

INSTALLATION INSTRUCTIONS

Original Issue Date: 6/96

Model: 20-2000 kW

Market: Industrial

Subject: **Controller Connection Kits PA-328911, PA-328911-SD,
PA-347428, PA-347428-SD**

The controller connection kit allows easy connection of controller accessories without accessing the controller terminal strip. Use a single- or ten-relay dry contact kit between the controller connection kit and any external connections to isolate the controller circuit board from electrical interference. Connect controller accessories or customer-supplied warning devices (lights, horns, etc.) to the dry contact kit. The controller connection kit terminal strip simulates the controller terminal strip, except for emergency stop kit terminals 1 and 1A.

Connect customer-supplied 12 volt DC accessories to battery positive (+) at starter solenoid and to battery negative (–) at engine ground. Do not use terminals 42A and N of dry contact kit terminal strip to supply voltage to relay contacts. Use separate leads direct from the battery for voltage supply leads. Size leads according to local electrical codes.

Determine which accessory wiring diagram to use by identifying the type of generator set controller by the circuit board on the controller circuit board. The alphacharacter in the circuit board part number may be different from the one shown below. See Figure 1.

Circuit Board Part Number	Terminal Strip Qty.	Wiring Diagram
A-336415	TB1 and TB2	Figure 5
A-352160	TB1, TB2, TB3, and TB4	Figure 6

Figure 1. Generator Set Controller Identification



Accidental starting.
Can cause severe injury or death.

Disconnect battery cables before working on generator set (disconnect negative lead first and reconnect it last).

Disabling generator set. Accidental starting can cause severe injury or death. Turn generator set master switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on the generator set or connected equipment. The generator set can be started by an automatic transfer switch or remote start/stop switch unless these precautions are followed.

WARNING

Hazardous voltage.

Moving rotor.

Can cause severe injury or death.

Operate generator set only with all guards and electrical enclosures in place.

Grounding generator set. Hazardous voltage can cause severe injury or death. Electrocutation is possible whenever electricity is present. Open main circuit breakers of all power sources before servicing equipment. Configure the installation to electrically ground the generator set and electrical circuits when in use. Never contact electrical leads or appliances when standing in water or on wet ground, as the chance of electrocution is increased under such conditions.

Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the generator set engine starting battery(ies), negative (–) lead first. Disconnect power to the battery charger, if equipped.
3. Remove junction box access panel.
4. 20-300 kW and 2000 kW generator sets use the terminal strip (328913) as a template. Drill four 0.188 in. (4.7 mm) diameter holes at the mounting holes in the terminal strip in the location appropriate for the application. For 20-300 kW generator sets see Figure 2; for 2000 kW generator sets see Figure 4. For 350-1600 kW generator sets, attach terminal block bracket (347292) to the bolts securing the controller to the junction box.

NOTE

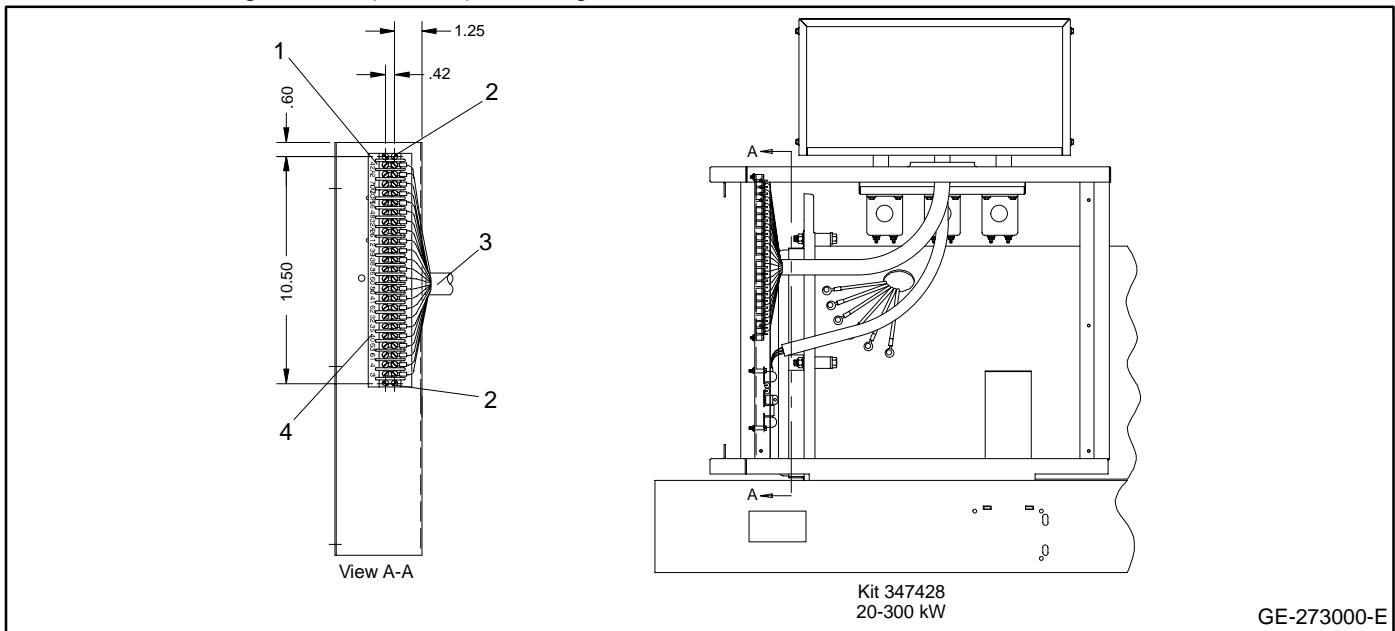
Remove all burrs and metal chips from the work area before continuing installation procedure.

5. Install the terminal marker strip (328914) and terminal strip (328913) with four 8-32 x 3/4-in. screws (X-51-11), plain washers (X-25-48), and whiz nuts (X-6210-4). Place terminal marker strip between terminal block and junction box.
6. Connect the terminal block to the controller terminal block with wiring harness (328915). See Figure 5.
7. Install dry contact kit(s) according to kit instructions. Locate the dry contact kit(s) as close to the controller connection kit as possible to eliminate electrical interference. Using customer-supplied wiring, connect leads between controller connection kit and dry contact kit.
Use 18 gauge wire for connection between controller connection kit and dry contact kit.
8. Connect customer-supplied accessories to dry contact kit(s), as necessary. Refer to dry contact kit instructions for further information.
9. Reinstall junction box access cover.
10. Check that the generator set master switch is in the OFF position.
11. Reconnect generator set engine starting battery(ies), negative (–) lead last. Reconnect power to the battery charger, if equipped.

NOTE

Provide customer-supplied devices connected to the dry contact kit with an electrical supply that meets the electrical operating requirements of the customer-provided accessories prior to installation.

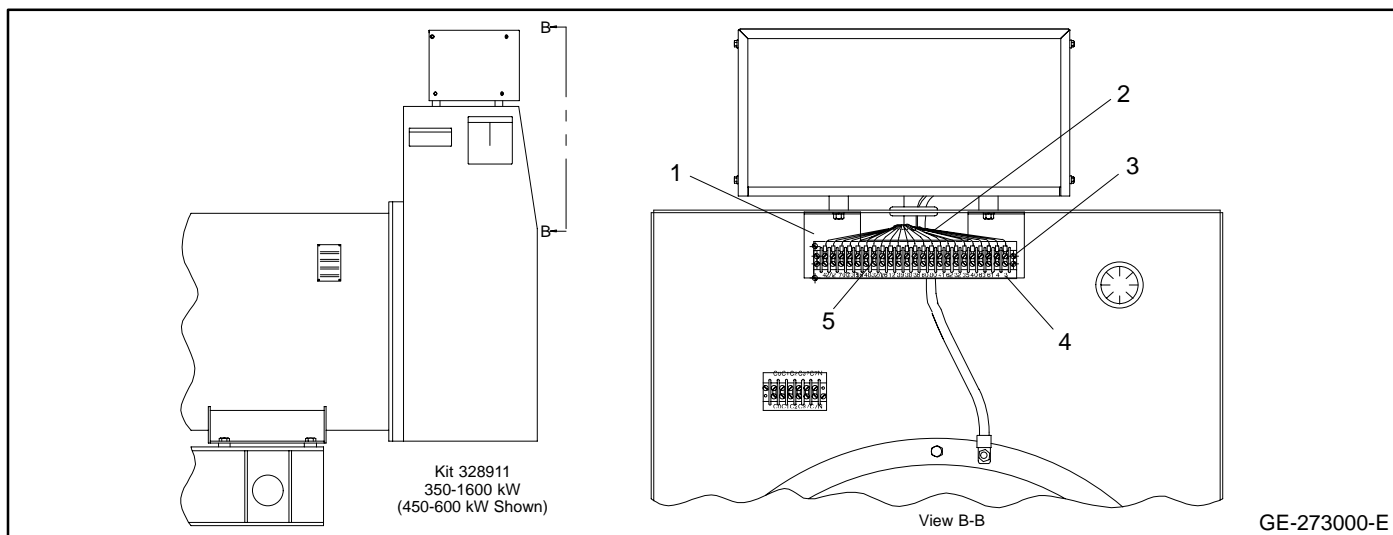
Use separate conduit for all wiring between controller connection kit and dry contact kit(s).



1. Terminal strip
2. Screws, washers and nuts

3. Wiring harness
4. Terminal strip marker

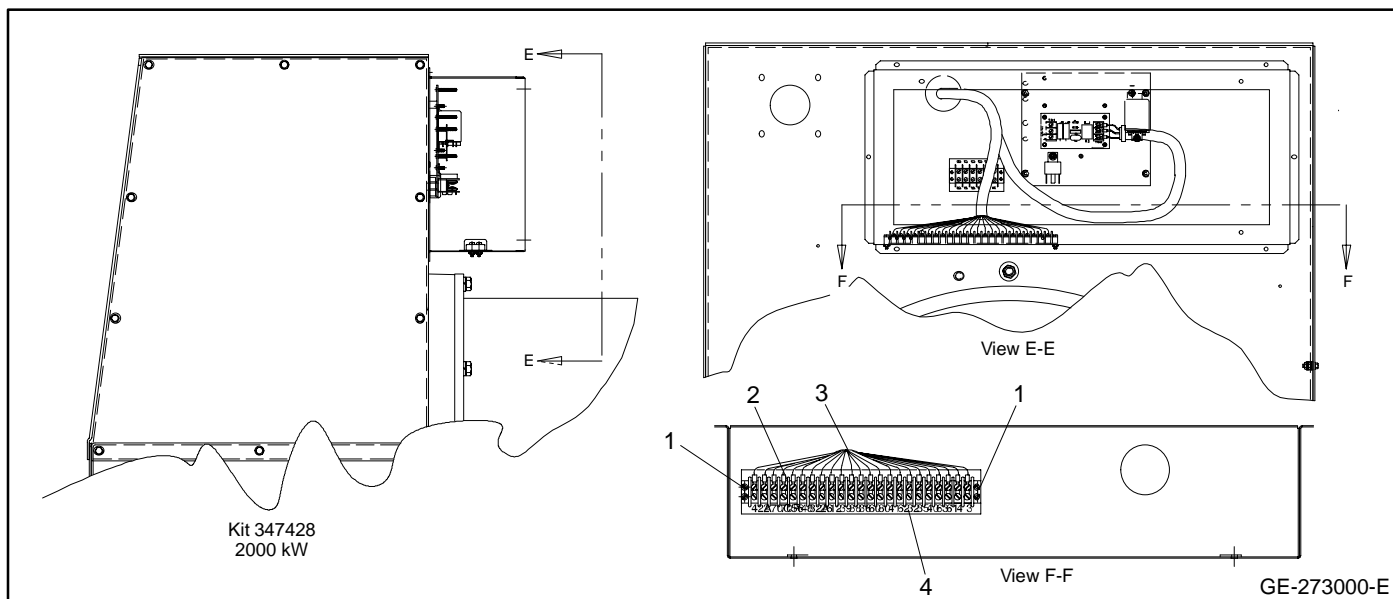
Figure 2. 20-300 kW Controller Connection Kit Installation



1. Terminal block bracket
2. Wiring harness
3. Screws, washers and nuts

4. Terminal strip marker
5. Terminal strip

Figure 3. 350-1600 kW Controller Connection Kit Installation



1. Screws, washers and nuts
2. Terminal strip

3. Wiring harness
4. Terminal strip marker

Figure 4. 2000 kW Controller Connection Kit Installation

Controller Connection Kits

Parts List				
Kits: PA-328911, PA-328911-SD, PA-347428, PA-347428-SD			Unique Parts	
Qty.	Description	Common Parts	PA-328911 PA-328911-SD	PA-347428 PA-347428-SD
4	Washer, plain	X-25-48		
4	Screw, r.h.m. 8-32 x 3/4	X-51-11		
4	Nut, whiz 8-32	X-6210-4		
1	Strip, terminal	328913		
1	Strip, marker	328914		
1	Harness, wiring	328915		
1	Bracket, terminal block		347292	

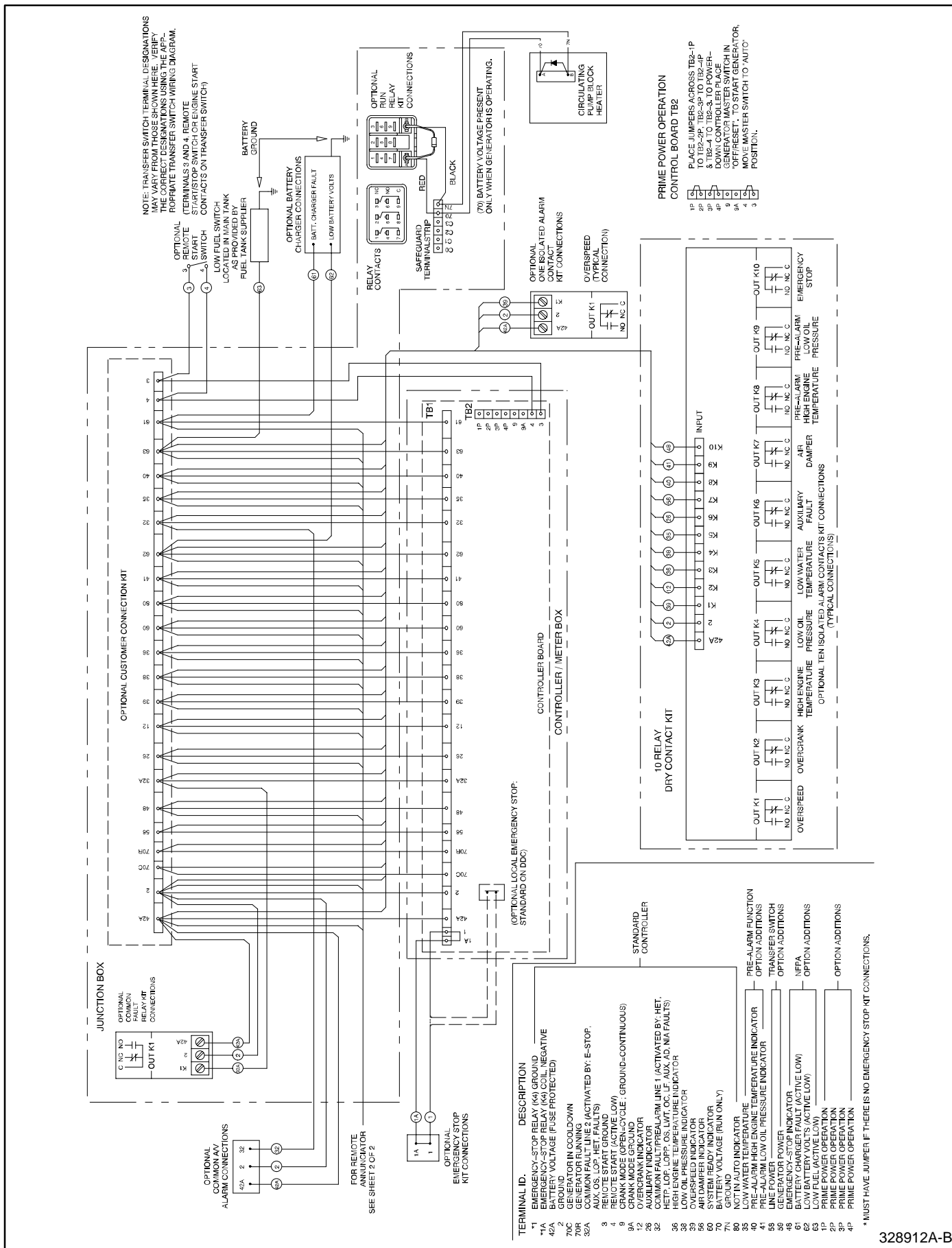


Figure 5. Controller Circuit Board A-336415 Accessory Wiring Diagram

328912A-B



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