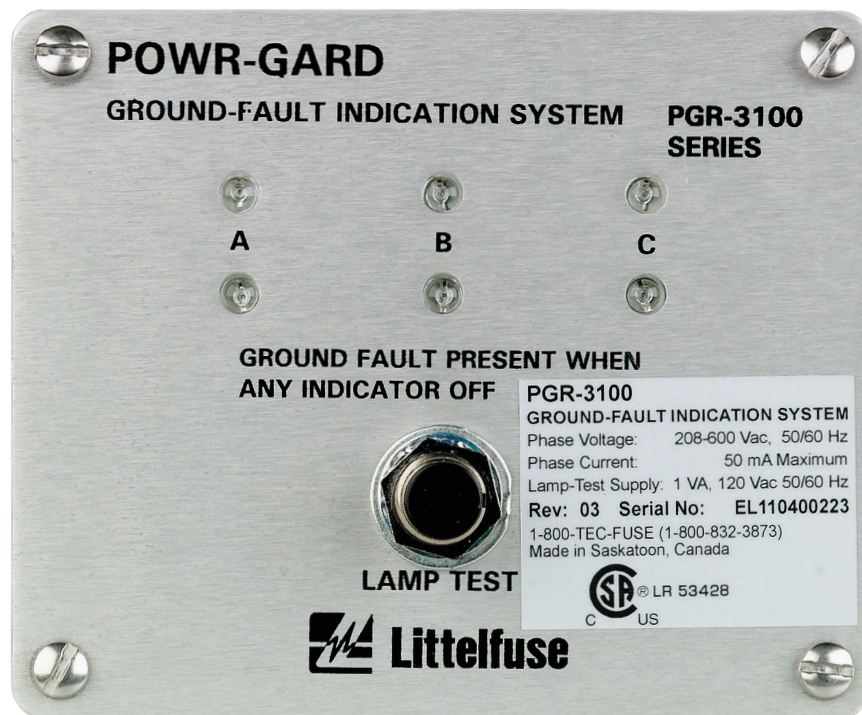


# PGR-3100 MANUAL

## GROUND-FAULT INDICATION SYSTEM

Revision 6-B-061422

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## TABLE OF CONTENTS

<b>1 FEATURES</b> .....	1
<b>2 DESCRIPTION</b> .....	1
<b>3 INSTALLATION</b> .....	1
<b>4 TECHNICAL SPECIFICATIONS</b> .....	4

## LIST OF FIGURES

1	<i>PGR-3100 Outline and Mounting Details</i> .....	1
2	<i>Connection Diagram for an Ungrounded 240- to 600-V System</i> .....	2
3	<i>Connection Diagram for an Ungrounded System above 600 V</i> .....	2
4	<i>Connection Diagram for a Resistance-Grounded System up to 600 V</i> .....	3
5	<i>Connection Diagram for a Resistance-Grounded System above 600 V</i> .....	3

## DISCLAIMER

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**1. FEATURES**

- Green LEDs 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 LEDs is off.
  - For systems up to 240 Vac, LEDs are on when phase-to-ground voltage exceeds 25 Vac.
  - For systems above 240 Vac up to 600 Vac, LEDs are on when phase-to-ground voltage exceeds 40 Vac.
  - Redundant LEDs are used for reliability.
- Pressing LAMP TEST causes all LEDs 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 (PTs) 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 LEDs (two per phase). The respective phase LEDs are off when phase-to-ground voltage is less than 25 Vac for L terminals, and less than 40 Vac for H terminals. 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 C22.1 Rule 10-400 (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 and 4.

For systems above 600 V, install PTs as shown in Figs. 3 and 5.

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.

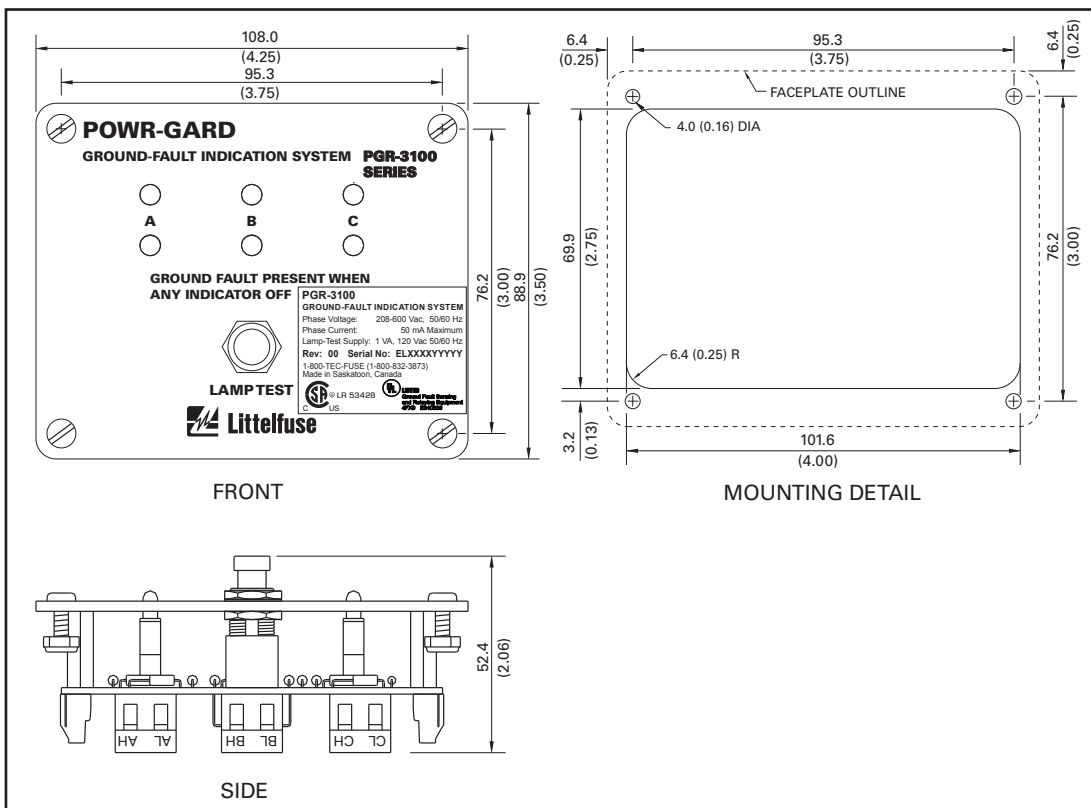


FIGURE 1. PGR-3100 Outline and Mounting Details.

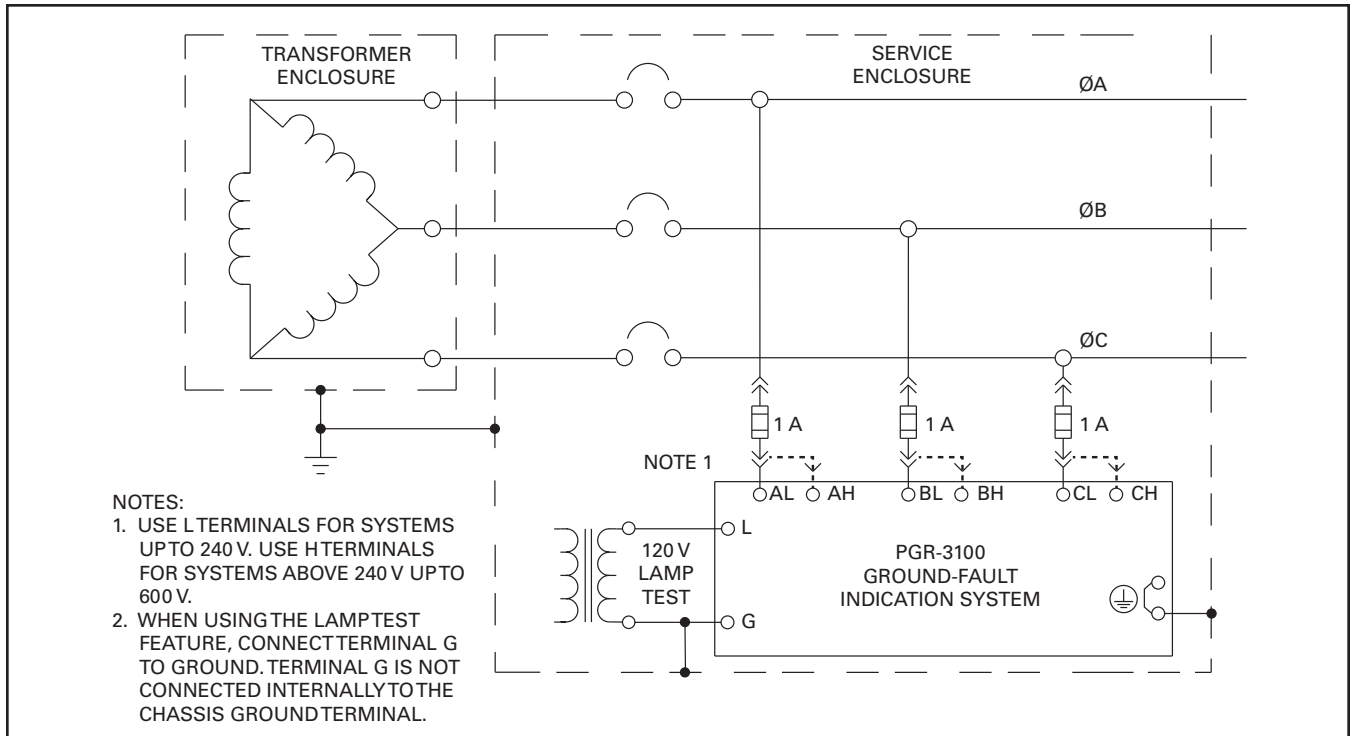


FIGURE 2. Connection Diagram for an Ungrounded 240- to 600-V System.

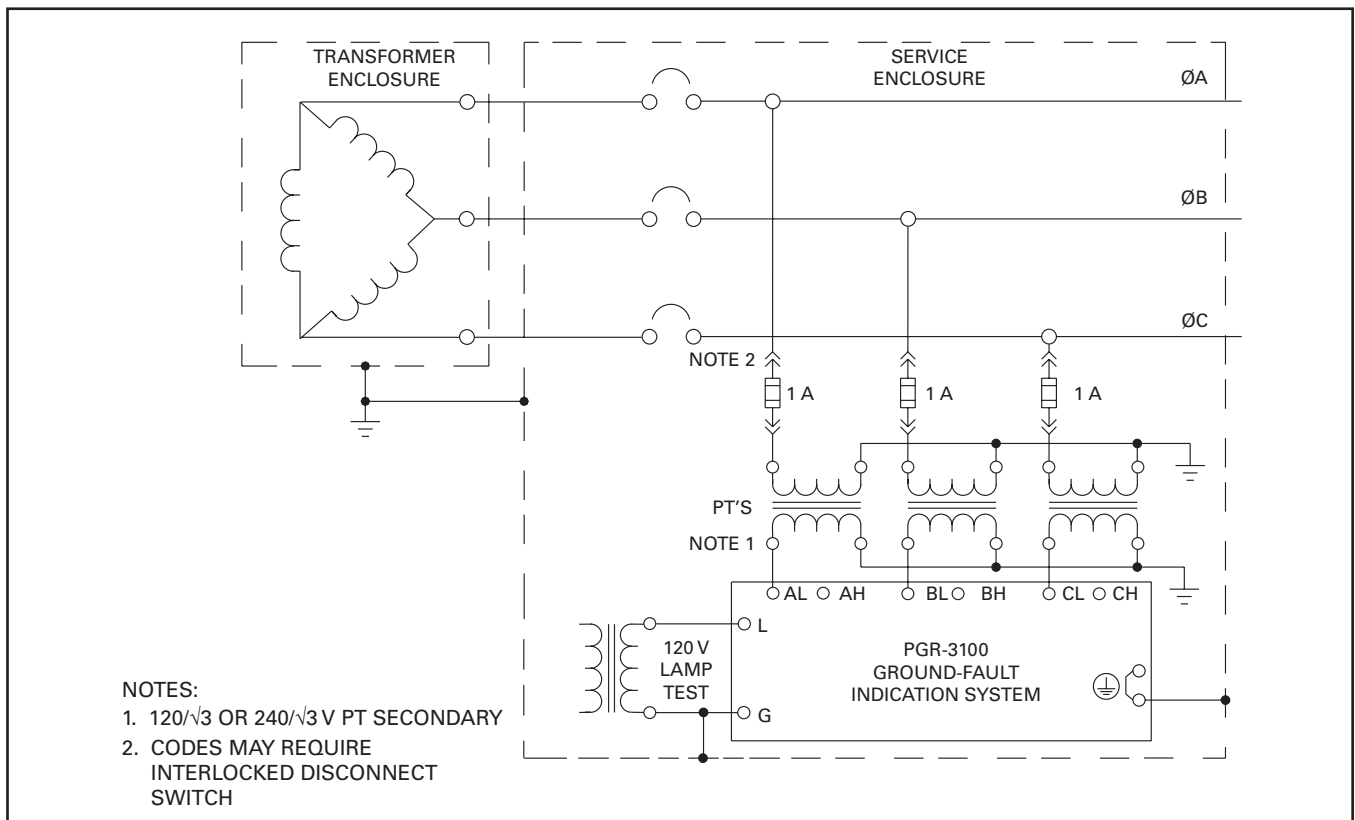


FIGURE 3. Connection Diagram for an Ungrounded System above 600 V.

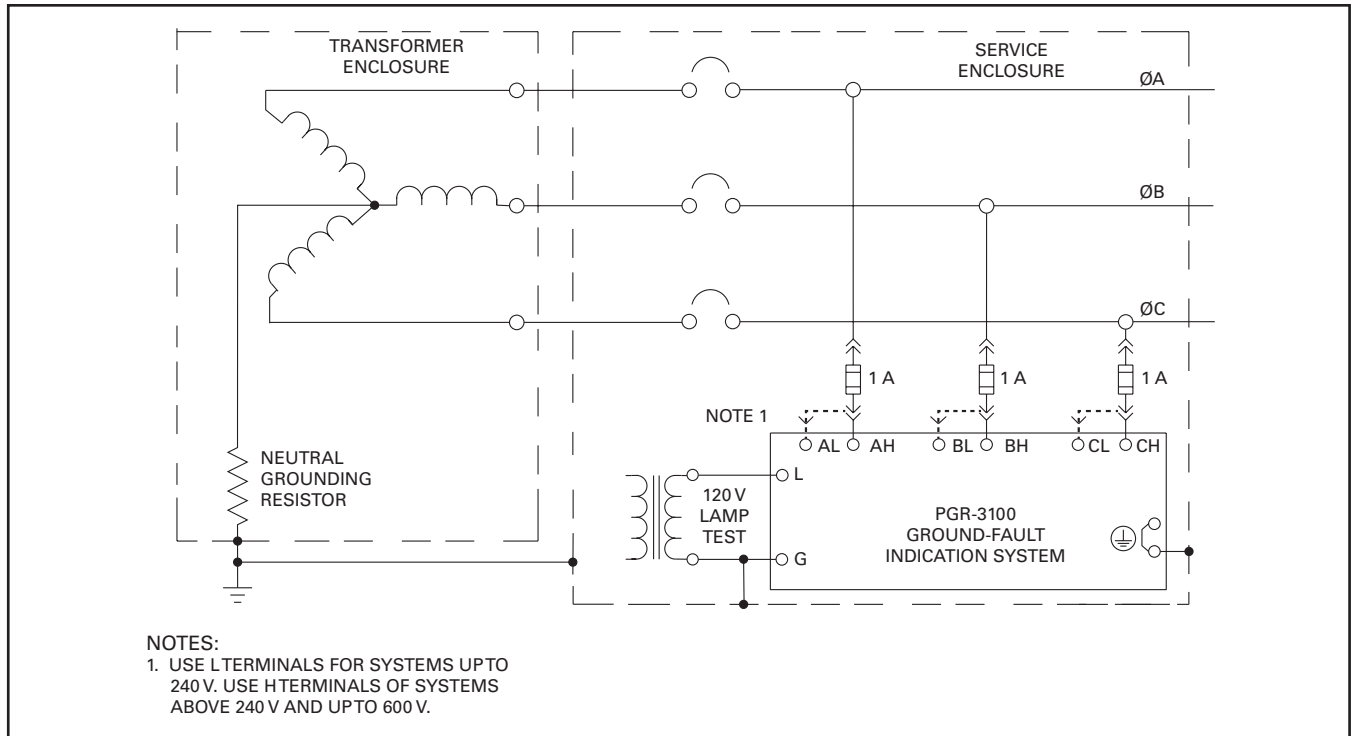


FIGURE 4. Connection Diagram for a Resistance-Grounded System up to 600 V.

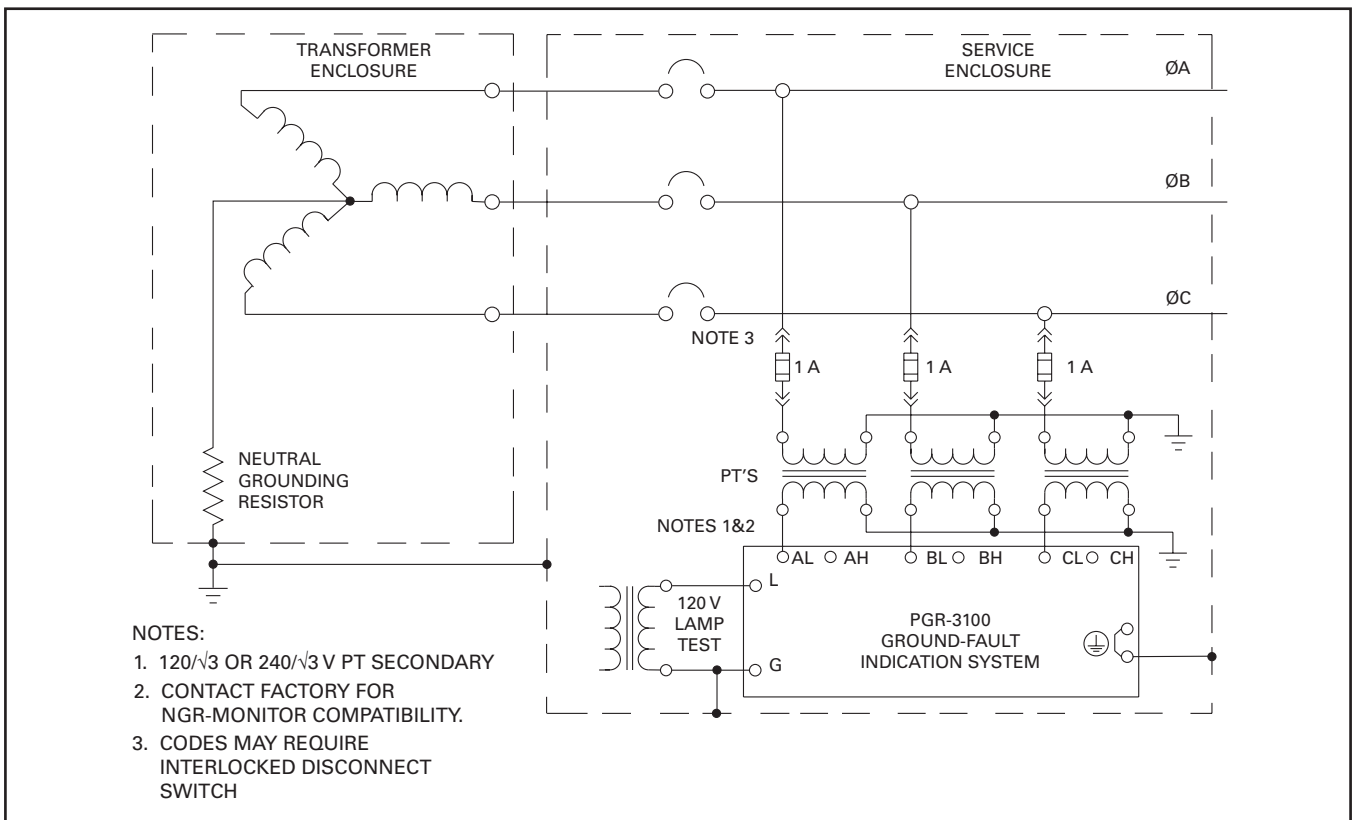


FIGURE 5. Connection Diagram for a Resistance-Grounded System above 600 V.

**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

Input L, minimum .....25 Vac  
Input H, minimum.....40 Vac

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

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

Dimensions:

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

Environment:

Operating Temperature.....-40 to 60°C (-40 to 140°F)  
Storage Temperature .....-55 to 80°C (-67 to 176°F)  
Humidity .....85% Non-Condensing  
Enclosure Rating .....IP40 (When installed  
on panel)

Terminals:

Type .....Wire Clamping  
Conductor Size .....24 to 12 AWG  
(0.2 to 3.3 mm<sup>2</sup>)  
Tightening Torque .....0.6 N·m (5.31 lbf·in)

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

Certification.....CSA, USA and Canada



UL Listed





**APPENDIX A  
PGR-3100 REVISION HISTORY**

<b>MANUAL RELEASE DATE</b>	<b>MANUAL REVISION</b>	<b>PRODUCT REVISION (REVISION NUMBER ON PRODUCT LABEL)</b>
June 14, 2022	6-B-061422	03
June 08, 2018	6-A-060818	
March 09, 2012	6	

**MANUAL REVISION HISTORY**

**REVISION 6-B-061422**

**SECTION 1**

Updated Canadian Electrical Code reference.

**SECTION 4**

Added individual L and H input minimum thresholds.  
Added Terminal information.

**REVISION 6-A-060818**

**SECTION 1**

Format updated.

**PRODUCT REVISION HISTORY**

**PRODUCT REVISION 03**