# INSTALLATION INSTRUCTIONS

Original Issue Date: **7/15**
Model: **14/20RESA(L), 20RESB**
Market: **Residential/Commercial**
Subject: **Terminal Block Kits GM98597-KP, GM98598-KP, and GM98599-KP**

## Introduction

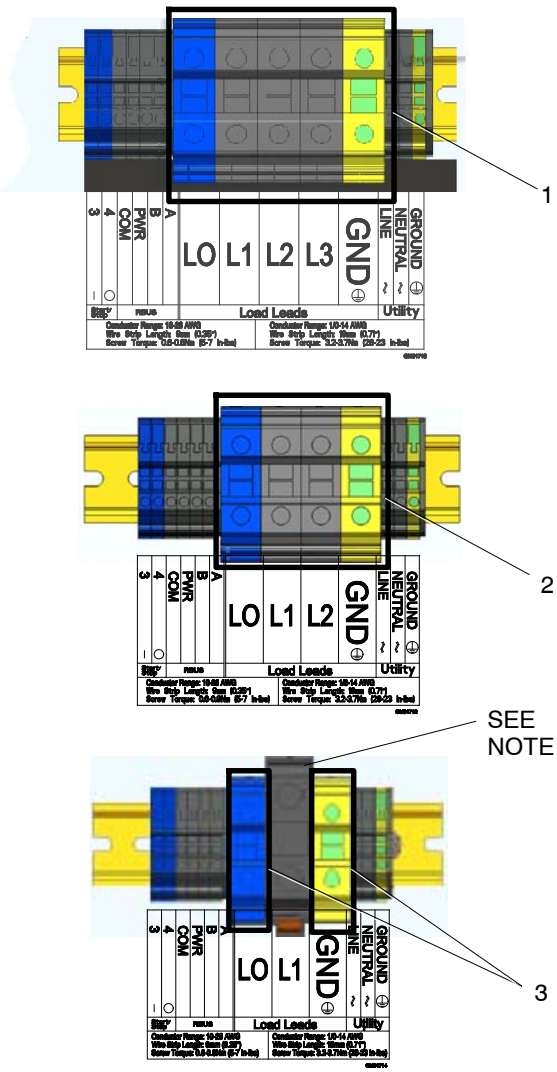
Use the terminal block kits to replace the customer-connection terminal blocks for ground (GND), neutral (L0), and load if necessary.

See Figure 1 for the installed kit illustration.

Kits for single and three-phase models have different numbers of terminal blocks as shown in Figure 1 and Figure 2.

**Note:** The L1 terminal block on single-phase, 1-pole circuit breaker models is a different part and is not included in the kit. See Figure 1.

Read the entire installation procedure and compare the kit parts with the parts list at the end of this publication before beginning installation. Perform the steps in the order shown.




1. Terminal blocks, 3-phase kit GM98598-KP
2. Terminal blocks, single-phase 2-pole kit GM98599-KP
3. Terminal blocks, single-phase 1-pole kit GM98597-KP

**Note:** L1 terminal block is NOT replaced on single-phase, 1-pole units.

**Figure 1** Terminal Block Replacement Kits

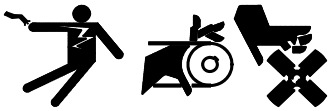
| Kit Number | Application | Terminal Blocks |
|---|---|---|
| GM98597-KP | Single-phase, 1-pole circuit breaker models | L0, GND |
| GM98599-KP | Single-phase, 2-pole circuit breaker models | L0, L1, L2, GND |
| GM98598-KP | Three-phase models | L0, L1, L2, L3, GND |

**Figure 2** Kit Descriptions

## Safety Precautions

Observe the following safety precautions while performing this procedure.

**⚠ WARNING**



**Accidental starting.**
**Can cause severe injury or death.**

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

**Disabling the generator set. Accidental starting can cause severe injury or death.** Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

**⚠ DANGER**

**Hazardous voltage.**
**Will cause severe injury or death.**

This equipment must be installed and serviced by qualified electrical personnel.

**Connecting the battery and the battery charger. Hazardous voltage can cause severe injury or death.** Reconnect the battery correctly, positive to positive and negative to negative, to avoid electrical shock and damage to the battery charger and battery(ies). Have a qualified electrician install the battery(ies).

**Testing live electrical circuits. Hazardous voltage or current can cause severe injury or death.** Have trained and qualified personnel take diagnostic measurements of live circuits. Use adequately rated test equipment with electrically insulated probes and follow the instructions of the test equipment manufacturer when performing voltage tests. Observe the following precautions when performing voltage tests: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Do not touch the enclosure or components inside the enclosure. (4) Be prepared for the system to operate automatically.
*(600 volts and under)*

## Procedure

**Remove the generator set from service.**

1. Press the generator set off/reset button to shut down the generator set.
2. Disconnect AC power to the generator set by opening the upstream circuit breaker. (AC power is connected to the generator set for battery charging and AC-powered accessories.)
3. Remove the battery cables, negative (-) lead first. (Reconnect the negative (-) lead last when reconnecting the battery.)

**Replace the affected terminal blocks.**

4. Gain access to the customer connection terminal block. See Figure 4 or Figure 5 for the terminal block location. Remove panels and cover plates as needed for access to the terminal blocks.
5. See Figure 1 and Figure 2 to identify the affected terminal blocks installed on the DIN rail. Make note of the configuration of the affected terminal blocks for replacement in later steps. Replace only the GND, L0, and load terminal blocks marked in Figure 1.

   **Note:** On single-phase, 1-pole circuit breaker models, replace only the GND and L0 terminal blocks. L1 uses a different part and is not replaced with this kit.

6. Label and disconnect the leads from the affected terminal blocks. Each terminal block has two connections, one from the generator and one from the conduit leading to the ATS. See Figure 3. Note the connection of the bonding jumper from L0 to GND, if used.

   **Note:** It is critically important to return the leads to the same locations once the terminal blocks have been replaced.

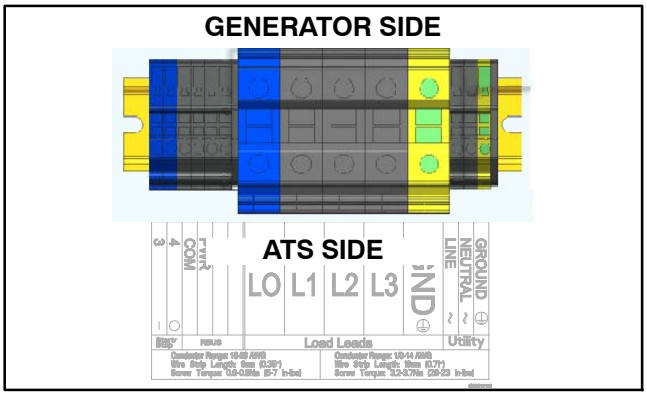
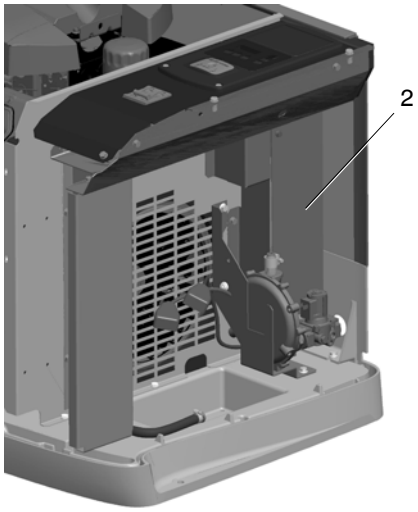



**Figure 3** Generator and ATS Connections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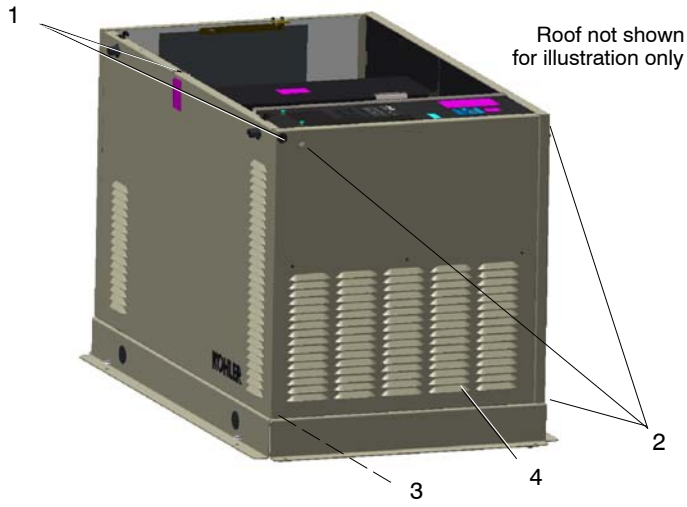
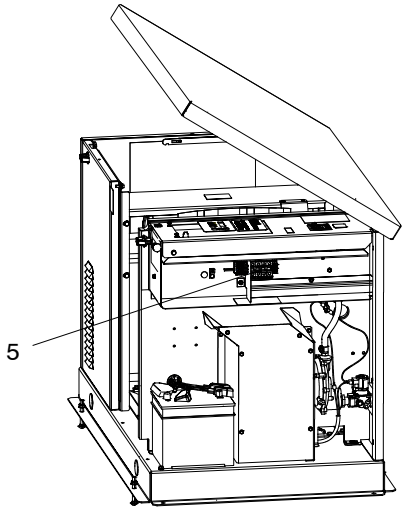
1. Remove 2 screws and remove louvered panel.
2. Remove cover plate for access to field-connection terminal block.

**Figure 4** Terminal Block Location, 14/20RESA(L)




1. Remove two screws and lift the door off.
2. Remove 3 screws, outside
3. Remove one screw, inside
4. Remove air intake panel
5. Terminal block location

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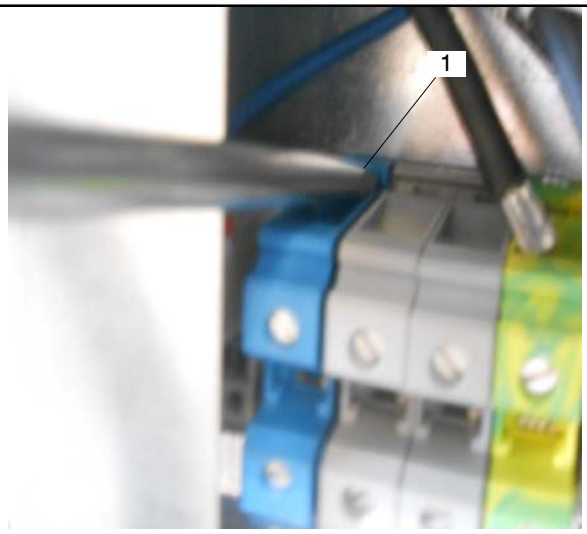
**Figure 5** Terminal Block Location, 20RESB

7. Remove the affected terminal blocks from the DIN rail and retain for return to Kohler Co.

   a. To remove the terminal block from the DIN rail, insert a large flat-blade screwdriver into the slot on the bottom of the terminal block. See Figure 6.

   b. Lightly push down on the screwdriver to release the block and allow removal.




1. Screwdriver

**Figure 6** Removing the Terminal Blocks

8. Carefully install the replacement terminal blocks onto the DIN rail in the same configuration as noted in step 5.

   **Note:** Color coding is very important! Verify that the colors of the terminal blocks are in the correct positions. See Figure 7 for the colors and the decal on the generator for the positions of the load and GND terminals.

   a. Insert the bottom of the terminal block onto the DIN rail.

   b. Rock the terminal block back onto the rail. You should hear a click or a snap when the block is secured to the rail. See Figure 8.

| Part Number | Color | Label |
|---|---|---|
| GM69860 | Blue | L0 |
| GM69859 | Grey * | L1, L2, L3 * |
| GB31613529803 | Green/yellow | GND |

* Grey L1 terminal block is not replaced on single-phase, 1-pole units.

**Figure 7** Terminal Block Colors and Labels


**Figure 8** Installing the New Terminal Block

9. Mark the new GND terminal block with a permanent black marker to show that the work is complete. See Figure 9.

10. Reconnect the leads in the same locations as noted and labeled in step 6. If the bonding jumper was connected between L0 and GND, be sure to reconnect the jumper. Check the labels on the leads to verify that they are connected to the corresponding terminal blocks. Verify that the leads on the generator side of the terminal block match the leads on the ATS side.

    **Note:** It is critically important to connect the leads to the correct locations on the new terminal blocks.

11. Reinstall all cover plates that were removed during the procedure.


1. Mark the new GND terminal block with a permanent black marker to show that the work is complete.

**Figure 9** Mark the New GND Terminal Block

**Return the generator set to service and test the connections.**

**⚠ DANGER**

**Hazardous voltage.**
**Will cause severe injury or death.**

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**Connecting the battery and the battery charger. Hazardous voltage can cause severe injury or death.** Reconnect the battery correctly, positive to positive and negative to negative, to avoid electrical shock and damage to the battery charger and battery(ies). Have a qualified electrician install the battery(ies).

**Testing live electrical circuits. Hazardous voltage or current can cause severe injury or death.** Have trained and qualified personnel take diagnostic measurements of live circuits. Use adequately rated test equipment with electrically insulated probes and follow the instructions of the test equipment manufacturer when performing voltage tests. Observe the following precautions when performing voltage tests: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Do not touch the enclosure or components inside the enclosure. (4) Be prepared for the system to operate automatically.
*(600 volts and under)*

12. Reconnect the generator set engine starting battery, negative (–) lead last.

13. Reconnect AC power to the generator set by closing the upstream circuit breaker. (AC power is connected to the generator set for battery charging and AC-powered accessories.)

14. Reset the time, date, and exerciser settings on the RDC2 controller.

15. Verify that the utility power is available and the ATS is in the Normal position.

16. Press RUN to start the generator set.

17. At the transfer switch, use a digital multimeter to measure the AC voltage.

    a. Measure line-to-line voltage on the emergency (generator) side. For single-phase 1-pole models, there is no line-to-line measurement. For single-phase, 2-pole models, measure L1-L2. For three-phase models, measure L1-L2, L2-L3, and L1-L3. Verify that the voltages are correct.

    b. Measure line-to-neutral voltage on the emergency (generator) side. For single-phase 1-pole models, measure L0-L1. For single-phase, 2-pole models, measure L0–L1 and L0–L2. For three-phase models, measure L0–L1, L0-L2,and L0–L3. Verify that the voltages are correct.

    c. For three-phase models, verify that the phase rotation is correct to prevent faults or short circuits and to prevent phase sensitive devices from malfunctioning or operating in reverse.

18. Press OFF to shut down the generator.

19. Reinstall enclosure panels in reverse order of removal.

20. Press AUTO if an automatic transfer switch or remote start/stop switch is used.

21. Lower and secure the roof.

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# Parts Lists

### Terminal Block Kit, Single-Phase, 1-Pole Circuit Breaker Models

| Kit: GM98597-KP | | |
|---|---|---|
| **Qty.** | **Description** | **Part Number** |
| 1 | Terminal Block, Green and Yellow | GB31613529803 |
| 1 | Terminal Block, Blue | GM69860 |

### Terminal Block Kit, Single-Phase, 2-Pole Circuit Breaker Models

| Kit: GM98599-KP | | |
|---|---|---|
| **Qty.** | **Description** | **Part Number** |
| 1 | Terminal Block, Green and Yellow | GB31613529803 |
| 2 | Terminal Block, Grey | GM69859 |
| 1 | Terminal Block, Blue | GM69860 |

### Terminal Block Kit, Three-Phase Models

| Kit: GM98598-KP | | |
|---|---|---|
| **Qty.** | **Description** | **Part Number** |
| 1 | Terminal Block, Green and Yellow | GB31613529803 |
| 3 | Terminal Block, Grey | GM69859 |
| 1 | Terminal Block, Blue | GM69860 |

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