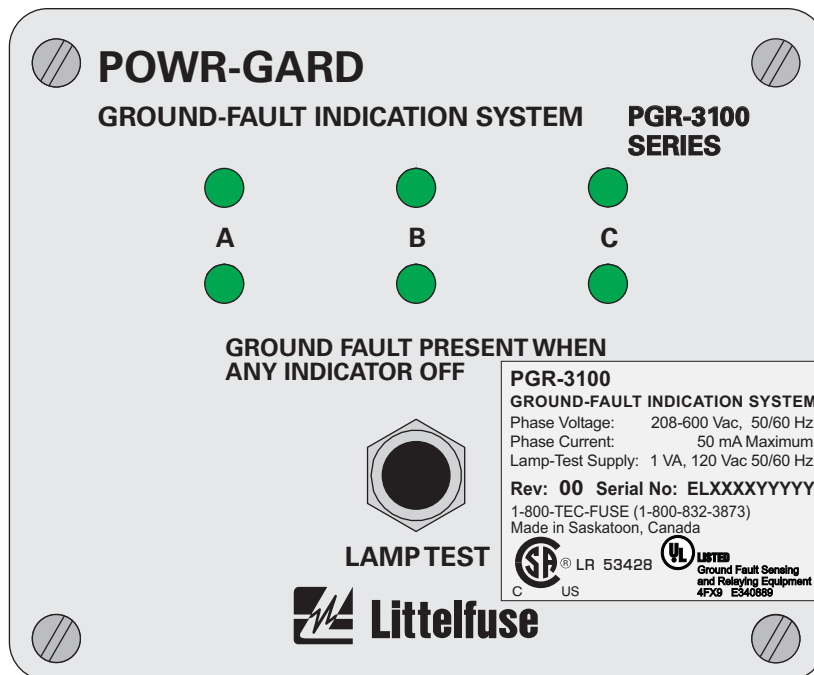


**PGR-3100 Manual**  
**Ground-Fault Indication System**

March 9, 2012

REVISION 6



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**DISCLAIMER**

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### 1. FEATURES

- Green LED's indicate presence of voltage to ground for each phase of a power system.
  - A ground fault (or phase loss) is indicated when a set of LED's is off.
  - LED's are on when phase-to-ground voltage exceeds 30 Vac.
  - Redundant LED's are used for reliability.
- Pressing LAMP TEST causes all LED's to light.

**Note:** The LAMP TEST feature requires an isolated 120 Vac supply.

- Direct connection for voltages up to 600 Vac line to line.
  - Potential transformers (PT's) are required for voltages greater than 600 Vac.
- Provides faulted-phase indication for resistance-grounded systems and ungrounded systems.

### 2. DESCRIPTION

The PGR-3100 is a self-powered ground-fault indication system. Presence of phase-to-ground

voltage is indicated by redundant LED's (two per phase). The respective phase LED's are off when phase-to-ground voltage is less than 30 Vac. The PGR-3100 meets the National Electrical Code requirements for ground detectors for ungrounded alternating-current systems as defined in NEC 250.21. It also meets the Canadian Electrical Code requirements for ungrounded alternating-current systems in accordance with CEC 10-106(2).

### 3. INSTALLATION

Outline and panel-mounting details are shown in Fig. 1.

For 208- to 600-Vac systems, connect the PGR-3100 directly to the three-phase bus. For 208- or 240-volt installations, use terminals AL, BL, and CL. For systems above 240 V and up to 600 V use terminals AH, BH, and CH. See Figs. 2, 3 and 5.

For systems above 600 V, install PT's as shown in Figs. 4 and 6.

Connect terminal G and chassis-bonding terminal (⊕) to ground.

For LAMP TEST connect 120 Vac supply to terminals L and G. Connection and use of LAMP TEST circuit is optional.

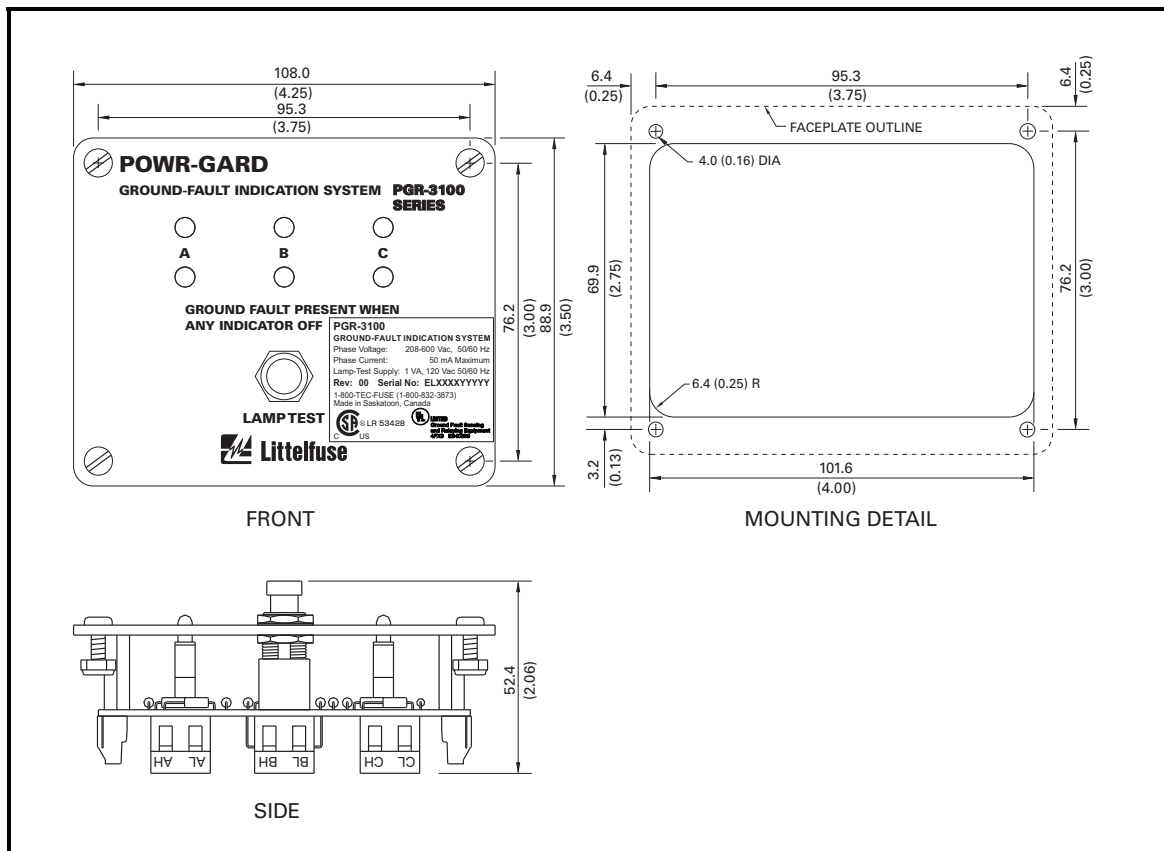


FIGURE 1. PGR-3100 Outline and Mounting Details.

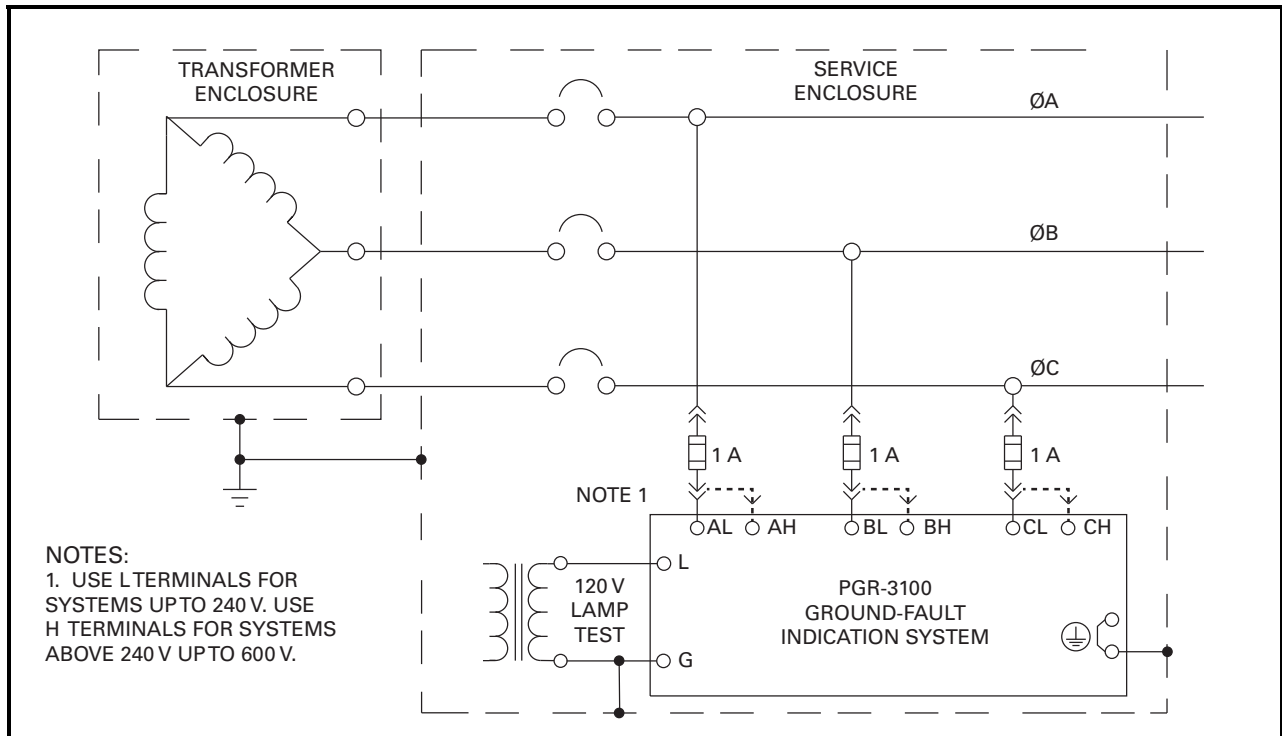


FIGURE 2. Connection Diagram for an Ungrounded 240- to 600-V System.

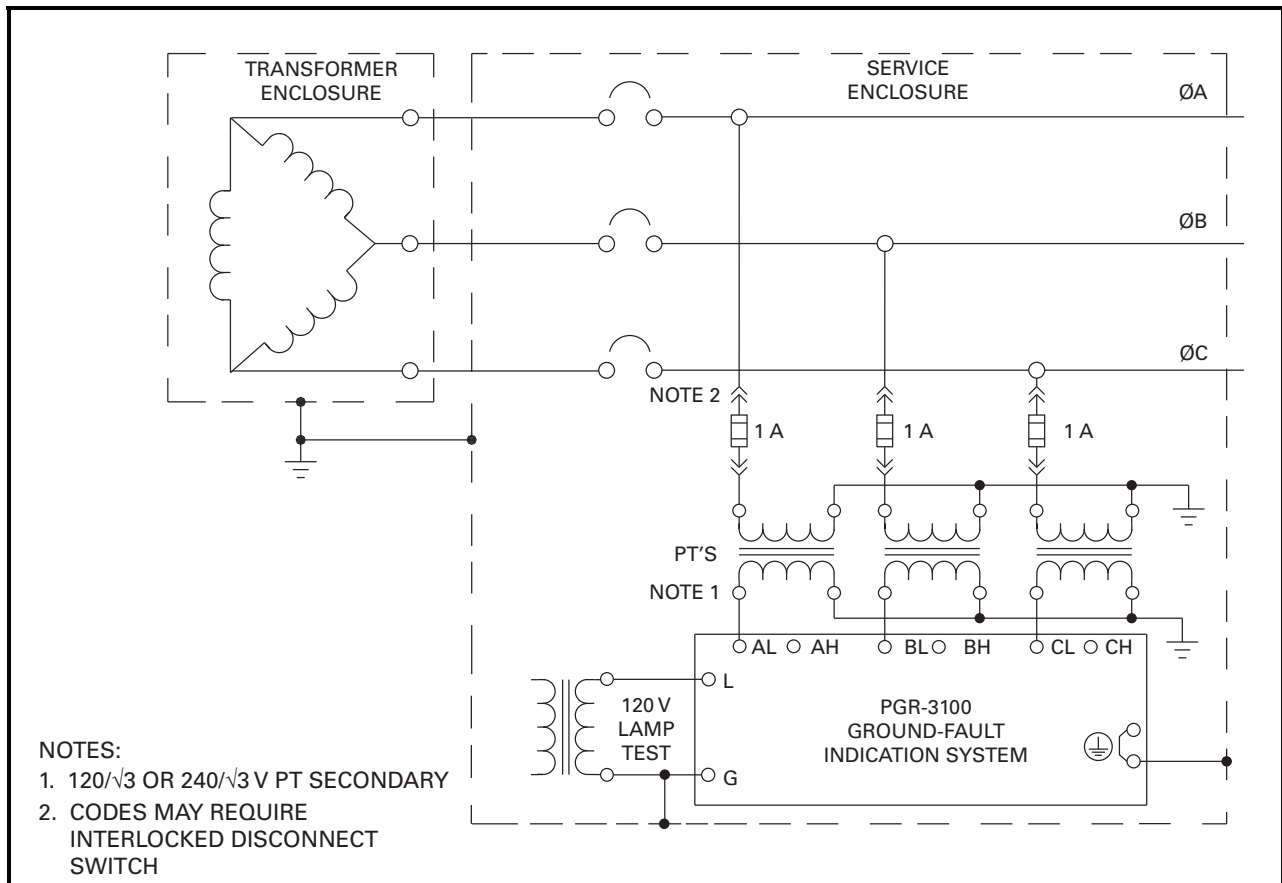


FIGURE 3. Connection Diagram for Ungrounded Systems above 600 V.

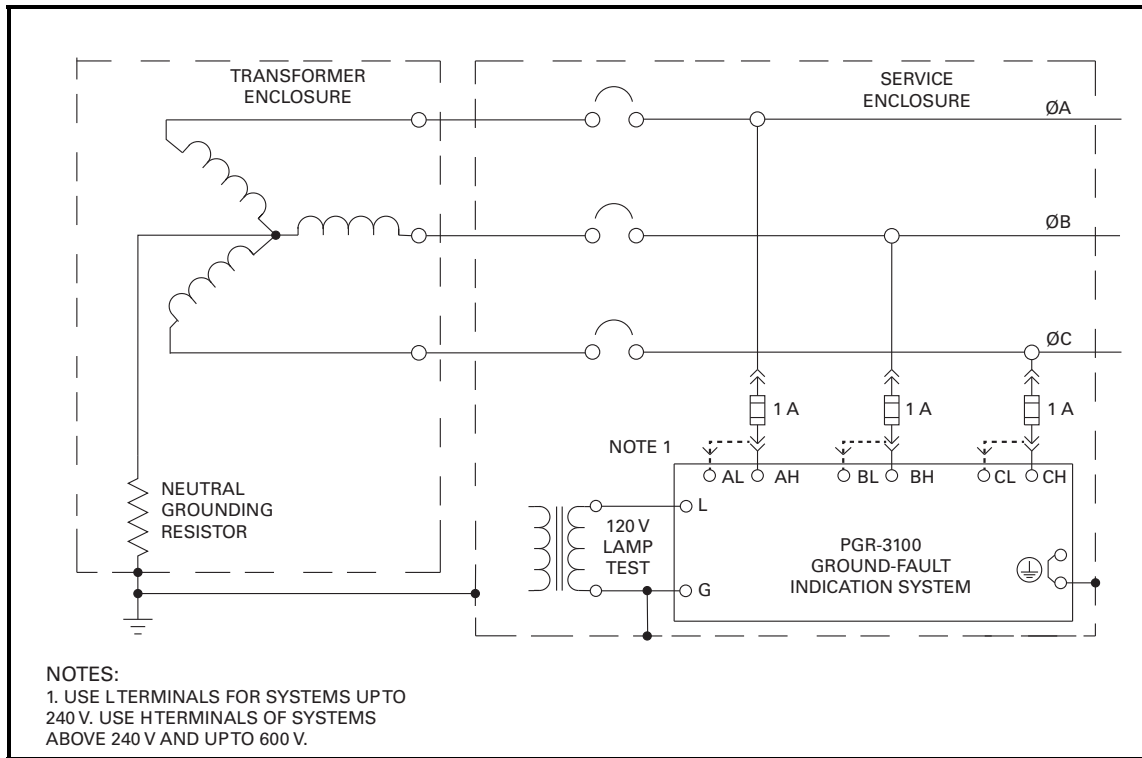


FIGURE 4. Connection Diagram for a Resistance-Grounded System up to 600 V.

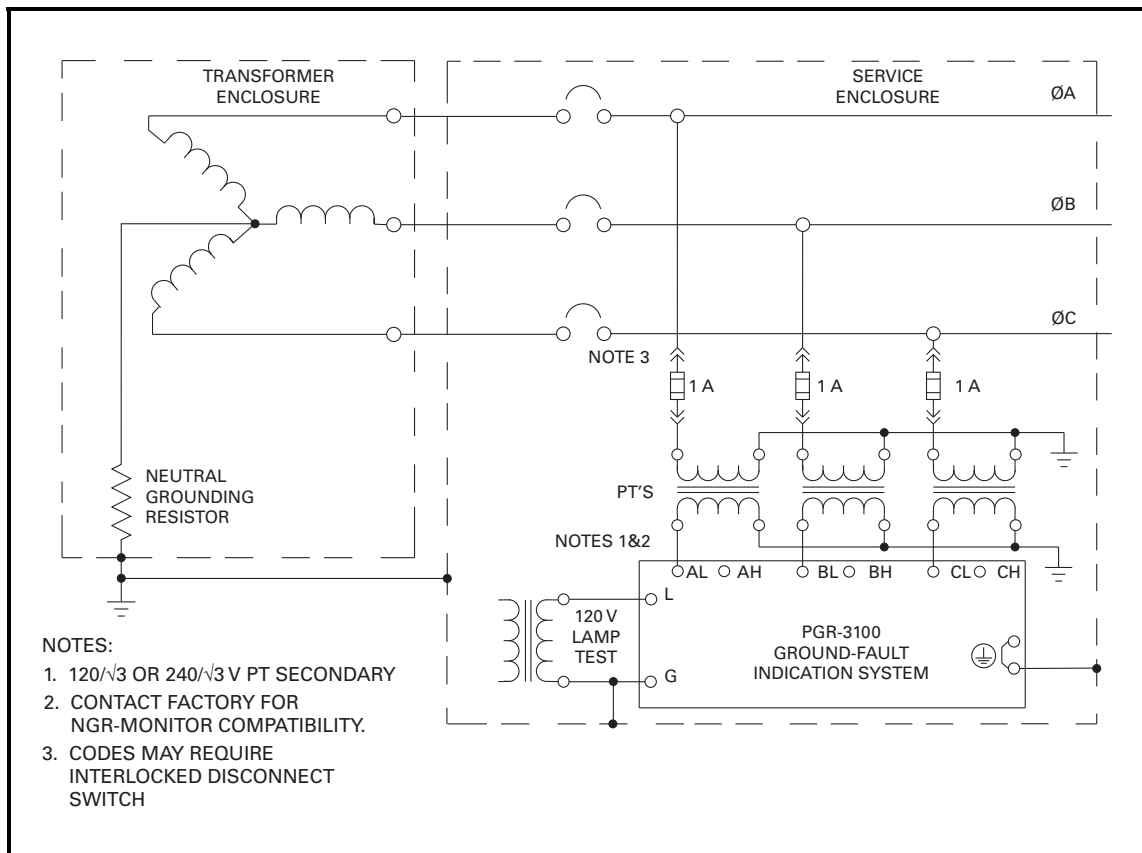


FIGURE 5. Connection Diagram for Resistance-Grounded Systems above 600 V.

#### **4. TECHNICAL SPECIFICATIONS**

Phase Voltage

Input L, maximums.....240 Vac to ground,  
3.5 mA  
Input H, maximums.....600 Vac to ground,  
4.5 mA

Lamp Test.....Isolated 120 Vac,  
1 VA maximum

LED Threshold .....30 Vac, minimum

Dielectric Strength .....2,200 Vac, 1 minute

Shipping Weight .....0.3 kg (0.8 lb.)

Dimensions:

Height.....108 mm (4.3")  
Weight.....88.9 mm (3.5")  
Depth .....54 mm (2.1")

Environment:

Operating Temperature ..-40 to 60°C  
Storage Temperature.....-55 to 80°C  
Humidity .....85% Non-Condensing

PWB Conformal Coating ....MIL-1-46058 qualified  
UL QMJU2 recognized

Certification.....CSA, USA and Canada



UL Listed

