

Protection Relays & Controls

NGR SERIES – US

Neutral Grounding Resistor System



Description

High-resistance grounding prevents many of the problems that are associated with ungrounded and solidly grounded electrical distribution and utilization systems. High-resistance grounding can limit point-of-fault damage, eliminate transient overvoltages, reduce the arc-flash hazards, limit voltage exposure to personnel, and provide adequate tripping levels for selective current-based ground-fault detection and coordination.

The Littelfuse Neutral Grounding Resistor System is a neutral grounding resistor (NGR), current transformer, and sensing resistor installed in a NEMA 3R enclosure used to high-resistance ground transformers and generators. The NGR system is designed for use with Littelfuse Neutral Grounding Resistor Monitors for complete system grounding and grounding protection.

The NGR series – US systems are designed for use in US applications and all other parts of the world, not including Canada. For applications in Canada, please use the NGR series – Canada.

Applications

High-resistance grounding is applied on transformers and generators where safety and continuity of service are important. A faulted feeder may remain in operation until it is safe to repair the fault, where allowed by the local electrical code.

Features



Enclosure

The NGR Series – US comes pre-installed in a ventilated NEMA 3R galvanized steel enclosure and components are pre-wired to terminals for ease of installation. Back view shown on left.

ER Series Sensing Resistor

Use with the SE-325 or the SE-330 to continuously monitor the continuity of a neutral-grounding resistor and eliminate hazardous voltage levels at the relay.



- ER-600VC is designed for use on systems up to 600 V for indoor applications. Available in optional moisture-proof enclosure (shown on left) for outdoor applications.



- ER-5KV for use on systems up to 4160 V for indoor applications.



- ER-5WP is designed for use on systems up to 4160 V and comes with weather-protected terminals for outdoor installations.

Earth-Fault Current Transformer

Used with the SE-325 or the SE-330 to measure ac current flowing through the NGR for use with the continuity monitoring circuit and to detect ground faults.



- ELCT5-31 used with SE-330 for 5 A and 10 A NGRs.



- SE-CS10-2.5 used with SE-330 for 10 A and 15 A NGRs.



- CT200 used with the SE-325 for all applications.

- 5SHT-101-E (not shown) used with SE-330 for 25 A NGRs.

Benefits

- Eliminate phase-to-ground arc-flash incidents
- Eliminate transient overvoltages
- Reduce point-of-fault damage
- Can provide continuity of service during a ground fault
- Includes current transformer and ER series sensing resistor for use with Littelfuse monitoring relay and for ease of installation.