

SE-105, SE-107
Ground-Fault Ground-Check Monitors

Combination ground-fault and ground-check monitoring for resistance-grounded systems.



SE-601
DC Ground-Fault Monitor

Microprocessor-based ground-fault protection for ungrounded DC systems up to 780 Vdc. Ten ground-fault setpoints from 1 to 20 mA.



SE-325
Neutral-Grounding-Resistor Monitor

Analog-based NGR monitor; provides NGR resistance monitoring and ground-fault protection.



SIO-RTD
8-Input RTD Module

Monitors RTD temperatures, 4-20 mA analog signals, and provides Modbus® output. Up to sixty-three modules can be used per network.



SE-100T
Ground-Fault Relay Tester

Current source for ground-fault relay testing; two output-current levels (0.65 and 2.75 A).



SE-Comm-RIS
PC-Interface Software

Provides computer access to metering, control, data logging, and programming features on the MPS, MPU-32, and FPU-32.



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NER Monitors Motor & Feeder Protection Earth-Fault Relays

Startco Engineering Ltd. is a protective relay manufacturer, incorporated in 1975 in Saskatoon, Canada. On October 1, 2008, Startco was purchased by the POWR-GARD unit of Littelfuse Inc.

Startco is well known for product quality and customer service. An experienced engineering team is ready to provide technical support and applications assistance. In Australia and New Zealand, Startco products are distributed by Startco Pty. Ltd.

Startco earth-leakage protective relays have a five-year warranty. Startco motor- and feeder-protection relays have a lifetime warranty.

Neutral-Earthing-Resistor Monitors



Neutral-earthing resistors (NER's) can fail for various reasons. During an earth fault with an open NER, no earth-fault current flows and current-sensing earth-leakage protection cannot operate. Under these conditions, transient overvoltages can become a hazard for personnel and equipment.

Startco manufactures two series of NER monitors—the SE-325 and the SE-330-series. Both continuously measure NER resistance, and monitor the system for earth faults. The SE-330AU complies with the AS/NZS 2081.3:2002 Standard.

SE-330-series NER Monitor Features

- Continuous NER monitoring and earth-leakage protection
- Microprocessor based
- Able to control pulsing-earth-fault system (SE-330)
- Data logging with free PC software
- Harmonic filter prevents false operation
- Suitable for low voltage to 72-kV systems

MPU-32 Motor Protection Unit



The MPU-32 is a microprocessor-based motor-protection unit that uses dynamic thermal modeling to continuously track a motor's used thermal capacity during starting, running, overload, and cooling. Overcurrent, undercurrent, current-unbalance, phase-reverse, phase-loss, earth-fault, and overtemperature protection are also provided.

MPU-32 Features

- Eleven protective functions
- Eighty-character backlit display
- Compact size for ease of installation and for retrofit applications
- Three programmable output relays
- Programmable analog output
- Programmable digital input
- Standard TIA-232 and optional network communications
- Optional phase-differential protection

FPU-32 Feeder Protection Unit

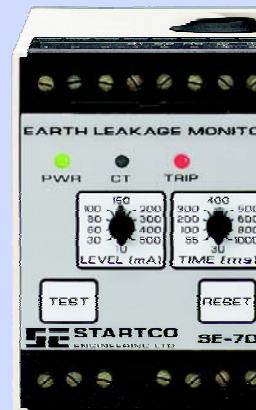
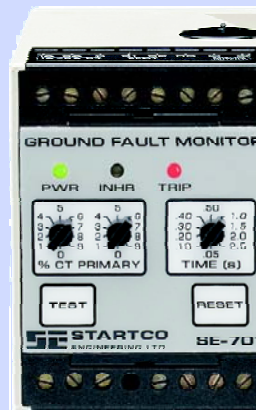
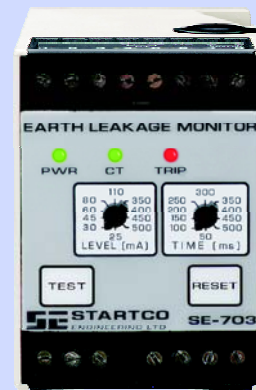


The FPU-32 is a microprocessor-based feeder-protection unit with IEC and IEEE inverse-time overcurrent-protection curves. Overload, current-unbalance, phase-reverse, phase-loss, earth-fault, and temperature protection are also provided. The FPU-32 is compact in size to increase mounting options, making it ideal for new and retrofit applications.

FPU-32 Features

- Nine protective functions
- Eighty-character backlit display
- Meters and logs phase current, unbalance, thermal capacity, and earth leakage
- Two set-point groups for varying loads or to ease transition from operation to maintenance settings
- Standard TIA-232 and optional network communications
- CT-saturation to ensure overcurrent detection

SE-701, SE-703, SE-704 Earth-Leakage Monitors



Features

- Microprocessor based—recalibration not required
- Harmonic filter prevents false operation
- 0- to 5-V analog output for external metering
- Remote reset input
- Isolated normally open and normally closed output contacts
- Compatible with adjustable-speed drives and soft starters
- Self-test function
- A wide range of ac and dc control power supplies is available

The SE-703 provides sensitive earth-fault protection for resistance earthed three-phase or single-phase systems. The SE-703 provides ten earth-fault trip settings from 25 to 500 mA. It is AS/NZS 2081.3:2002 compliant.

The SE-701 provides earth-fault protection for resistance-earthed and solidly-earthed three-phase and single-phase systems. Earth-fault pick-up is set as a percentage of the earth-fault-CT-primary rating providing a wide range of possible settings.

The SE-704 provides earth-leakage protection for ac power supply systems that require earth-leakage protection as low as 10 mA. The earth-leakage setting range is 10 to 500 mA.



MPS Motor Protection System

The MPS Motor Protection System provides current-, voltage-, and temperature-based protection, data logging, and metering for three-phase motors.

MPS Features

- Twenty-two protective functions
- Meters current, voltage, power, temperature, and more
- Starter control for most common starter types
- Data logging for system and motor diagnosis
- Large eighty-character display
- Modbus® RTU and Allen-Bradley® DF1 standard RS-485 communications
- Optional DeviceNet™, PROFIBUS®, Ethernet communications
- Optional phase-differential protection

SE-134C Ground-Fault Ground-Check Monitor



The SE-134C Ground-Fault Ground-Check Monitor provides earth-fault and earth-continuity (pilot wire) monitoring for ac supply systems. All operating conditions are clearly indicated on the front panel and N/C and N/O contacts are provided for each condition. The earth-fault circuit detects zero-sequence current with a core balance CT. It also detects the CT connection. Eleven trip-level and trip-time settings are provided. The earth-continuity monitoring has an output of 105 mA at 24 Vdc for optimum performance in slip ring, commutated load and high-induced-ac applications.