

Ground fault indication relay - H550



> [Specification sheet](#)

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Code requirements

NFPA 70, the U.S. National Electrical Code (NEC) requires that services of 1000 amps and larger in capacity which operate at more than 150 volts from line-to-neutral must be provided with ground fault equipment. Generator sets rated at 100 amps and larger which serve as emergency power must be provided with ground fault indication equipment. Health care facilities that utilize ground fault protection equipment must be provided with a coordinated multi-level ground fault system.

Cummins Power Generation ground fault indication equipment is designed for use in emergency/standby power systems, for indication of ground fault conditions during generator set operation.

Features

Suitable for indicating a ground fault condition on a generator set which is either locally or remotely grounded.

Power - Operates on 24 VDC (nominal) control power - fully functional at voltages from 18-30 VDC.

Direct connection - Suitable for direct connection to generator sets operating at voltages up to 600 VAC (line to line).

Ground fault current settings - 100-1200 A, in 10 discrete settings: 100, 150, 200, 250, 300, 450, 600, 750, 800, 1200 A.

Monitoring - Provides continuous monitoring of neutral-to-ground with LED indication for open connection.

Factory mounted controls - Available factory-mounted and interconnected to Cummins Power Generation Detector™ series PowerCommand® controls.

Link reconnection - For use with either 3-pole (solid neutral or 4-pole (switched neutral) transfer switches.

Indicating lamps - For Relay on (green), ground fault current over setting (red), loss of ground connection (red).

Time delay settings - 0-1.0 seconds.

Circuit board - One-piece molded case fully potted.

Contacts - One set of form C output, rated 1100 VA, 250 VAC, 5 A continuous, 3 A breaking @ 240 VAC.

“Test” - Push-button.

“Reset” - Push-button.

Percent full scale metering output - 0-1 mA full scale.

Bonding jumper - Sized per NEC requirements.

Construction

The relay is provided in a non-conducting phenolic case, with provisions for panel mounting or mounting to a standard DIN rail (panel mounting is recommended for mounting on a generator set). Relay components are fully potted with epoxy resin for vibration resistance and durability.

The relay includes an integral terminal block assembly, which accepts wires up to 12-gauge.

Relay function selection link (auto/hand reset).

Environmental range - Operating -10 °C to +60 °C, storage -40 °C to 80 °C.

Power input - 5 VA at 24 VDC.

Transfer switch type selection link - (3-pole or 4-pole).

System operation

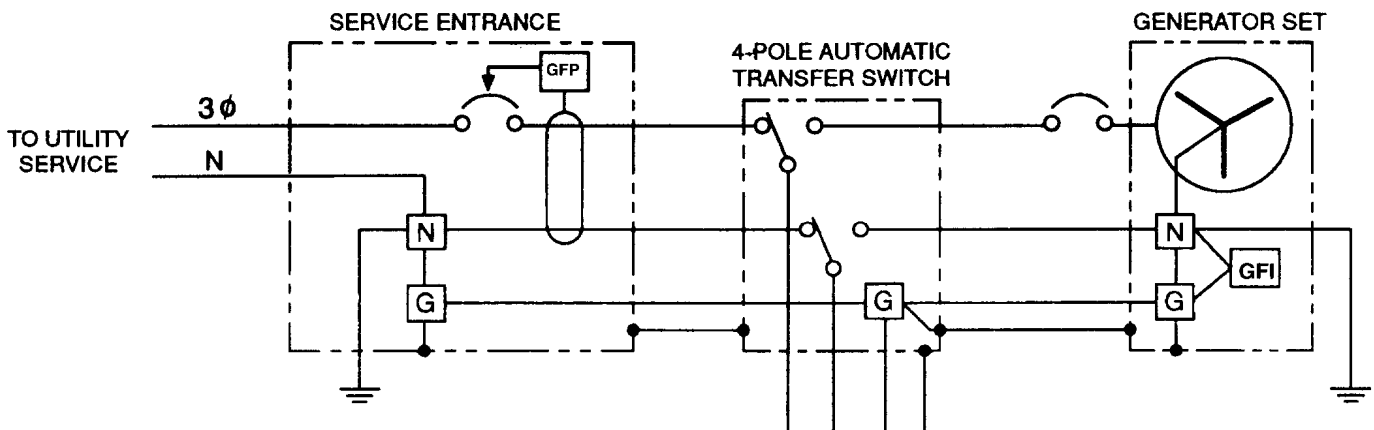
The ground fault relay continuously monitors the voltage across the neutral-to-ground bonding jumper and lights the ground fault alarm lamp on the generator set control when the connection is broken.

When the generator set is running, the relay continuously monitors the line-to-neutral generator set connection and lights the ground fault alarm lamp on the generator set control when a ground fault condition is sensed.

Alarm condition can be cleared by pushing the reset switch on the generator set control panel. Actual ground fault current level can be monitored with a 0-1 mA meter, directly from the relay. A push button test switch is provided to simulate ground fault conditions and operate the relay and indication circuitry. Addition of the auto-reset link activates automatic reset of the relay after the ground fault condition has cleared.

System schematic

Separately derived system connections (local grounding connection).



Neutral-to-ground bonding jumper must be sized per code requirements. For non-separately derived systems (3-phase/4-wire systems with 3-pole transfer switch), the ground connection and the neutral-to-ground bonding jumper on the generator set are removed, and the 3-pole ATS link is added to the ground fault relay. For non-separately derived systems a label must be applied to the service entrance switchboard, indicating that removal of the equipment-bonding jumper can cause hazardous operating conditions.

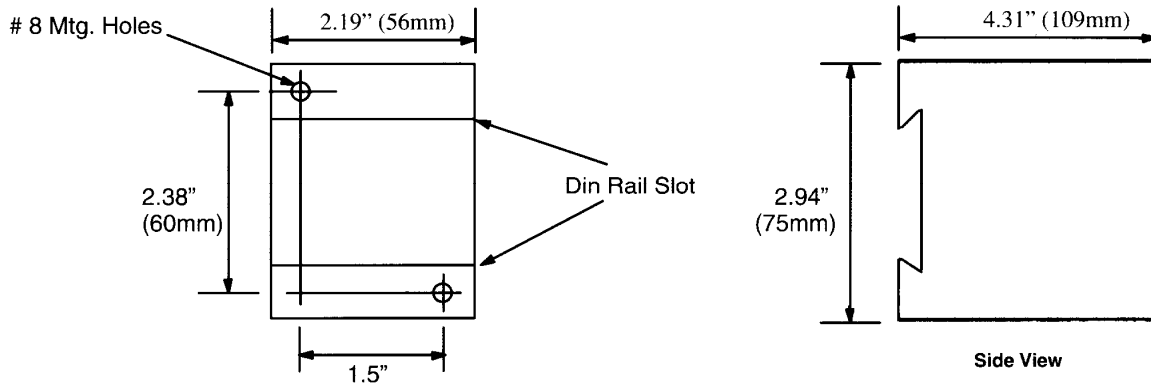
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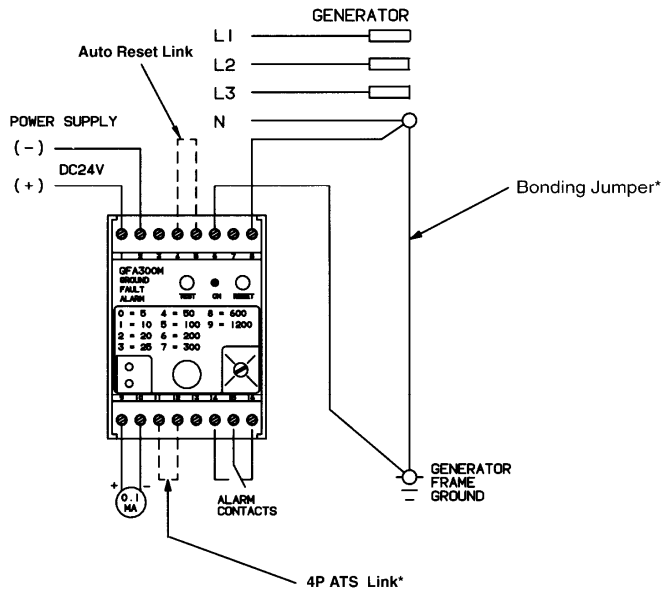


Outline detail



Weight: 19 oz (540 grams)

Interconnection detail



* Required only with separately derived systems. Bonding jumper is included in kit.

Field Installation kits

Description	Frame 4 or 5 alternators	Frame 6 or 7 alternators	Instruction sheet
PowerCommand 3100 control	0300-4582-05	0300-4582-06	C489
Detector series control	0300-4607-05	0300-4607-06	C488
PowerCommand 2100 control	0179-3244-05	0179-3244-06	C645

Certification



ISO9001 - This product was designed and manufactured in facilities certified to ISO9001.

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Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect generator sets to any building electrical system except through an approved device or after building main switch is open.

Warning: For professional use only. Must be installed by a qualified service technician. Improper installation presents hazards of electrical shock and improper operation, resulting in severe personal injury and/or property damage.

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