Motor and Pump Protection Relays PGR-6100 Series (GFR4000)

Ground-Fault & Insulation Monitor







Description

The PGR-6100 monitor combines the features of a ground-fault protection relay and insulation monitor into one unit. The monitor can detect a motor ground fault whether the motor is running (online mode) or stopped (offline mode). It protects against ground faults by monitoring insulation resistance when the motor is de-energized and by monitoring ground-fault current when the motor is energized. The PGR-6100 features two separate analog outputs for optional current and ohm meters and two separate alarm relays. The unit operates on one- or three-phase solidly grounded, resistance grounded, and ungrounded systems up to 6 kV. Selectable fail-safe or non-fail safe operating modes allow connections to shunt or undervoltage breaker coils. The PGR-6100 is unique in that it has predictive as well as protective capabilities.

Features & Benefits

FEATURES	BENEFITS
Adjustable GF pickup (10 mA-3 A)	Trip setting provides a wide range of low-level protection and system coordination
Adjustable insulation pickup (250 k Ω –2 M Ω)	Customizable insulation resistance setpoints for maximum protection
Adjustable time delay (50 ms-1.0 s)	Adjustable trip delay for quick protection and system coordination
Output contacts	Two form C output contacts for ground fault and insulation-resistance fault
Two analog outputs (0–1 mA)	Indicate insulation resistance and ground-fault current
CT-loop monitoring	Alarms when CT is not connected

Applications

· For basic motor protection including ground-fault protection and insulation monitoring

Specifications

IEEE Device Numbers Ground Fault (50G/N, 51G/N), Ground detector (64), Alarm Relay (74)

Input Voltage See ordering information

Dimensions H 75 mm (3"); **W** 100 mm (3.9"); **D** 115 mm (4.5")

Response delay < 250 ms

Contact Operating ModeSelectable fail-safe or non-fail-safe

Harmonic Filtering

Test Button

Reset Button

CT-Loop Monitoring

Output Contacts

Analog Output

Standard feature

Standard feature

Standard feature

Two Form C

0-1 mA

Applicable Standards UL Listed (E183688) (1)

Warranty 5 years
Mounting DIN, Surface



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Certification & Compliance

UL	UL Listed (E183688) (1)
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Ordering Information

ORDERING NUMBER	CONTROL POWER
PGR-6100-120	120 Vac
PGR-6100-240 ⁽¹⁾	240 Vac ⁽¹⁾

ACCESSORIES	REQUIREMENT
PGC-5000 Series	Required
PGH Family	Required >1300 V
PGA-0500	Optional
PGA-0510	Optional

Note (1) - PGR-6100-240 ordering option is not UL Listed.

For optional conformal coating please consult factory.

Accessories

SE-CS30 Series Ground-Fault CTs

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

B PGA-0500 Analog % Current Meter

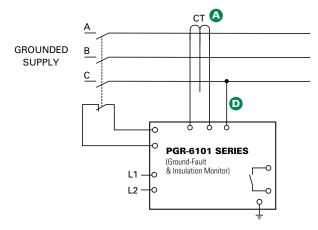
9 PGA-0510 Analog Ohm Meter

Optional panel-mounted meters display ground-fault current as a percentage of the set-point and insulation resistance.

PGH Family High Tension Couplers

Required (for systems >1,300 V) PGH Family high-tension coupler must be connected between the phase conductor and the PGR-6100.

Simplified Circuit Diagram



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