

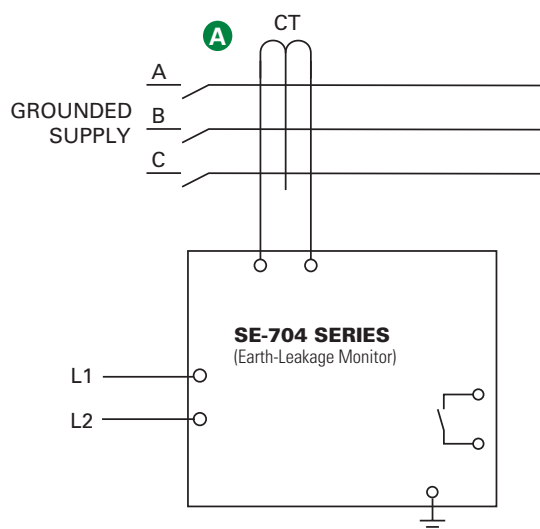
# Protection Relays and Controls

## GROUND-FAULT PROTECTION—GROUNDED SYSTEMS

### SE-704 SERIES (PGR-4704) Earth-Leakage Monitor



### Simplified Circuit Diagram



### Ordering Information

| ORDERING NUMBER          | CONTROL POWER     |
|--------------------------|-------------------|
| SE-704-OU                | 120/240 V ac/V dc |
| SE-704-OD                | 12/24 V dc        |
| SE-704-OT                | 48 V dc           |
| SE-704-03                | 24 V ac           |
| ACCESSORIES              | REQUIREMENT       |
| ELCT30 or SE-CS30 Series | Required          |
| PGA-0500                 | Optional          |
| PMA-55, PMA-60           | Optional          |

Note: For optional conformal coating please consult factory.

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### Description

The SE-704 is a microprocessor-based ground-fault relay for resistance- and solidly-grounded systems. It offers very sensitive ground-fault detection as low as 10 mA and can be used on systems with significant harmonic content. The SE-704 provides feeder-level protection or individual-load protection. The output contacts can be connected for use in protective tripping circuits or in alarm indication circuits. The analog output can be used with a PLC or a meter.

### Features & Benefits

| FEATURES                                   | BENEFITS  |
|--|---|
| <b>Adjustable pickup (10 mA-5 A)</b>       | Adjustable trip setting provides a wide range of low-level protection and system coordination                   |
| <b>Adjustable time delay (30 ms-2.0 s)</b> | Adjustable trip delay allows quick protection and system coordination   |
| <b>Output contacts</b>                     | Form A and Form B ground-fault output contacts for operation of separate annunciation and trip circuits         |
| <b>Analog output (0-5 V &amp; 0-1 mA)</b>  | Allows for connecting an optional meter (PGA-0500) or control system  |
| <b>CT-Loop monitoring</b>                  | Alarms when CT is not connected   |
| <b>Selectable contact operating mode</b>   | Selectable fail-safe or non-fail-safe mode allows connection to shunt or undervoltage breaker coil              |
| <b>Harmonic filtering</b>                  | Eliminates nuisance tripping  |
| <b>Non-volatile trip memory</b>            | Retains trip state when de-energized to simplify troubleshooting  |
| <b>Microprocessor based</b>                | No calibration required saves maintenance cost  |
| <b>Universal power supply</b>              | Allows operation in application where one side of PT is faulted, provides flexibility for numerous applications |

### Accessories



#### ELCT30 or SE-CS30 Series Current Transformer

Required zero-sequence current transformer specifically designed for low level detection. Flux conditioner is included to prevent saturation.



#### PGA-0500 Analog % Current Meter

Optional panel-mounted analog meter displays ground-fault current as a percentage of the set-point or 5 A.

### Specifications

|                               |  |
|-------------------------------|--|
| <b>IEEE Device Numbers</b>    | Ground fault (50G/N, 51G/N)  |
| <b>Input Voltage</b>          | See ordering information   |
| <b>Dimensions</b>             | <b>H</b> 75 mm (3.0"); <b>W</b> 55 mm (2.2"); <b>D</b> 115 mm (4.5") |
| <b>Trip Level Settings</b>    | 10 mA-5.0 A  |
| <b>Trip Time Settings</b>     | 30-2000 ms   |
| <b>Contact Operating Mode</b> | Selectable fail-safe or non-fail-safe                                |
| <b>Harmonic Filtering</b>     | Standard feature   |
| <b>Test Button</b>            | Standard feature   |
| <b>Reset Button</b>           | Standard feature   |
| <b>CT-Loop Monitoring</b>     | Standard feature   |
| <b>Output Contacts</b>        | Isolated Form A and Form B   |
| <b>Approvals</b>              | UL Listed (E340889), CSA, CE (European Union)<br>C-Tick (Australian) |
| <b>Analog Output</b>          | 0-5 V & 0-1 mA   |
| <b>Conformally coated</b>     | Optional   |
| <b>Warranty</b>               | 5 years  |
| <b>Mounting</b>               | DIN, Surface (standard)<br>Panel (with PMA-55 or PMA-60 adapter)     |

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