PSA25

FEEDER MANAGEMENT RELAY

Supplied with TecQuipment's Protection and Relay Test Set (PSL50) to enable investigations into protection and monitoring of overhead lines and underground cables

- Modern industrial feeder management relay presented in an educational format
- Supplied with TecQuipment's Protection and Relay Test Set (PSL50) and as an optional ancillary to other selected power systems products
- Held in robust enclosure with carrying handle
- Enables wide variety of tests and investigations
- Connections via safety sockets
- Demonstrates the latest relay technology

TECQUIPMENT LTD, BONSALL STREET, LONG EATON, NOTTINGHAM NG10 2AN, UK
TECQUIPMENT.COM +44 115 972 2611 SALES@TECQUIPMENT.COM

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PSA25

FEEDER MANAGEMENT RELAY

DESCRIPTION

A feeder management relay presented in an educational format. Supplied with TecQuipment's Protection and Relay Test Set (PSL50), the relay enables investigations into the protection and monitoring of overhead lines and underground cables.

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 products in TecQuipment's Power Systems range.

The relay module is based on the Micom P142 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 Feeder Management Relay include:

- Four independent stages of directional/non-directional overcurrent (ANSI 50, ANSI 51, ANSI 67). The first two stages may be independently set to any of ten IDMT curves, the remaining two stages having a direct time characteristic
- Directional/non-directional earth fault (ANSI 50N, ANSI 51N, ANSI 67N)
- Sensitive directional/non-directional earth fault
- Wattmetric earth fault (ANSI 32N)
- Sensitive directional earth fault
- Restricted earth fault (ANSI 64N)
- Directional/non-directional negative sequence overcurrent (ANSI 46, ANSI 67)
- Thermal overload protection (ANSI 49)
- Under and overvoltage (ANSI 27, ANSI 59)
- Residual overvoltage (ANSI 59N)
- Negative sequence overvoltage (ANSI 47)
- Under and over frequency
- Broken conductor
- Selectable blocking
- 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.

STANDARD FEATURES

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

LEARNING OUTCOMES

Investigations into the performance and characteristics of an industrial feeder management 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

NETT DIMENSIONS AND WEIGHT:

300 mm x 550 mm x 278 mm and 12 kg

APPROXIMATE PACKED DIMENSION AND WEIGHT:

Packed 0.16 m^3 and 34 kg

CURRENT:

1 A (a.c.)

FREQUENCY:

50 or 60 Hz

ACCURACY:

±10%

OPERATING TIME:

Typically 10 ms to 25 ms

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