

# PGR-6200 SERIES

## Motor Protection Relay

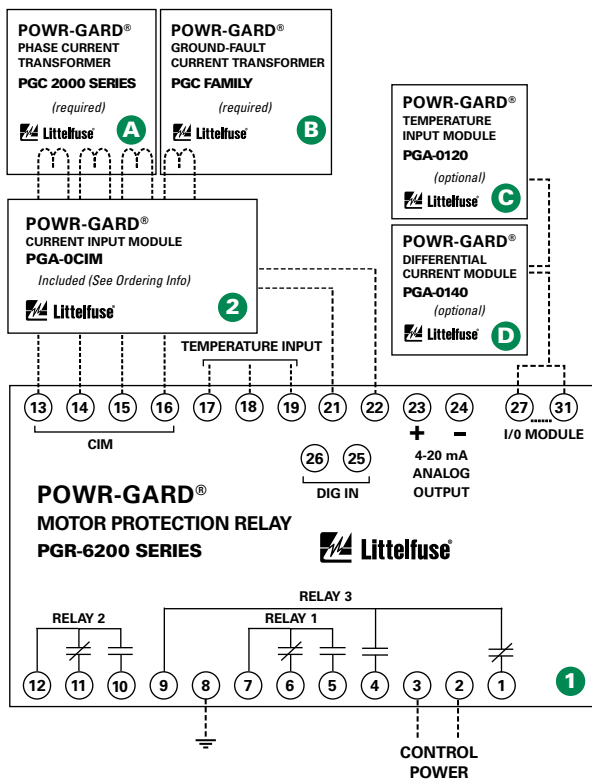


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### Wiring Diagram



### Description

The PGR-6200 Motor Protection Relay offers enhanced motor protection and metering to provide diagnostic and troubleshooting capabilities for critical process motors. The PGR-6200 is used to provide current- and temperature-based protection, metering, and data logging for three-phase low-voltage medium-horsepower induction motors. This relay is ideal for retrofitting and upgrading motor protection using existing CTs. See the PGK Family of Panel Mount Adapter Kits to replace common obsolete relays.

#### 1 Motor Protection Relay

- Three ac-current inputs
- Earth-leakage-CT input
- Programmable digital input
- 24-Vdc source for digital input
- Programmable 4 – 20-mA analog output
- Temperature-sensor input, 100-Ω-Platinum RTD or PTC
- Three programmable output relays
- Local RS-232 communications, optional Network Communications
- PC-interface software
- 4 line x 20 character backlit LCD display
- Keypad for programming and display selection
- 4 LEDs; 1 user programmable

#### 2 Current Input Module

The PGA-0CIM Current Input Module is the interface between the PGR-6200 relay and the 5-A-secondary, 1-A-secondary, and sensitive current transformers. The PGA-0CIM is included with the PGR-6200 and can be surface or DIN-rail mounted.

### Accessories

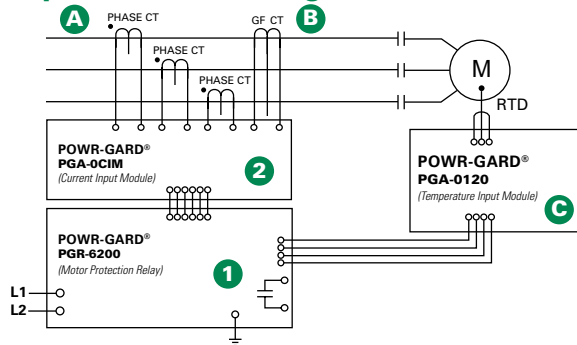
- A** **PGC-2000 Series Phase Current Transformers**  
Required CT detects phase current or ground-fault current (200 A primary). Other phase CTs can be used
- B** **PGC Family Ground-Fault Transformers**  
Required zero-sequence current transformers detect ground-fault current. Available with 5-A and 30-A primary ratings for low-level pickup.
- C** **PGA-0120 Temperature Input Module**  
Optional module provides 8 inputs to connect Pt100, Ni100, Ni120, and Cu10 RTDs
- D** **PGA-0140 Differential Current Module**  
Optional motor differential protection, compatible with core balance and summation current transformer connections

MOTOR PROTECTION RELAYS

## Features & Benefits

FEATURES	IEEE #	BENEFITS
<b>Overload</b>		Extends motor life and prevents insulation failures and fires
<b>Unbalance (Current)</b>	46	Prevents overheating due to unbalanced phases
<b>RTD &amp; PTC Overtemperature</b>	49	Overtemperature (PTC) protection for high ambient or loss-of-ventilation detection
<b>Phase Loss/Phase Reverse (Current)</b>	46	Detects unhealthy supply conditions
<b>Overcurrent/Jam</b>	50, 51	Detects catastrophic failures and fires; extends motor life
<b>Undercurrent</b>	37	Detects low level or no-load conditions
<b>RTD Temperature</b>	38, 49	Optional RTD temperature protection (PGA-0120 module) for high ambient or loss of ventilation protection
<b>Starts Per Hour</b>	66	Limits the motor starts per hour to prevent overheating
<b>Differential</b>	87	Optional with PGA-0140 module allows sensitive winding-fault protection
<b>Dynamic Thermal Model</b>		Provides protection through starting, running, and cooling cycles
<b>Communications</b>		Remotely view measured values, event records & reset trips
<b>Ground Fault</b>	50G/N, 51G/N	Prevents catastrophic failures and fires
<b>Reduced Overcurrent Mode</b>		Minimizes Arc-Flash hazards during maintenance
<b>Metering</b>		Alphanumeric display of conditions
<b>PGA-0CIM</b>		Separate current input module to reduce risk of CT hazard and for convenient installation
<b>Analog Output</b>		Provides means for metering selectable parameters
<b>Data Logging</b>		On-board 100-event recorder for data logging
<b>Conformal Coating</b>		Internal circuits are conformally coated to protect against corrosion and moisture

## Simplified Circuit Diagram



## Ordering Information

CATALOG/SYSTEM NUMBER	COMMUNICATION
PGR-6200-00-00	TIA-232
PGR-6200-01-00	TIA-232 & RS-485
PGR-6200-02-00	TIA-232 & DeviceNet™
PGR-6200-04-00	TIA-232 & Ethernet

NOTE: The PGR-6200 consists of the Motor Protection Relay and the PGA-0CIM Current Input Module. To order the relay only, add (-MPU) to the part number listed above.

ACCESSORIES	REQUIREMENT	PAGE
PGC Family	Optional	38
PGA-0120	Optional	41
PGA-0140	Optional	41
PGK-OSMK	Optional	41

## Specifications

<b>Protective Functions (IEEE Device Numbers)</b>	Overload (49, 51) Phase reverse (current) (46) Overcurrent (50, 51) Jam Ground fault (50G/N, 51G/N) Undercurrent (37) PTC overtemperature (49)	RTD temperature (38, 49) Unbalance (current) (46) Starts per hour (66) Phase loss (voltage) (47) Overvoltage (59) Differential (87) Phase loss (current) (46)
<b>Input Voltage</b>	65 – 265 Vac, 25 VA; 80-275 Vdc, 25 W	
<b>Power-Up Time</b>	800 ms at 120 Vac	
<b>Ride-Through Time</b>	100 ms minimum	
<b>24-Vdc Source</b>	100 mA maximum	
<b>AC Measurements</b>	True RMS and DFT, Peak, 16 samples/cycle, and positive and negative sequence of fundamental 50, 60 Hz or ASD	
<b>Frequency Inputs</b>	Phase-current, Earth-leakage current, Phase-voltage, PTC-thermistor, 4 – 20 mA, programmable	
<b>Output Contacts</b>	Five contact relays — See Product Manual	
<b>Approvals</b>	CSA certified to US and Canadian standards	
<b>Communications</b>	RS-485 with Allen-Bradley® DFI and Modbus® RTU (Standard); DeviceNet™, Profibus®, Ethernet (Optional)	
<b>Conformally Coated</b>	Standard feature	
<b>Warranty</b>	10 years	
<b>Mounting (Control Unit)</b>	Panel (standard) Surface (with PGK-OSMK converter kit)	
<b>(Current Input Module)</b>	DIN, Surface	