

PS255

Distance Protection Relay

For use with TecEquipment's Protection and Relay Test Set (PS250) to enable investigations into protection and monitoring of overhead transmission lines

- Modern industrial distance protection relay presented in an educational format
- For use with TecEquipment's Protection and Relay Test Set (PS250) and as an optional ancillary to TecEquipment's Modular Power Systems range
- Held in robust enclosure with carrying handle
- Enables wide variety of tests and investigations
- Connections via safety sockets
- Demonstrates latest relay technology



Description

A distance protection relay presented in an educational format. For use with TecEquipment's Protection and Relay Test Set (PS250), the relay enables investigations into the protection and monitoring of overhead transmission lines.

The relay is housed in a robust enclosure with carrying handle. The module mounts on the desk area of the Protection and Relay Test Set and connects to it using a multi-core cable and safety leads.

This relay is also an optional ancillary for selected modules in TecEquipment's Modular Power Systems range (PS100 to PS150).

The relay module is based on the Micom P441 industrial relay. The lecturer or student sets up different fault circuits on the Protection and Relay Test Set. They then use the keypad and display on the relay module to program it to the settings needed for the tests. They can also use the Micom S1 software (supplied with the Protection and Relay Test Set) and a suitable computer (computer not included) to program the relay module. The relay module is then connected to the fault circuits so tests can be performed.

Most tests are performed using single relays. However, there are enough connections on the Protection and Relay Test Set to test two relay modules at the same time.

The main functions of the Distance Protection Relay include:

- Full scheme phase and ground distance protection – up to five zones (ANSI 21G and ANSI 21P)
- Directional/non-directional phase overcurrent (ANSI 50, ANSI 51, ANSI 67)
- Directional/non-directional earth fault (ANSI 50N, ANSI 51N, ANSI 67N)
- Directional/non-directional negative sequence overcurrent (ANSI 46, ANSI 67)
- Thermal overload protection (ANSI 49)
- Broken conductor
- Blocking of any one protection element
- Creating fault and disturbance records

Connection to the experimental circuit is via current transformers with ratio to suit the inputs of the relay. This provides an effective demonstration of the effect of current and voltage transformer ratio, connection and rating on protective relays.

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- An ISO 9001 certified company

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Standard Features

- Supplied with comprehensive user guide
- Two-year warranty
- Manufactured in accordance with the latest European Union directives

Experiments

Investigations into the performance and characteristics of an industrial distance protection relay.

Operating Conditions

Operating environment:

Laboratory environment

Storage temperature range:

-25°C to +55°C (when packed for transport)

Operating temperature range:

+5°C to +40°C

Operating relative humidity range:

30% to 95% (non-condensing)

Specification

Dimensions:

- 300 mm x 550 mm x 278 mm
- Packed 0.16 m³

Weight:

- Net 12 kg
- Packed 35 kg

Current:

1 A (a.c.)

Frequency:

50 or 60 Hz

Accuracy:

±10%

Operating time:

Typically 10 ms to 25 ms