Safety Message to Installers of Sound and Light Systems

⚠ 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:

Before Installation

Qualifications

- To properly install an electronic siren, you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when installing equipment on a vehicle.

Sound Hazards

- Your hearing and the hearing of others, in or near your emergency vehicle, could be damaged by loud sounds. This can occur from short exposures to very loud sounds, or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to federal, state, or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."

- All effective sirens and horns produce loud sounds (120 dB) that may cause permanent hearing loss. Always minimize your exposure to siren sounds and wear hearing protection. Do not sound the siren indoors or in enclosed areas where you and others will be exposed to the sound.

- Federal Signal siren amplifiers and speakers are designed to work together as a system. Combining a siren and speaker from different manufacturers may reduce the warning effectiveness of the siren system and may damage the components. You should verify or test your combination to ensure that the system works together properly and meets federal, state and local standards or guidelines.

During Installation

- DO NOT get metal shavings inside the product. Metal shavings can cause the system to fail. If drilling must be done near the unit, place an ESD-approved cover over the unit to prevent metal shavings from entering the unit. Inspect the unit after mounting to ensure that there are no shavings present in or near the unit.

- DO NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist. If wiring is shorted to the vehicle frame, high current conductors can cause hazardous sparks, resulting in electrical fires or flying molten metal.

- Make sure the siren amplifier and speaker(s) in your installation have compatible wattage ratings.

- In order for the electronic siren to function properly, the ground connection must be made to the NEGATIVE battery terminal.

- Sound output will be severely reduced if any objects are in front of the speaker. If maximum sound output is required for your application, you should ensure that the front of the speaker is clear of any obstructions.

- Install the speaker(s) as far forward on the vehicle as possible, in a location that provides maximum signaling effectiveness while minimizing the sound reaching the vehicle's occupants. Refer to the National Institute of Justice guide 500-00 for further information.

- Mounting the speakers behind the grille will reduce the sound output and warning effectiveness of the siren system. Before mounting speakers behind the grille, make sure the vehicle operators are trained and understand that this type of installation is less effective for warning others.

- Sound propagation and warning effectiveness will be severely reduced if the speaker is not facing forward. Carefully follow the installation instructions and always install the speaker with the projector facing forward.

- DO NOT install the speaker(s) or route the speaker wires where they may interfere with the operation of airbag sensors.

- Installation of two speakers requires that you wire the speakers in phase.

- Never attempt to install aftermarket equipment, which connects to the vehicle wiring, without reviewing a vehicle wiring diagram, which is available from the vehicle manufacturer. Ensure that your installation will not affect vehicle operation and safety functions or circuits. Always check the vehicle for proper operation after installation.

- DO NOT install equipment or route wiring or cord in the deployment path of an airbag.

- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.

- Locate the control head so the vehicle, controls, and microphone can be operated safely.

- When drilling into a vehicle structure, enure that both sides of the surface are clear of anything that could be damaged. All drilled holes should be deburred and all sharp edges should be smoothed. All wires going through drilled holes should be protected by a grommet or convolute/split-loom tubing. Additionally, all exterior drilled holes must be sealed with Motorcraft seam sealer T-A-2-B or equivalent to prevent the potential exposure to carbon monoxide or other potentially harmful fumes. Failure to observe this warning could cause serious injury or death.

After Installation

- After installation, test the siren system and light system to ensure that it is operating properly.

- Test all vehicle functions, including horn operation, vehicle safety functions, and vehicle light systems, to ensure proper operation. Ensure that installation has not affected vehicle operation or changed any vehicle safety function or circuit.

- After testing is complete, provide a copy of these instructions to the instructional staff and all operating personnel.

- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

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

RETAIN AND REFER TO THESE MESSAGES

NOTE: For electrical installation instructions, refer to the Installation and Maintenance Instructions packed with the speaker.

Pathway Handheld

This publication has instructions for installing the Pathway with the handheld control head. The handheld control head has a magnetic mount. Brackets are supplied for fixed or swivel mounting.

Unpacking the Kit

After unpacking the kit, inspect it for damage that may have occurred in transit. If it has been damaged, do not attempt to install or operate it. 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 that the parts in the Kit Contents List are included in the package. If you are missing any parts, contact Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT).

Table 1 Kit Contents

Qty.	Description	Part Number - PW100H
1	100-watt Siren, AMP	862303658-100
1	Keypad Legends	8572294
1	Bracket, Bail, Plastic	862303559
1	Cable Assembly, RS485, 25 ft (7.62 m)	1751357-02
1	Wire Assembly, Relay	17501359
1	Wire Assembly, I/O	17501360
1	Cable, USB2.0, A Male to Mini-B	17501813
1	Term, #8, 6 AWG	19001363
1	Ctrl, Handheld	862302765
1	Swivel Mount Kit with Three Screws	8623129
1	Bracket, Mtg, Handheld	862302763
1	Bracket, Swivel Clamp, Handheld	862302764
1	Coil Cord, RJ45	17501849
1	Coupler, RJ45 8 x 8K, Straight, Black	13901850
1	Connector, 8P8C RJ45 T Adapter, 1F to 2	13901989
1	Cable Assembly, RD485, 8-inch	1751357-06
1	Kit, Hardware	77700765
Siren Mount Kit		
2	Term, #8, 6AWG	19001363
2	Bolt, Carriage, 1/4"-20, SS	7004A020-12
2	Nut, External KEPS®, 1/4"-20, STL	7058A005
2	Washer, Flat, 1/4-inch	7072A028
2	Screw, Pan, SEMS, M4	70000451-06
2	Lockwasher, INT TTH,1/4-inch	7075A016
1	Kit, Hardware, Handheld, Pathway	77701058
Handheld Mount Kit		
3	Screw, #10 TYP B, PAN TORX, Black	7011246-08
2	Screw-#4-40 x 1/2 inches	7000444-08
2	Nut, HEX external KEPS STL 4-40	7058A001

Installing the Brackets

⚠ WARNING

AIRBAG DEPLOYMENT: 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 or death.

NOTICE

DRILLING PRECAUTIONS: Before drilling holes, check the area into which you plan to drill to ensure that you do not damage vehicle components. All drilled holes should be deburred, and all sharp edges should be smoothed. Additionally, all exterior drilled holes must be sealed with Motorcraft seam sealer T-A-2-B or equivalent to prevent the potential exposure to carbon monoxide or other potentially harmful fumes. Failure to observe this warning could cause serious injury or death.
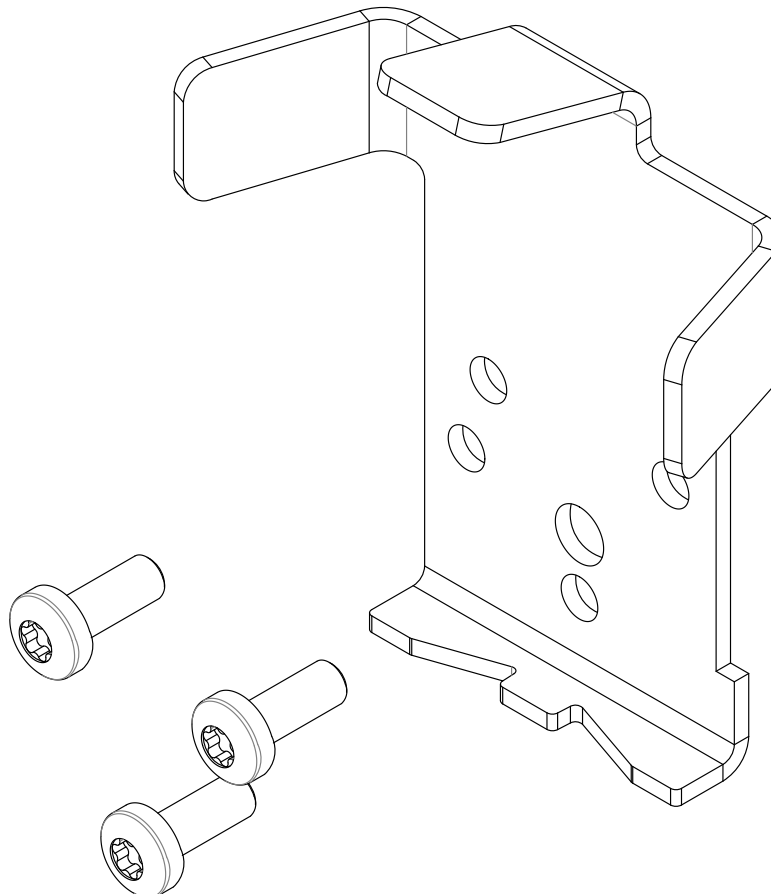
IMPORTANT: Plan all cable routing before the installation.

Installing the Fixed Mounting Bracket

To install the Fixed Mounting Bracket:

Using the bracket as a template, mark the mounting hole locations. Drill with an 11/64-inch bit. Mount the bracket with the #10 screws. Do not overtighten. See Figure 1.

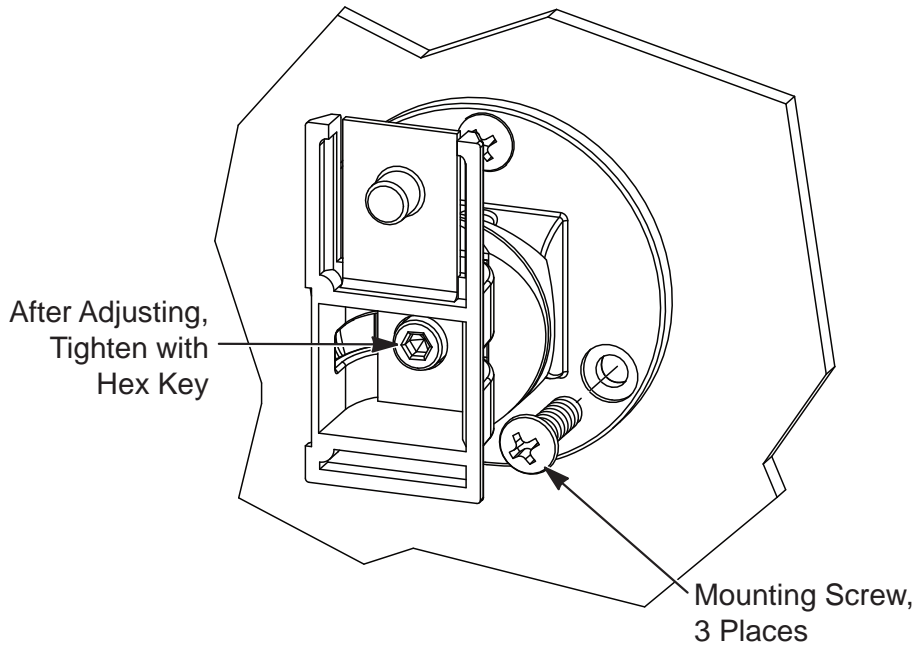**Figure 1 Installing the Fixed Mounting Bracket**

Installing the Swivel Mounting Bracket

To install the Swivel Mounting Bracket:

1. Using the swivel mount assembly as a template, mark the three drill-position marks at the selected mounting location. See Figure 2.

2. Drill three 1/8-inch mounting holes at the marked positions.
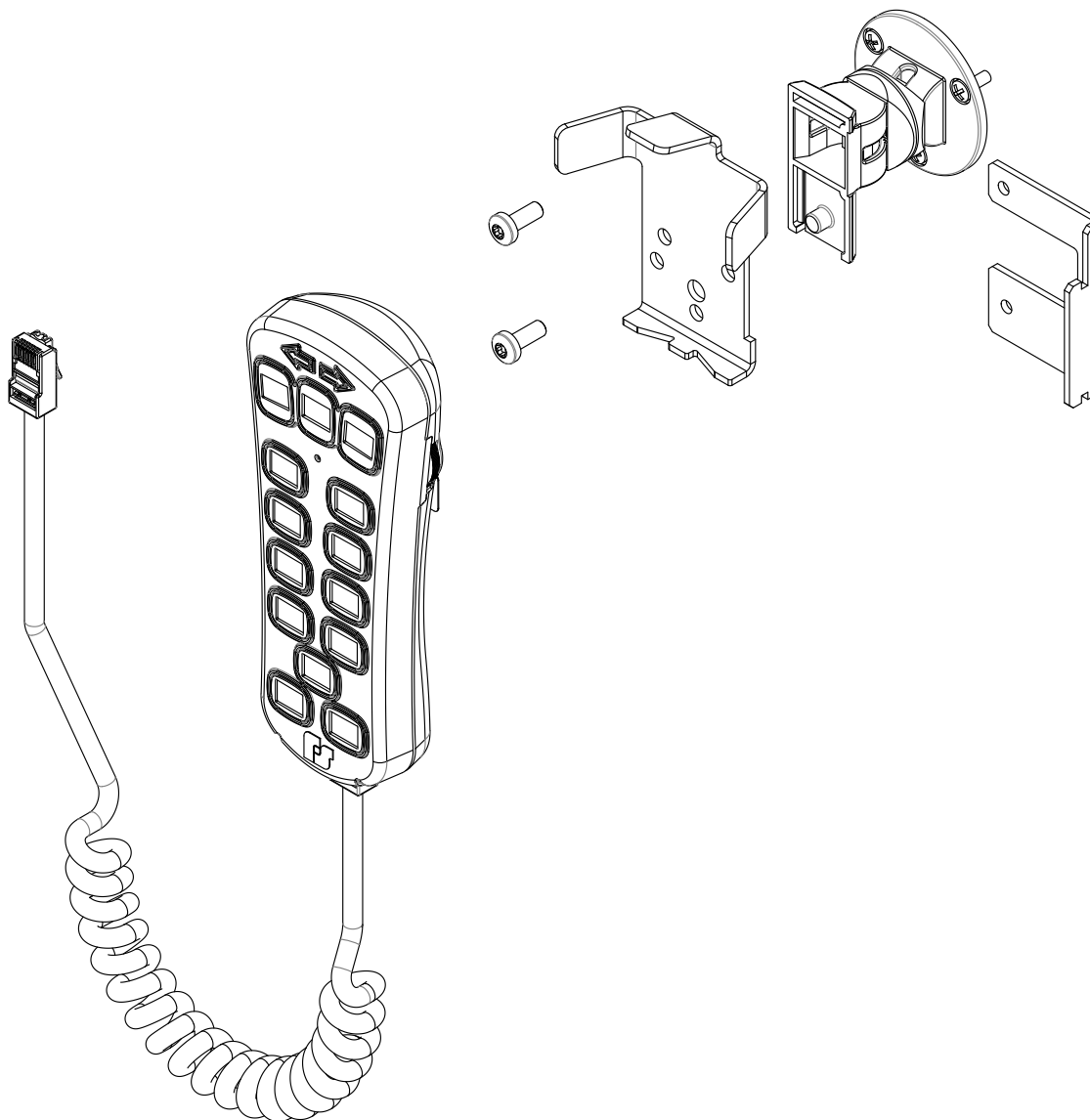
Figure 2 Installing the Swivel Mounting Bracket

After Adjusting, Tighten with Hex Key

Mounting Screw, 3 Places

290A5880

3. Secure the swivel mount assembly to the mounting surface with the provided screws as shown in Figure 2. Do not overtighten.

4. Adjust the swivel mount assembly to allow for maximum access to the control head.

5. Once in the desired location, tighten using a 3 mm hex key. A 7/64-inch hex key will also work. See Figure 2.

6. Assemble the mounting bracket and clamp to the swivel mount. Secure with the #10 screws. Do not overtighten. See Figure 3.

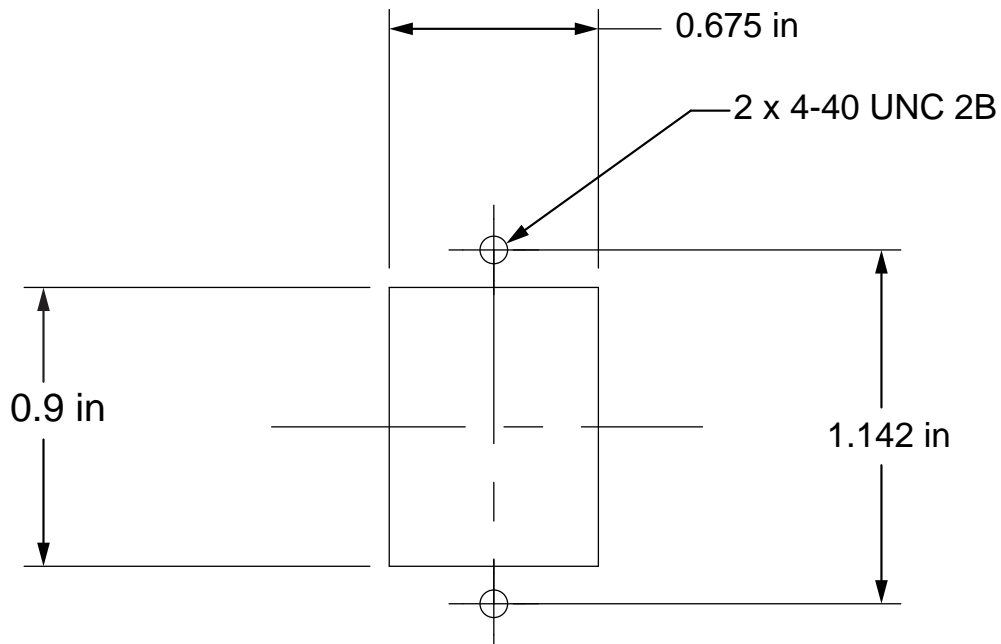**Figure 3 Assembling the mounting bracket and clamp**

Installing the RJ45 Coupler

To install the RJ45 Coupler:

1. Cut the rectangular opening. Use the coupler as a template and mark the two-hole locations. See Figure 4.

2. Drill and tap the two holes to 4-40 UNC 2B. Alternatively, clearance holes (0.125 inches) can be drilled if access allows the use of the supplied 4-40 nuts.

3. Secure the coupler with the 4-40 screws. Do not overtighten.

Figure 4 Installing the RJ45 Coupler

Keypad Default Functions

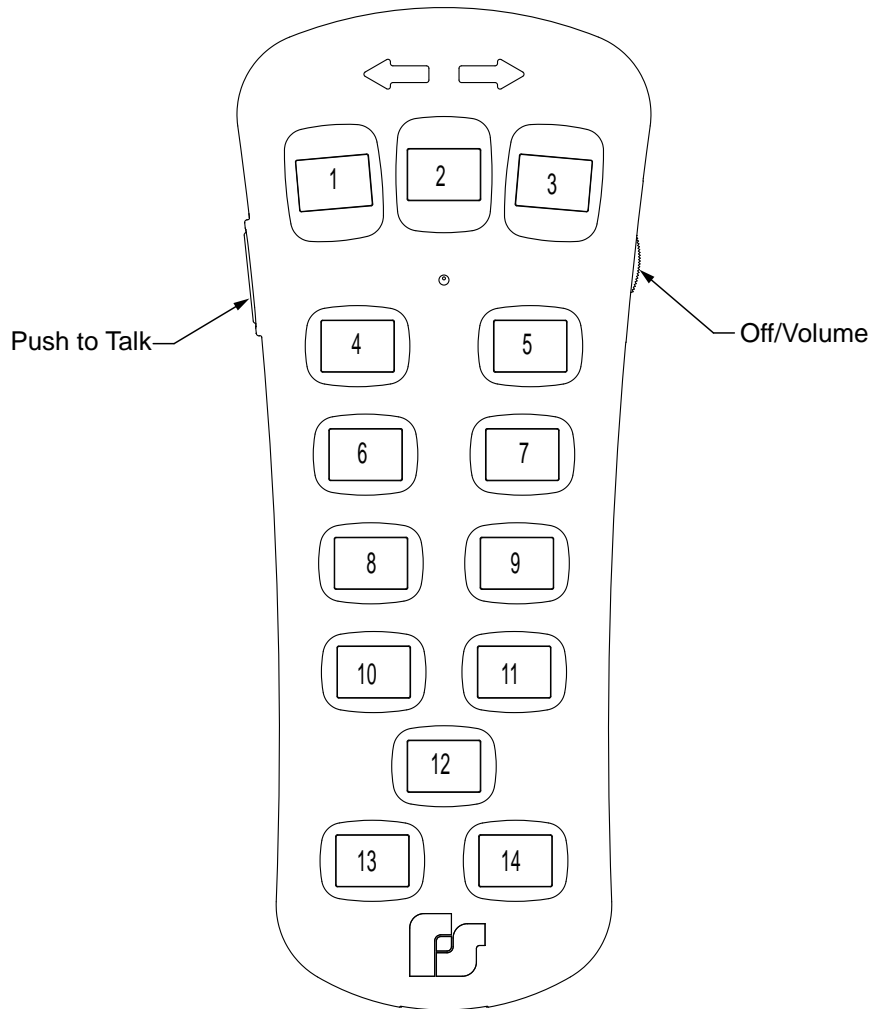See and Figure 5 and Table 2.

Figure 5 Keypad Default Functions

Table 2 Pathway Button Default Programming

Button	Default Function
BTN 1	Light Bar – Pattern 10, Front Cutoff ILS – Rear Pattern 10 CNSM – Rear Pattern 10 Relays 1 ON
BTN 2	Light Bar – Pattern 17 ILS – Front and Rear Pattern 17 CNSM – Front and Rear Pattern 17 Relay 1 and 2 ON
BTN 3	Light Bar – Pattern 27, Flashing Takedowns ILS – Front and Rear Pattern 27, Flashing Takedowns CNSM – Front and Rear Pattern 27, Flashing Takedowns Relays 1-4 ON
BTN 4	SSP Wail (Active with BTN 3)
BTN 5	SSP Yelp (Active with BTN 3)
BTN 6	SSP Priority (Active with BTN 3)
BTN 7	SSP HiLo (Active with BTN 3)
BTN 8	SSP Air Horn
BTN 9	SSP Manual Peak and Hold
BTN 10	Scene Left (LB/ILS/CNSM)
BTN 11	Scene Right (LB/ILS/CNSM)
BTN 12	Step 1 – Step 1-Takedown (LB/ILS/CNSM) Step 2 – Full Flood (LB/ILS/CNSM)
BTN 13	SignalMaster Step LRCO (LB/ILS/CNSM)
BTN 14	Relay 5 ON (8-second Timer)

Table 3 Pathway Input Default Programming

Input	Default Function	Polarity
Ignition	System Enable, Immediate system shutdown (no delay) ignition OFF	BAT
Park	Siren Mute Flashing Takedown Cutoff (LB/ILS/CNSM)	GND
Input 1	Remote BTN 1 Activation	GND
Input 2	Remote BTN 2 Activation	GND
Input 3	Remote BTN 3 Activation	GND
Input 4	Remote BTN 12 Activation, Step 2 (Full Flood)	GND
Horn Ring	When BTN 2 is Active, SSP Air Horn When BTN 3 is Active and PARK is ON, SSP Air Horn When BTN 3 and BTN 4 is Active and PARK is OFF, SSP Yelp for 8 sec. When BTN 3 and BTN 5 is Active and PARK is OFF, SSP Priority for 8 sec. When BTN 3 and BTN 6 is Active and PARK is OFF, SSP HiLo for 8 sec. When BTN 3 and BTN 7 is Active and PARK is OFF, SSP Wail for 8 sec.	GND

Table 4 Pathway Global/Misc Default Programming

Global	Default Function
Button Color	ON–Steady Red OFF–Blue Dim
Audible	All buttons
Dim level	10
Volume Switch	ON–Keypad display ON OFF–Keypad display OFF
Battery Level	No action defined

Refer to the Installation and Maintenance Instructions packed with the Pathway to complete the installation.

Getting Technical Support

For technical support, please contact:
Federal Signal Corporation
Service Department
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 Dr.
University Park, IL 60484-3167

Ordering Replacement Parts

To order replacement parts, call Customer Support at 1-800-264-3578, 7 AM to 5 PM, Monday through Friday (CT) or contact your nearest distributor.

Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fedsig.com/SSG-Warranty. A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to info@fedsig.com or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose and any warranty against failure of its essential purpose.

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Safety and Security Systems

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