

Safety Message to Installers and Service Personnel of Warning Light Equipment

⚠ WARNING

People's lives depend on your proper installation and servicing of Federal Signal products. It is important to read and follow all instructions shipped with this product and the original product. Listed below are some other important safety instructions and precautions you should follow.

- To properly install this equipment, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.
- Do not install equipment or route wiring in the deployment path of an airbag. Failure to observe this warning will reduce the effectiveness of the airbag or potentially dislodge the equipment, causing serious injury to you or others.
- To be an effective warning device, an emergency warning system produces bright light that can be hazardous to your eyesight when viewed at a close range. Do not stare directly into the lights at a close range, or permanent damage to your eyesight may occur.
- If a vehicle seat is removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- When drilling into a vehicle structure, ensure that both sides of the surface are clear of anything that could be damaged. Remove all burrs from drilled holes. To prevent electrical shorts, grommet all drilled holes through which wiring is run.
- Never attempt to install aftermarket equipment that connects to the vehicle wiring without reviewing a vehicle wiring diagram available from the vehicle manufacturer. Ensure that your installation will not affect vehicle operation or mandated safety functions or circuits. Always check the vehicle for proper operation after installation.
- Locate the controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.
- Frequently inspect the flasher to ensure that it is operating properly and that it is securely attached to the vehicle.
- File these instructions in a safe place and refer to them when installing and/or reinstalling the product.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

Overview

The Federal Signal Relay Model 660100SB Module/Two-Channel Flasher operates on the Federal Signal RS485 network. It controls up to four different devices, of which two can be activated as a two-channel flasher. The Model 660100SB uses less than 15 mA of power when connected to the vehicle battery with the network disabled. When part of the network is enabled, an additional 25 mA is consumed from the network power lines during standby. To draw no current, power the Model 660100SB with an in-line switch capable of handling the total switch current of the active device.

Unpacking the Product

Table 1 lists the parts included with the product. After unpacking the kit, examine it for damage that may have occurred in transit. If the product has been damaged, file a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them. Ensure all parts in the packing list are included in the shipment. If any parts are missing, call Federal Signal Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday, Central Time.

Table 1 Kit contents

Qty.	Description	Part Number
1	RS485 Relay Module	660100SB
1	Fuse, 40 A	124147
4	Screw, Phil., Thread Forming, Pan Head, #8-18	7011A069-08

Mounting the Relay Module

NOTE: Mount the relay inside the vehicle where moisture cannot get in it.

To mount the relay module:

1. Select a mounting location for the relay module. Use the relay module as a template and scribe four drill-position marks.

NOTICE

DRILLING PRECAUTIONS: *When drilling holes, check the area you are drilling into to ensure that you do not damage vehicle components while drilling. All drilled holes should be de-burred, and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet or convolute/split loom tubing.*

2. Drill mounting holes at the four scribed marks to accommodate the #8 mounting hardware.
3. Secure the relay module to the mounting location with the four #8-18 thread-forming screws.

Wiring the Relay Module

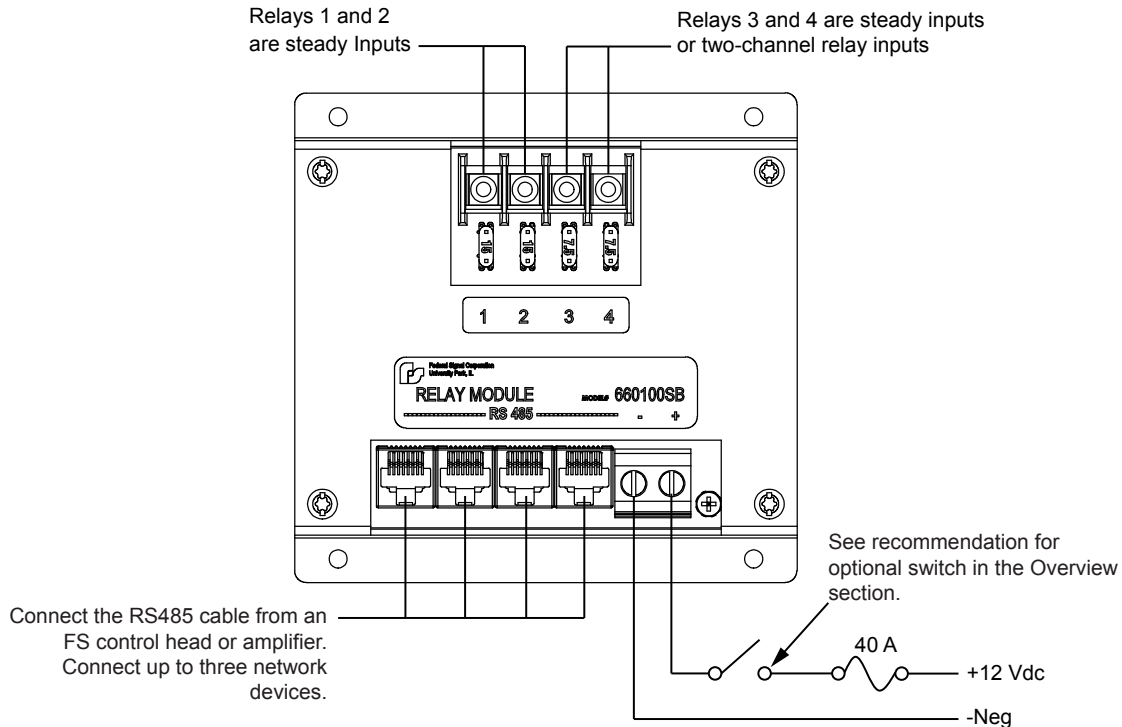
To wire the relay module:

⚠ WARNING

EXPLOSION HAZARD: *To avoid a battery explosion, always disconnect the negative battery cable first and reconnect it last. Avoid causing a spark when connecting near or to the battery. The gases produced by a battery can cause a battery explosion that could result in vehicle damage and serious injury.*

1. Disconnect the negative cable from the vehicle battery, then disconnect the positive cable.
2. Attach a black wire of a gauge heavy enough to handle the load current to the relay terminal GND. See Figure 1.

Figure 1 Connections



WARNING

EXPLOSION HAZARD: Failure to protect the Model 660100SB with the recommended 40 A fuse could result in the destruction of the product, a direct short on the vehicle battery, an explosion, or personal injury or death.

3. Connect the RS485 cable from any Federal Signal controller programmed or amplifier to any of the four network terminals on the relay module. Use the remaining terminals to connect other network devices.

NOTICE

DO NOT OVERDRAW CURRENT: Do not draw more than the maximum current from the terminals OUT1 through OUT4 as marked on the fuses. If your system needs more current draw than is available from the relay module, use a mechanical relay. The Model 660100SB can activate and deactivate the mechanical relay using the network controller.

4. Connect the 12 Vdc battery power outputs (OUT1 through OUT4) of the relay module to the Federal Signal devices to be controlled. OUT3 and OUT4 can function as either steady outputs or two-channel relay outputs.
5. The output terminals are fused with a maximum current draw of 15 A each at OUT1 and OUT 2, and 7.5 A each at OUT 3 and OUT4. The recommended total of the continuous operating amperage is 35 A or less.
6. Connect the red wire from the POWER terminal on the relay module through a 40 A in-line fuse to the positive (+12 Vdc) terminal of the vehicle battery.
7. Connect the black wire from the GND terminal on the relay module to the negative (-NEG) terminal of the vehicle battery.

8. Reconnect the positive battery cable, then the negative cable.
9. Test the entire light system to verify that it functions properly. Ensure that the installation has not affected the vehicle operation or changed any vehicle safety functions or circuits.

Getting Technical Support and Service

For technical support and service, please contact:

Service Department
Federal Signal Corporation
Phone: 1-800-433-9132
Email: empserviceinfo@fedsig.com

Getting Repair Service

The Federal Signal factory provides technical assistance with any problems that cannot be handled locally.

Any units returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization (RMA). Obtain an RMA from a local Distributor or Manufacturer's Representative.

Provide a brief explanation of the service requested, or the nature of the malfunction.

Address all communications and shipments to the following:

Federal Signal Corporation
Service Department
2645 Federal Signal Drive
University Park, IL 60484-3167



FEDERAL SIGNAL Safety and Security Systems

2645 Federal Signal Drive
University Park, Illinois 60484

www.fedsig.com

Customer Support

Police/Fire-EMS: 800-264-3578 • +1 708 534-3400

Work Truck: 800-824-0254 • +1 708 534-3400

Technical Support 800-433-9132 • +1 708 534-3400

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