

**MODEL SSTX3-MV**  
INSTALLATION AND SERVICE INSTRUCTIONS  
FOR MODEL SSTX3-MV

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FOR REFERENCE ONLY

Address all communications and shipments to:



**FEDERAL SIGNAL CORPORATION**  
Electrical Products Division  
2645 Federal Signal Drive  
University Park, IL 60466-3195

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## INSTALLATION INSTRUCTIONS FOR MODEL SSTX3-MV EXPLOSION-PROOF ELECTRONIC SIREN

### **WARNING**

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

### **SAFETY MESSAGE TO INSTALLERS**

People's lives depend on your safe installation of our products. It is important to follow all instructions shipped with the products. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electric Code and will follow the NEC guidelines as well as local codes.

The selection of the mounting location for the device, its controls and routing of the wiring is to be accomplished under the direction of the Facilities Engineer and the Safety Engineer. In addition, listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
- This unit must be installed by a qualified electrician in accordance with all National and local Electrical Codes, under the direction of the authority having jurisdiction.
- Do not connect this unit to the system when power is on.
- All effective warning speakers produce loud sounds, which may cause, in certain situations, permanent hearing loss. You should take appropriate precautions such as wearing hearing protection.
- After installation, test the sound system to ensure proper operation.
- All effective warning speakers produce loud sounds, which may cause, in certain situations, permanent hearing loss. The device should be installed far enough away from potential listeners to limit their exposure while still maintaining its effectiveness. The OSHA Code of Federal Regulations 1910.95 Noise Standard provides guidelines, which may be used regarding permissible noise exposure levels.
- Show these instructions to your Safety Engineer and then file them in a safe place and refer to them when maintaining and/or reinstalling the unit.
- Consult the Authority Having Jurisdiction in your area regarding the proper use and installation of this product.

#### I. **GENERAL.**

The Model SSTX3-MV is a solid-state signaling device designed for general purpose signaling in hazardous locations. Any one of three distinct signaling tones may be selected by remote dry contacts. This model is suitable for use in areas with high ambi-

ent noise levels and can be installed either indoors or outdoors. An adjustable mounting bracket is provided to allow positioning for desired sound coverage.

## II. SPECIFICATIONS.

Operating Voltage / Current:

Voltage	Current
120VAC, 50/60 Hz	210mA
240VAC, 50/60 Hz	120mA
24VDC	600mA

Weight (approx.): 16 lbs. (7.3 kg)

Size: 16.3" (414mm) long, 17.0" (432mm) high, 13.1" (333mm) wide

Construction: Aluminum enclosure and adjustable steel mounting bracket with a powder coat finish

Sound Output [on axis at 10 feet (3m)]:

- Wail: 108 dB(A)
- Yelp: 108 dB(A)
- Horn: 102 dB(A)

Hazardous Location Ratings

- Class I, Division 1, Groups B, C and D
- Class I, Division 2, Groups A, B, C and D
- Class II, Division 2, Groups F and G
- Class III

Approval Agency Listings:

Reference product nameplate

## III. INSTALLATION.

### A. *Unpacking.*

After unpacking the speaker, examine it carefully for possible damage that may have occurred in transit. If equipment has been damaged, immediately file a claim with the carrier stating the extent of the damage. Carefully check all shipping labels and tags for special instructions before removing or destroying them.

### B. *Mounting Arrangements.*

The speaker can be mounted on any relatively flat surface capable of supporting the speaker's weight. Conduit connections can be made to the 1/2" NPT threaded openings at bottom of the housing.

### **WARNING**

Property damage, serious injury, or death could occur if an accumulation of water, snow, dust, etc. resides in the speaker projector, severely reducing or preventing operation of this device. Mount the unit so speaker projector is pointed horizontally or slightly downward.

1. Remove the two 1/2"-13 hex head bolts, flat washers and lock washers that secure the mounting bracket to the unit. Disconnect the lanyard from the mounting bracket at the cotter ring.

2. Select mounting location.

**⚠WARNING**

Property damage, serious injury, or death could occur if any objects are in front of speaker, severely reducing optimum sound distribution. For maximum effectiveness, ensure that the front of the speaker is clear of obstructions.

3. Using the mounting bracket as a template, scribe drill position marks on the mounting surface.

**⚠CAUTION**

Before drilling holes in any surface, be sure both sides of surface are clear of anything that could be damaged.

4. Drill holes at the previously scribed drill position marks to accommodate  $\frac{1}{2}$ " diameter screws.

5. Secure bracket to mounting surface with  $\frac{1}{2}$ " diameter screws appropriate for the type of mounting surface material.

**⚠WARNING**

Property damage, serious injury, or death could occur if the machined sealing surfaces are damaged on this product. To maintain the effectiveness of the explosion-proof enclosure, be careful to avoid damaging the machined sealing surfaces of cover and housing.

6. Reattach unit to its mounting bracket with the two  $\frac{1}{2}$ "-13 hex head bolts, flat washers and lock washers previously removed. Position speaker so as to obtain desired sound coverage then tighten these bolts securely.

7. Reattach the lanyard to the cotter ring and mounting bracket. Check to verify that it is securely attached to both the cover and the mounting bracket. Loosen and remove the threaded cover by turning it counter-clockwise. Allow the cover to hang by the attached lanyard.

8. Route wires through the  $\frac{1}{2}$ " NPT threaded openings into the unit in accordance with National and Local Electrical Codes. Wire size depends upon the operating current and the distance from the power source.

9. Before reinstalling the housing cover, read paragraph C, in section III, Power Connections below and make necessary connections.

*C. Power Connections.*

**⚠DANGER**

To avoid electrical shock, do not connect wires when circuits are energized.

National Electrical Code, as well as local codes, must be followed during installation of this unit. All electrical wiring must be routed through conduit and fit-

tings approved for explosion-proof installations. Connect power to the unit through a user-supplied on-off switch.

**▲CAUTION**

Use only 12 to 18 AWG (2.5 – 1.0mm<sup>2</sup>) wire for power connection. Strip no more than 0.25 inch (6mm) of wire insulation from the ends of the power leads.

1. 120/240VAC Wiring.
  - a. Set the voltage selector switch SW1 to the desired source voltage.
  - b. Connect the AC power leads to the 120/240VAC terminals of the four-position connector plug supplied with the unit.
  - c. Insert the stripped ends of the wire into the connector as far as they can travel. If stranded wire is used, be sure that there are no loose strands outside the connector plug that could touch the adjacent lead.
  - d. Plug the connector into the receptacle provided on the printed circuit board.
  - e. Carefully reinstall housing cover and tighten it until the cover flange makes contact with the housing. Tighten the setscrew on the cover to secure the cover. Verify that the mounting bolts have been securely tightened.
2. 24VDC Wiring.
  - a. Remove the jumper wire from the connector plug.
  - b. Connect the positive source lead to the (+) terminal and the negative source lead to the (-) terminal of the four-position connector plug as shown in figure 2.
  - c. Insert the stripped ends of the wire into the connector as far as they can travel. If stranded wire is used, be sure that there are no loose strands outside the connector plug that could touch the adjacent lead.
  - d. Plug the connector into the receptacle provided on the printed circuit board.
  - e. Carefully reinstall housing cover and tighten it until the cover flange makes contact with the housing. Tighten the setscrew on the cover to secure the cover. Verify that the mounting bolts have been securely tightened.

**▲CAUTION**

Do not try to operate the unit by connecting both AC and DC power sources at the same time.

D. *Tone Activation Wiring.*

To complete the tone activation wiring, proceed as follows:

1. Remote Tone Activation Connection..

Make sure that the power source to the unit is off.

Remote tone activation can be accomplished by wiring a switch to the printed wiring board connector (J4), between the GND and desired tone (WAIL, YELP, HORN) terminal(s). (See figure 2.) The remote switch and wiring method shall comply with all National and Local Electrical Codes.

**CAUTION**

The remote switch and wiring method need to comply with all National and Local Electrical Codes.

Use an appropriately sized shielded twisted pair of wires. For proper operation of the remote activating circuit, the total loop resistance (resistance of GND wire plus resistance of tone terminal wire plus dry contact resistance) should not exceed 1000 ohms.

Strip no more than 0.25-inch (6mm) of wire insulation from the ends of the leads to connect the remotely located tone activating dry contact terminals between the GND and WAIL, YELP, or HORN terminals of the four-position connector plug supplied with the unit. Make sure the lead insulation is flush with the connector. If stranded wire is used, be sure that there are no loose strands outside the connector plug.

Plug the connector into the receptacle J4 on the printed circuit board.

The selected tone will play when the unit is powered up and remote activation contacts are closed.

By connecting a dry set of contacts to each of the three tones, any single tone can be activated by closing the appropriate contact. When contact closures are applied to all tone terminals simultaneously, the HORN tone will override the other two tones. If contact closures are applied to HORN and any other tone, HORN will override the other tone. If contact closures are applied to both the WAIL and YELP tones, the WAIL tone will override the YELP tone.

2. Wiring for Single Tone Activation at Power-Up

Make sure that the power source to the unit is off.

By connecting a permanent short wire jumper between the GND terminal and desired tone terminal, the unit can be operated by switching the operating power.

Connect a short [1-inch (25mm) long, #22 AWG (0.33mm<sup>2</sup>)] wire between GND and the desired tone terminal of the four-position connector plug. (See figure 2.)

Plug the connector into the receptacle J4 on the printed circuit board.

Switching ON the operating power will now activate the unit.

### **⚠️WARNING**

Property damage, serious injury, or death could occur if the housing is not closed properly. To reduce possibility of explosion, housing cover must be kept tight while circuits are energized.

### **⚠️ SAFETY MESSAGE TO OPERATORS**

Even if your warning system is operating properly, it may not be completely effective. People may not hear or heed your warning signal. You must recognize this fact and ensure that your warning signal achieves its intended effect through proper test/training sequences within your specific application(s).

## **IV. MAINTENANCE.**

### **⚠️ SAFETY MESSAGE TO MAINTENANCE PERSONNEL**

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

- Read and understand all instructions before performing maintenance on this unit.
- Do not perform maintenance on this unit when circuits are energized.
- Periodic checks should be made to ensure that effectiveness of this device has not been reduced because speaker has become clogged with a foreign substance or because objects have been placed in front of the speaker.
- Any maintenance to this unit MUST be performed by a trained electrician in accordance with NEC guidelines and local codes.
- Never alter this unit in any manner. Safety in hazardous locations may be jeopardized if additional openings or alterations are made to this device.
- The nameplates, which contain cautionary or other information of importance to maintenance personnel, should not be obscured if exterior of device is painted.

### **⚠️WARNING**

– Explosion Hazard –

Do not disconnect while circuit is live or unless the area is known to be free of ignitable concentrations.

Effectiveness of explosion-proof enclosure must be maintained. Use caution to avoid damaging machined surfaces.

**V. SERVICE.**

**WARNING**

**- Explosion Hazard -**

Substitution of components may impair suitability for Class I, Division 2 and Class 1 Zone 2

Unauthorized repair/servicing of the unit may result in degradation of performance and/or property damage, serious injury, or death to you or others. If a malfunctioning unit is encountered, do not attempt any field repair/retrofit of parts.

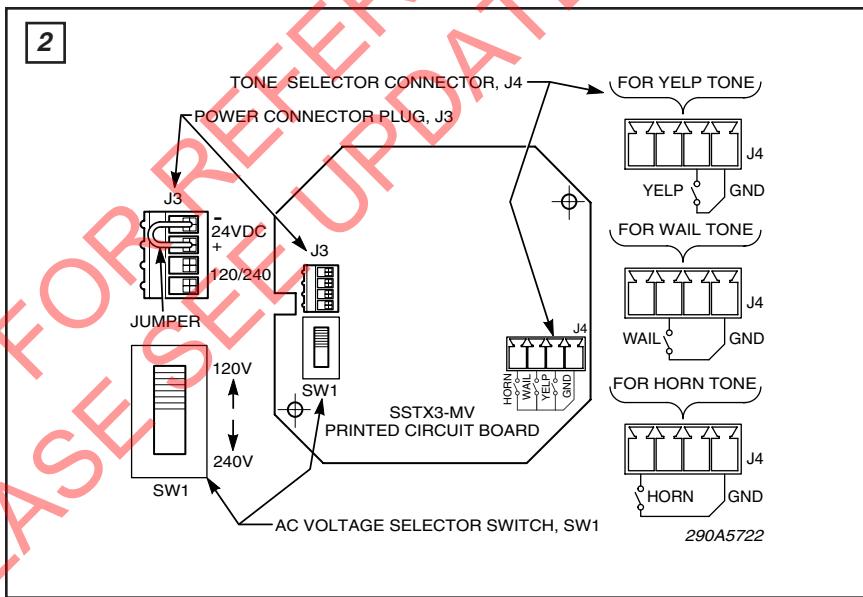
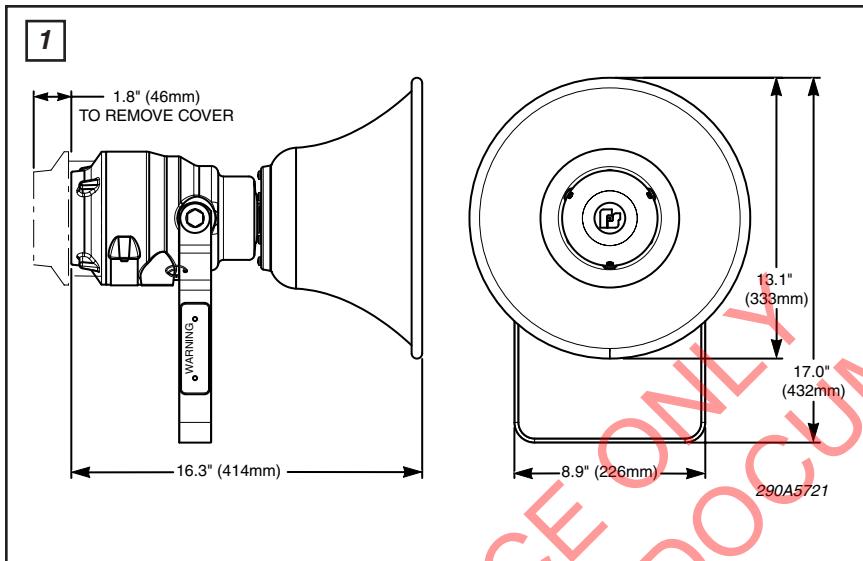
Federal Signal will service your equipment or provide technical assistance with any problems that cannot be handled locally.

Any units returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization. This R.M.A. can be obtained from the local Distributor or Manufacturer's Representative.

At this time a brief explanation of the service requested or the nature of the malfunction should be given.

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Service Department  
2645 Federal Signal Drive  
University Park, IL 60466-3195



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