including P114S relays. MiCOM S1 is fully Windows™ compatible. This Support Software allows to readout of setting and download fault records.

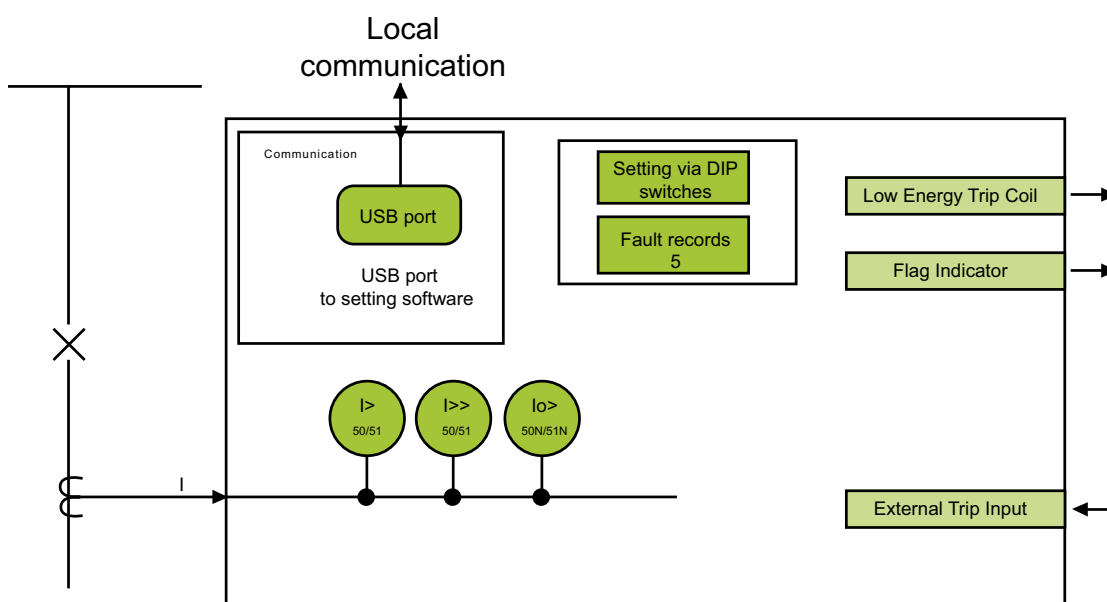
PC connection with P114S is available via USB port on the front panel of relay.

Weight

~1.0kg

FUNCTIONAL OVERVIEW

(Description of ANSI code nos. see Functions Overview)



MiCOM P114S provide solution for small space

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