

Installation Instructions for Bargraph Kit 300–6455–03

This instruction sheet describes the installation of a LED bargraph display module used with gensets that include a PowerCommand® 1.x, 2.x, and 3.x. This kit includes the bargraph control panel (HMI112) and the mounting screws.

DESCRIPTION

The bargraph control panel is a PCCNet network device that, once paired with a PowerCommand control, displays on discrete LED bars the following (see Figure 1).

AC Ammeter: The three phase AC ammeter displays percent of full load currents in amperes (1–125%).

Power Meter: The power meter displays the real power in percent (0–125%) of full genset load (in kVA).

Frequency Meter: This meter displays the output frequency (percent of nominal frequency), of the power source connected to the load (70–110%).

AC Voltmeter: The three phase voltmeter displays percent of line-to-neutral voltages of the power source connected to the load (70–110%).

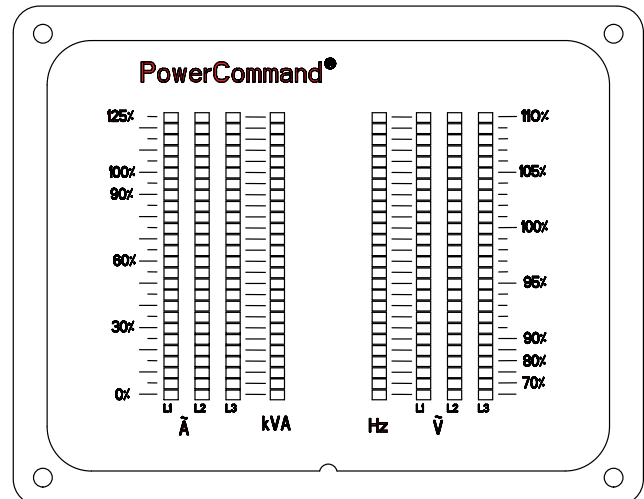


FIGURE 1. BARGRAPH PANEL – FRONT VIEW

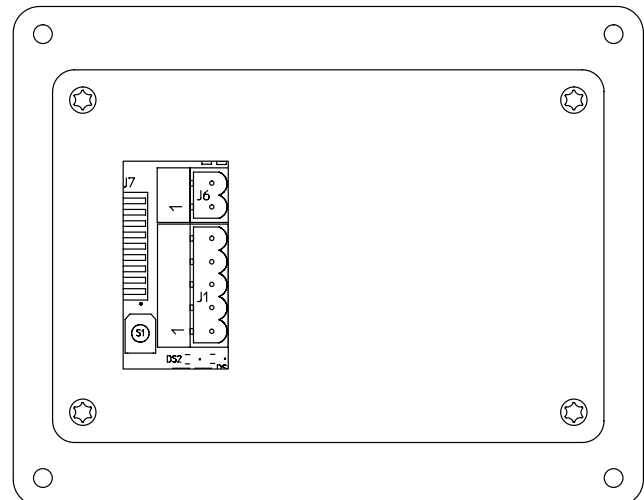


FIGURE 2. BARGRAPH PANEL – REAR VIEW

GENERAL PRECAUTIONS

Read these installation instructions completely and become familiar with safety warnings, cautions, and the installation procedure before starting.

⚠WARNING *Incorrect installation, service, or replacement of parts can result in severe personal injury or death and/or equipment damage. Only trained and experienced personnel are to perform the following procedures.*

⚠WARNING *High voltages can cause electrical shock, resulting in severe personal injury or death. Voltages of up to 600 VAC are present inside the control box. The control box must be opened only by technically qualified personnel.*

Even with power removed, improper handling of components can cause electrostatic discharge and damage to circuit components.

⚠WARNING *AC voltages and currents present an electrical shock hazard that can cause severe personal injury or death. Incorrect installation, service, or parts replacement can result in severe personal injury, death, and/or equipment damage.*

Turn off or remove AC power from the battery charger (if present) and then remove the negative (–) battery cable from the set starting battery. This is to make sure the genset will not start while working on it and to avoid circuit board damage, caused by voltage spikes when removing and replacing circuit board connectors.

⚠CAUTION *If present, always disconnect a battery charger from its AC source before disconnecting the battery cables. Otherwise, disconnecting the cables can result in voltage spikes high enough to damage the DC control circuits of the generator set.*

⚠WARNING *Accidental starting of the generator set while working on it can cause severe personal injury or death. Prevent accidental starting by disconnecting the starting battery cables (negative [–] first).*

Make certain the battery area has been well-ventilated before servicing the battery—Wear

goggles—Stop the genset and disconnect the charger before disconnecting battery cables. Arcing can ignite explosive hydrogen gas given off by batteries, causing severe personal injury. Arcing can occur when a cable is removed or re-attached, or when the negative (–) battery cable is connected and a tool used to connect or disconnect the positive (+) battery cable touches the frame or other grounded metal part of the generator set. Always remove the negative (–) cable first, and reconnect it last. Make certain hydrogen from the battery, engine fuel, and other explosive fumes are fully dissipated. This is especially important if the battery has been connected to a battery charger.

⚠WARNING *Ignition of explosive battery gases can cause severe personal injury or death. Arcing at battery terminals, light switch or other equipment, flame, pilot lights and sparks can ignite battery gas. Do not smoke, or switch trouble light ON or OFF near a battery. Discharge static electricity from body before touching batteries by first touching a grounded metal surface.*

INSTALLATION

1. Make sure the generator set is shut down and disabled.
 - a. The PCC is in the Off mode and the generator is cool (to the touch).
 - b. The battery charger (if equipped) is turned off and disconnected.
 - c. The negative (–) cable from the battery is disconnected to prevent accidental starting.
2. Use hardware included in this kit to secure the bargraph to the control cover, as shown in Figure 3.
3. Connect the genset harness connectors to connectors J6 and J1 (see Figures 4 and 5).

Note: Genset models DSGAA, DSGAB, and DSGAC include the wiring for the bargraph in the main genset harness.

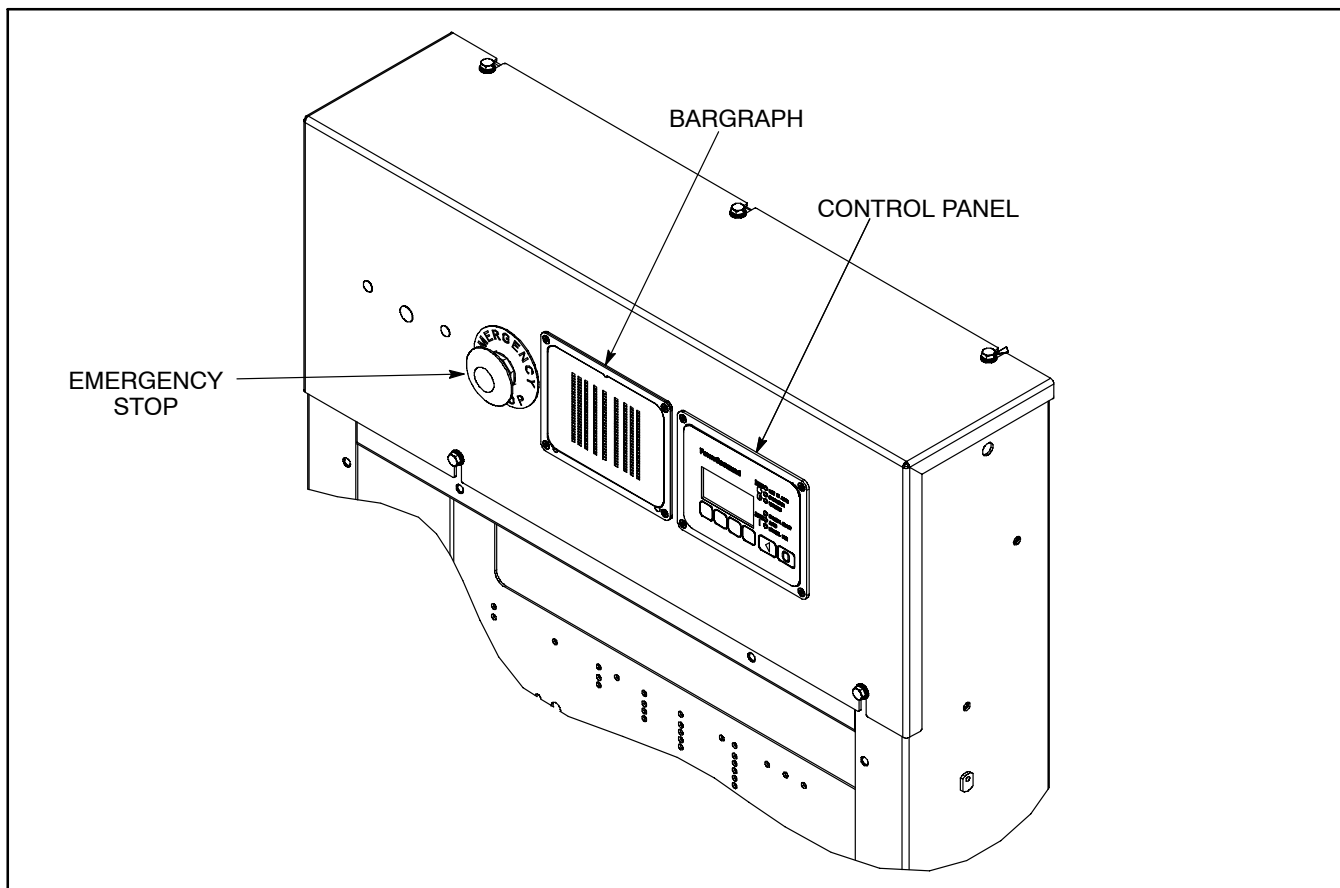


FIGURE 3. BARGRAPH INSTALLATION

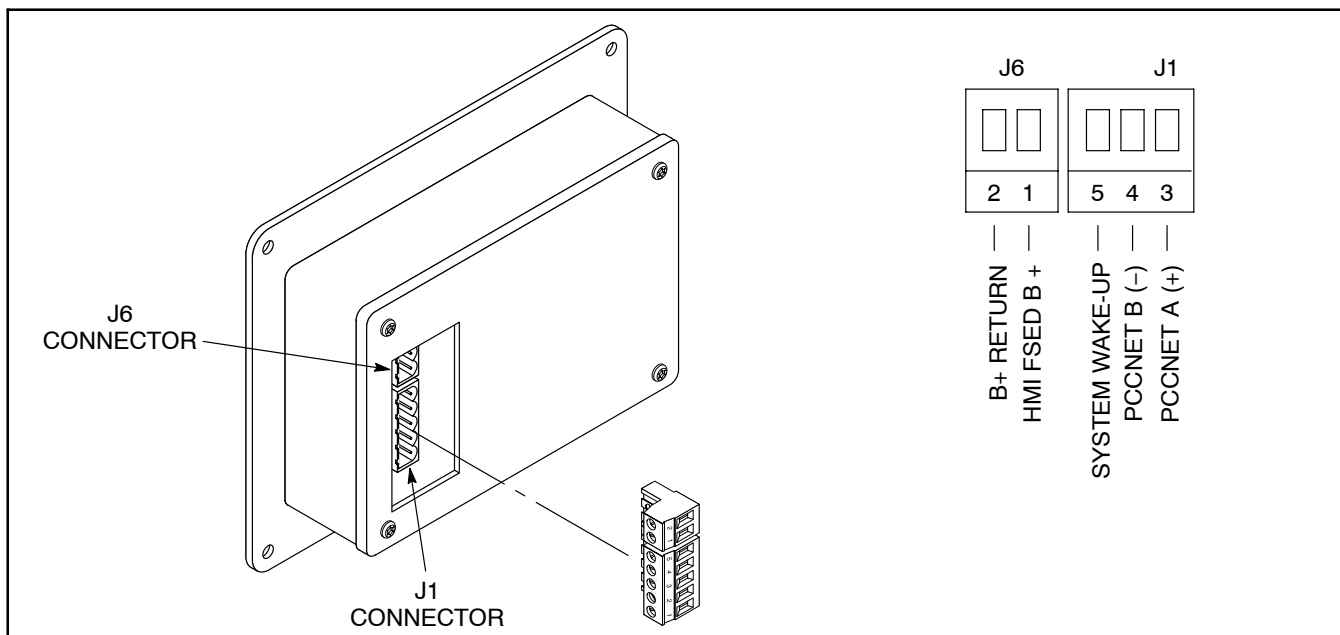


FIGURE 4. BARGRAPH CONNECTORS

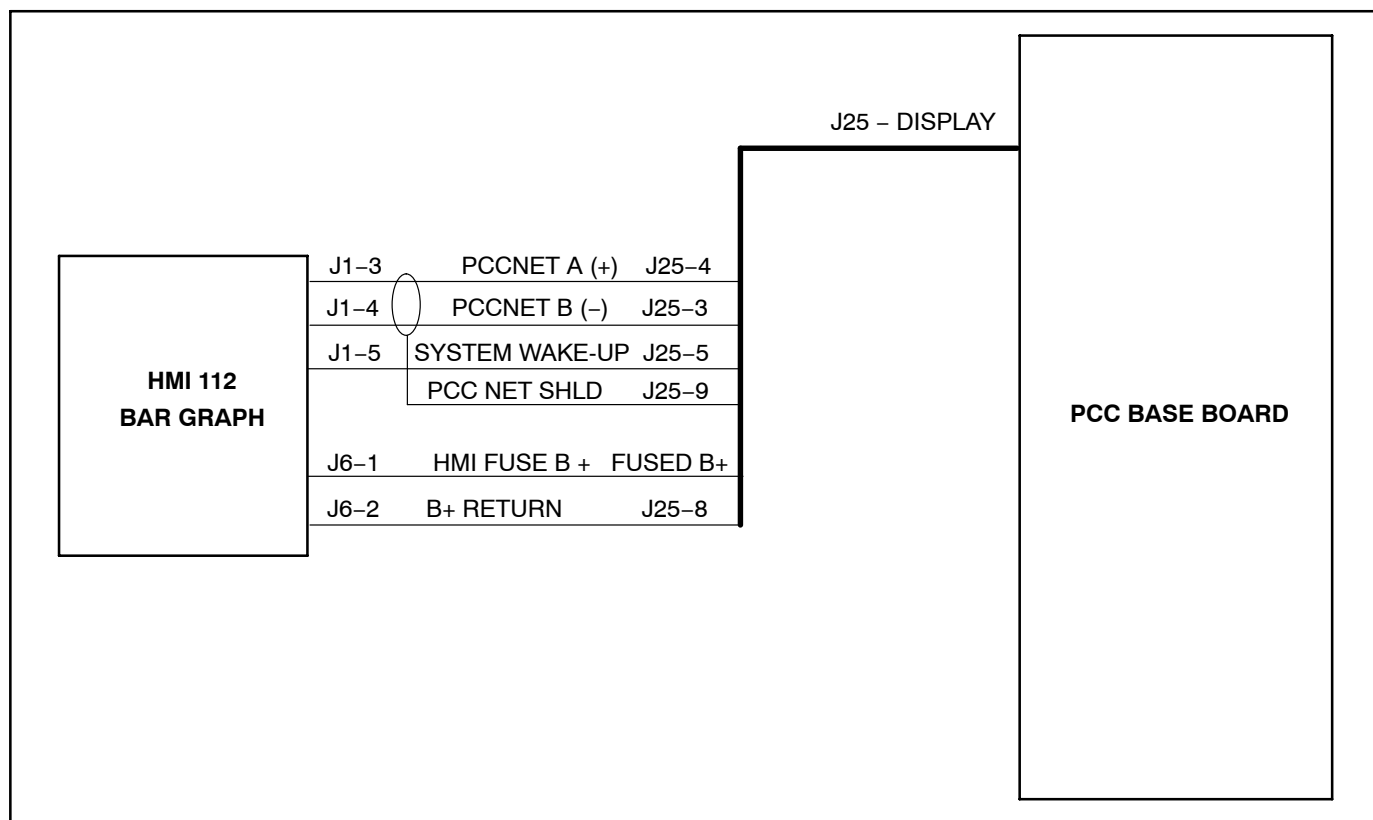


FIGURE 5. BARGRAPH CONNECTIONS TO PCC - BLOCK DIAGRAM

4. Reconnect the genset as follows.
 - a. Connect the negative (-) cable to the battery.
 - b. Reconnect the battery charger (if used).
 - c. Set the PCC to the desired mode.
5. Test the LED display, as described below.

LED Display Test

When used with a PCC control, the bargraph control panel does not require any configuration. However, you can use Configuration Mode to test the display.

To test the display,

1. Press and hold the S1 pushbutton switch on the bargraph PCB (located near the J1 connector – see Figure 6) for five seconds to enter

Configuration Mode. All of the meter bars will clear.

2. Wait for five seconds. After five seconds has expired, the control board will exit Configuration Mode and the LED Bargraph will cycle through all eight bars.

