TITLE: SE-134, SE-134C, AND SE-135 GROUND-FAULT GROUND-CHECK MONITOR TESTS

1. GROUND-CHECK TRIP TESTS

1.1 Latching Ground-Check Trip Test

- Connect the monitor, current sensor and termination device as shown in Figure 1. Connect terminals 14 and 15 for latching operation. With supply voltage applied, the POWER, SENSOR, and VALID LED's will be on.
- Open the ground-check loop by removing either the GC or G connection between the monitor and the termination assembly. Pressing the faceplate GC TEST button will also perform an open-ground check test. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-check indication contacts (terminals 26-27 and 26-28) will change state. The VALID LED will be off, and both the GROUND CHECK TRIP and the OPEN LED's will be on.
- Reconnect the ground-check loop. The VALID and TRIP LED's will be on and the OPEN LED will be flashing. The TRIP contacts (terminals 22-23 and 24-25) will remain latched and ground-check indication contacts (terminals 26-27 and 26-28) will change state.
- Reset the monitor.
- Short the ground-check loop by connecting G to GC with another wire. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-check indication contacts (terminals 26-27 and 26-28) will change state. The VALID LED will be off, and both the GROUND CHECK TRIP and the SHORT LED's will be on.
- Remove the short from the ground-check loop. The VALID and TRIP LED's will be on and the SHORT LED will be flashing. The TRIP contacts (terminals 22-23 and 24-25) will remain latched and ground-check indication contacts (terminals 26-27 and 26-28) will change state.
- Reset the monitor.

1.2 Non-Latching Ground-Check Trip Test

- Connect the monitor, current sensor and termination device as shown in Figure 1. With supply voltage applied, the POWER, SENSOR, and VALID LED's will be on.

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- Open the ground-check loop by removing either the GC or G connection between the monitor and the termination assembly. Pressing the faceplate GC Test button will also perform an open circuit test. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-check indication contacts (terminals 26-27 and 26-28) will change state. The VALID LED will be off, and both the GROUND CHECK TRIP and the OPEN LED's will be on.
- Reconnect the ground-check loop. The monitor will reset.
- Short the ground-check loop by connecting G to GC with another wire. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-check indication contacts (terminals 26-27 and 26-28) will change state. The VALID LED will be off, and both the GROUND CHECK TRIP and the SHORT LED's will be on.
- Remove the short from the ground-check loop. The monitor will reset.

2. GROUND-FAULT TRIP TEST

- Connect the monitor, termination device, current sensor, and ground-fault-relay tester as shown in Figure 1. With supply voltage applied, the POWER, SENSOR, and VALID LED's will be on.
- The GF TRIP LEVEL (A) refers to primary current. Inject current through the current-sensor window. Do not inject current directly into the monitor. The monitor will trip when a current exceeding the GF TRIP LEVEL (A) is injected through the current-sensor window for a time exceeding the GF TRIP TIME (s) setting. The trip contacts (terminals 22-23 and 24-25) and the ground-fault indication contacts (terminals 19-20 and 19-21) will change state. The GROUND FAULT TRIP LED will be on. Ground-fault trips are latched.
- Reset the monitor.

3. CURRENT SENSOR VERIFICATION TEST

- Connect the monitor, current sensor and termination device as shown in Figure 1. With supply voltage applied, the POWER, SENSOR, and VALID LED's will be on.

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- Open the current-sensor circuit by disconnecting one of the sensor leads. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-fault indication contacts (terminals 19-20 and 19-21) will change state. The GROUND FAULT TRIP LED will be on and the SENSOR LED will be off.
- Reconnect the current sensor. The GROUND FAULT TRIP LED will stay on and the SENSOR LED will flash. The output contacts will remain latched.
- Reset the monitor.
- Short the current sensor by connecting terminals 16 and 17 with another wire. The monitor will trip. The trip contacts (terminals 22-23 and 24-25) and the ground-fault indication contacts (terminals 19-20 and 19-21) will change state. The GROUND FAULT TRIP LED will be on and the SENSOR LED will be off.
- Remove the short from the current sensor connection. The GROUND FAULT TRIP LED will stay on and the SENSOR LED will flash. The output contacts will remain latched.
- Reset the monitor.

4. TRIP RELAY FAIL-SAFE MODE TEST

- Connect the monitor, current sensor and termination device as shown in Figure 1. With supply voltage applied, the POWER, SENSOR, and VALID LED's will be on.
- Remove the supply voltage. The output contacts between terminals 22 and 23 will close and the output contacts between terminals 24 and 25 will open.

5. SE-TA6A AND SE-TA12A TERMINATION ASSEMBLY TESTS

Apply 15 Vdc across the series combination of the current-limiting resistor and the termination assembly, as shown in Fig. 2.

In the reverse biased test, there will be 5.6 volts across the SE-TA6A terminals and there will be 12 volts across the SE-TA12A terminals.

In the forward biased test, there will be approximately 0.3 to 0.9 volts across the terminals of the SE-TA6A or SE-TA12A.

TECHNICAL INFORMATION

TITLE: **SE-134, SE-134C, AND SE-135 GROUND-FAULT GROUND-CHECK MONITOR TESTS**

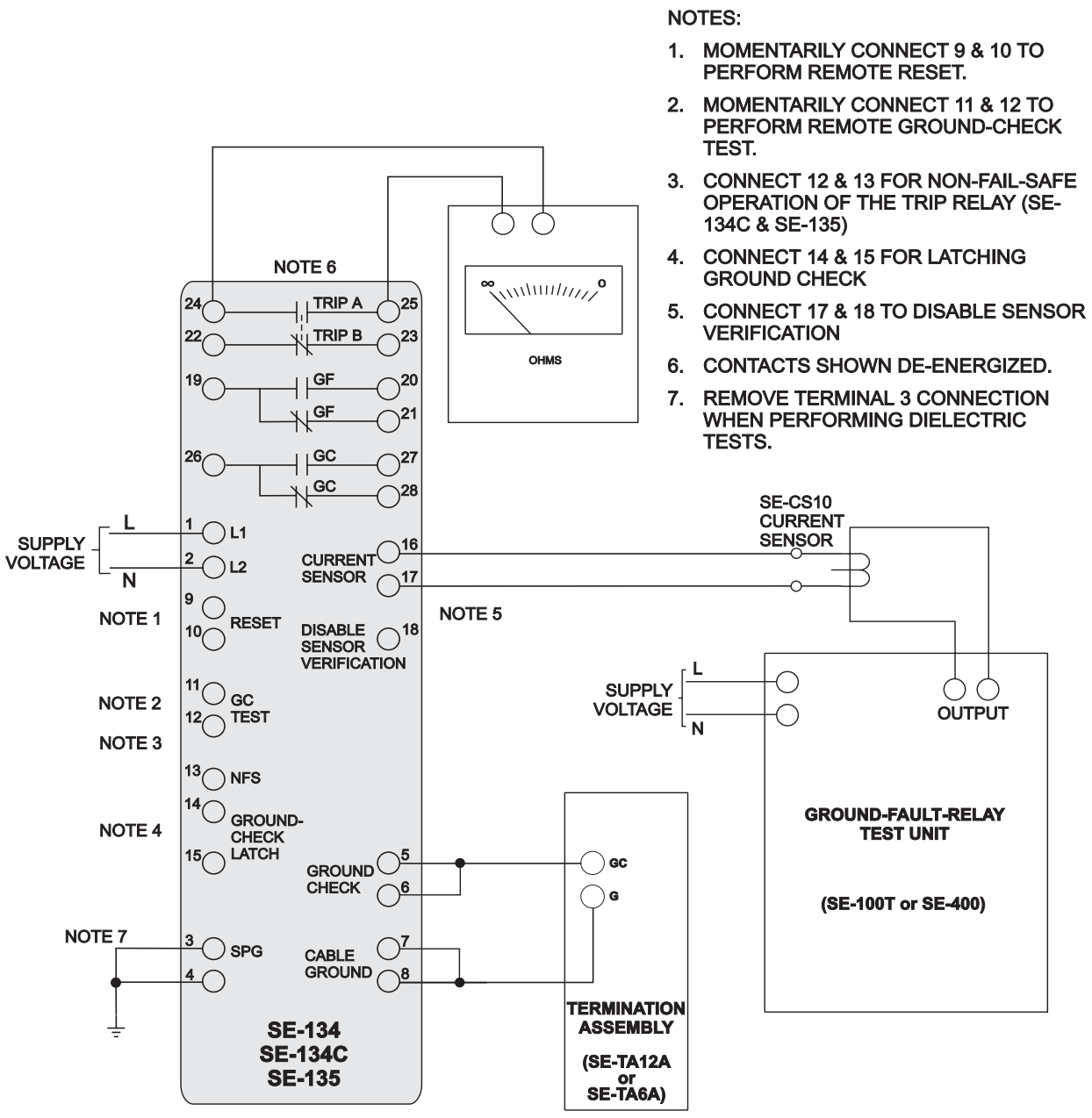

FIGURE 1. GROUND-FAULT GROUND-CHECK MONITOR TEST CIRCUIT

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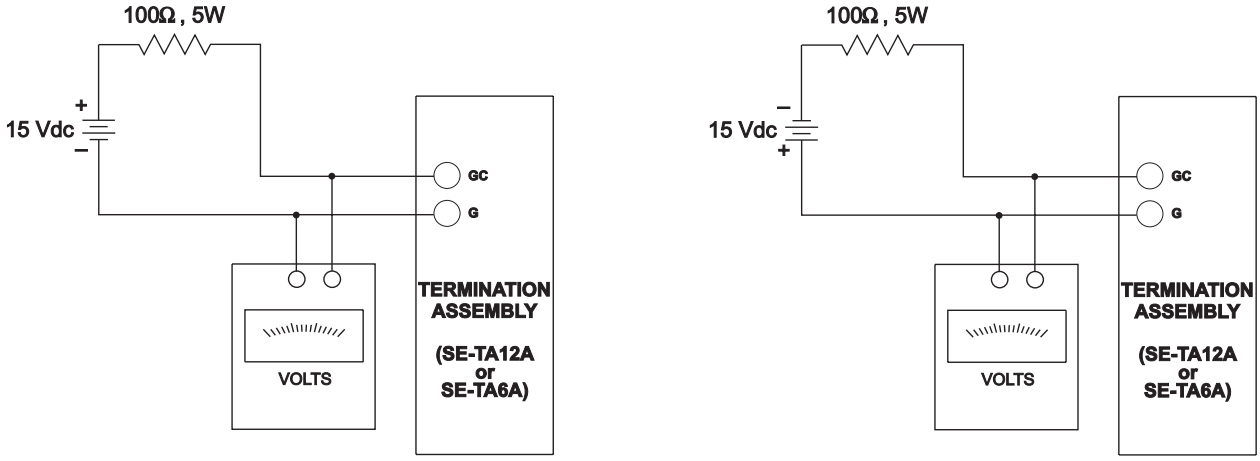

REVERSE-BIASED TEST FORWARD-BIASED TEST

FIGURE 2. TERMINATION ASSEMBLY TEST CIRCUITS