

## INSTALLATION INSTRUCTIONS FOR MODEL FHEX VIBRATONE® EXPLOSION-PROOF VIBRATORY HORN

### SAFETY MESSAGE TO INSTALLERS

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with this product.

Selection of mounting location for this device, its controls and routing of wiring should be made by the Facilities Engineer and the Safety Engineer. Listed below are some other important safety instructions and precautions you should follow:

- This unit must be installed by a qualified electrician in accordance with NFPA 72, and National and local Electrical and Fire Codes, under the direction of the authority having jurisdiction.
- Do not connect this unit to system wiring when circuits are energized.
- For optimum sound distribution do not install this device where objects would block any portion of front of speaker.
- All effective warning horns produce loud sounds which, in certain circumstances, may cause permanent hearing loss. Take appropriate precautions such as wearing hearing protection. Recommendations in OSHA Sound Level Standard (29 CFR 1910) should not be exceeded.
- After installation, ensure that all bolts and threaded joints are tightened.
- After installation and completion of initial system test, a program for periodic testing of this device must be established. Refer to NFPA 72, local Fire Codes and the authority having jurisdiction for this information.
- After installation and completion of initial system test provide a copy of this instruction sheet to all personnel responsible for operation, periodic testing and maintenance of this equipment.

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

### A. GENERAL.

The Vibratone Model FHEX is a hazardous location, intermittent duty, polarized, 24 Volt dc, indoor/outdoor rated, high output, vibratory horn for use with fire alarm systems. This model is suitable for use in hazardous locations NEC Class I, Groups C, & D; Class II, Groups E, F and G and has factory sealed leads.

### B. SPECIFICATIONS.

|                   |                                                                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Voltage | 24 VDC                                                                                                                                                                           |
| Current           | 1.2 A                                                                                                                                                                            |
| Duty cycle        | 5 min. on—5 min. off                                                                                                                                                             |
| Weight (approx.)  | 10 lb. (4.536kg)                                                                                                                                                                 |
| Size              | 12" (305mm) H, 6-7/8" (175mm) W, 6" (152mm) D.                                                                                                                                   |
| Construction      | Heavy corrosion resistant cast aluminum enclosure. Splicing conduit, tapped for 3/4" conduit. Stainless steel diaphragm. Exterior painted with red enamel. Leads factory sealed. |

#### Approval Agency Listings:

Underwriters Laboratories Inc.

File E12629 (Guide UJPX) Listed as a

HAZARDOUS LOCATION AUDIBLE SIGNAL FOR  
FIRE ALARM SERVICE.

California State Fire Marshal—(Listing is pending.)

New York City—(Listing is pending.)

#### Audibility:

94 dBA, UL omni-directional sound pressure rating.

116 dBA, Sound Power measurement.

100 dBA on axis at 10' in Anechoic chamber.

### C. INSTALLATION.

#### 1. Unpacking.

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

#### WARNING

Property damage, serious injury or death could occur if this product's explosion-proof housing is damaged. The horn mechanism contains no user serviceable parts. Therefore, DO NOT loosen or remove clamp ring, which holds mechanism into housing, or any of the six screws on the front of the horn grille. Loosening or removing any of these six screws may disturb factory adjustment of horn mechanism and cause the horn to malfunction. Attempting to remove the horn mechanism from the horn housing may damage the horn mechanism.

## 2. Mounting Arrangements (see figure 1).

### WARNING

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

This device can be mounted on any relatively flat surface. Conduit connection can be made to 3/4" threaded opening in splicing conduit attached to this device (see figure 1).

### WARNING

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

- a. Select mounting location.
- b. Using the horn as a template, scribe drill position marks on the mounting surface. See figure 1 for mounting hole locations and dimensions.

### CAUTION

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

- c. Drill holes at the previously scribed drill position marks to accommodate 3/8" diameter bolts.
- d. Secure the horn to the mounting surface with 3/8" diameter hex head bolts, lockwashers, and hex nuts.

## 3. Electrical Connection.

### DANGER

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

National Electrical Code as well as local codes must be adhered to in the installation of this device. All electrical wiring must be routed through conduit and fittings approved for explosion-proof installations.

### WARNING

Property damage, serious injury, or death could occur if independent conductors are terminated together; both wires of the same polarity must be used as two separate connections. NFPA 72 requires that the wires be terminated independently to provide electrical supervision of the connection.

- a. Remove splicing conduit cover. See figure 2. Connect the device's red (+) leads to the power source positive (+) lead. Connect the device's black (-) leads to the power source negative (-) lead.

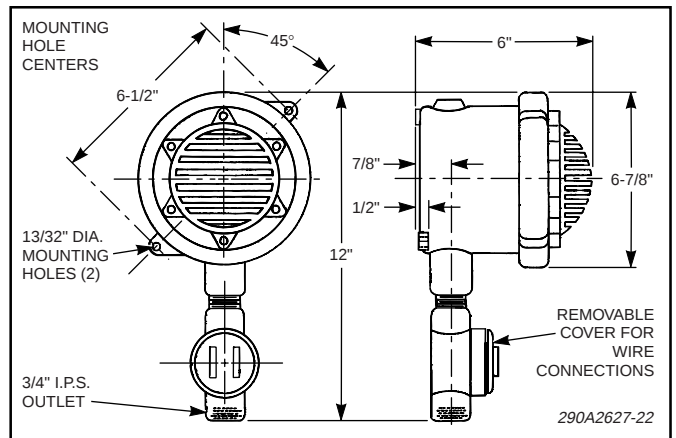


Figure 1. Model FHEx Mounting Dimensions.

### WARNING

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

- b. Replace splicing conduit cover and tighten.

## D. TESTING/OPERATING.

### WARNING

Under certain conditions these devices are capable of producing sounds loud enough to cause hearing damage. Adequate hearing protection should be worn if standing within close proximity to device while testing. Recommendations in the OSHA Sound Level Standard (29 CFR 1910) should not be exceeded.

1. After installation is complete, be sure to test the system to verify that each horn operates satisfactorily.
2. After completion of initial system test, establish a program for periodic testing of this device. Refer to NFPA 72G, local Fire Codes and the authority having jurisdiction for this information.
3. Provide a copy of these instructions for the Safety Engineer, system operator(s) and maintenance personnel.

## 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).

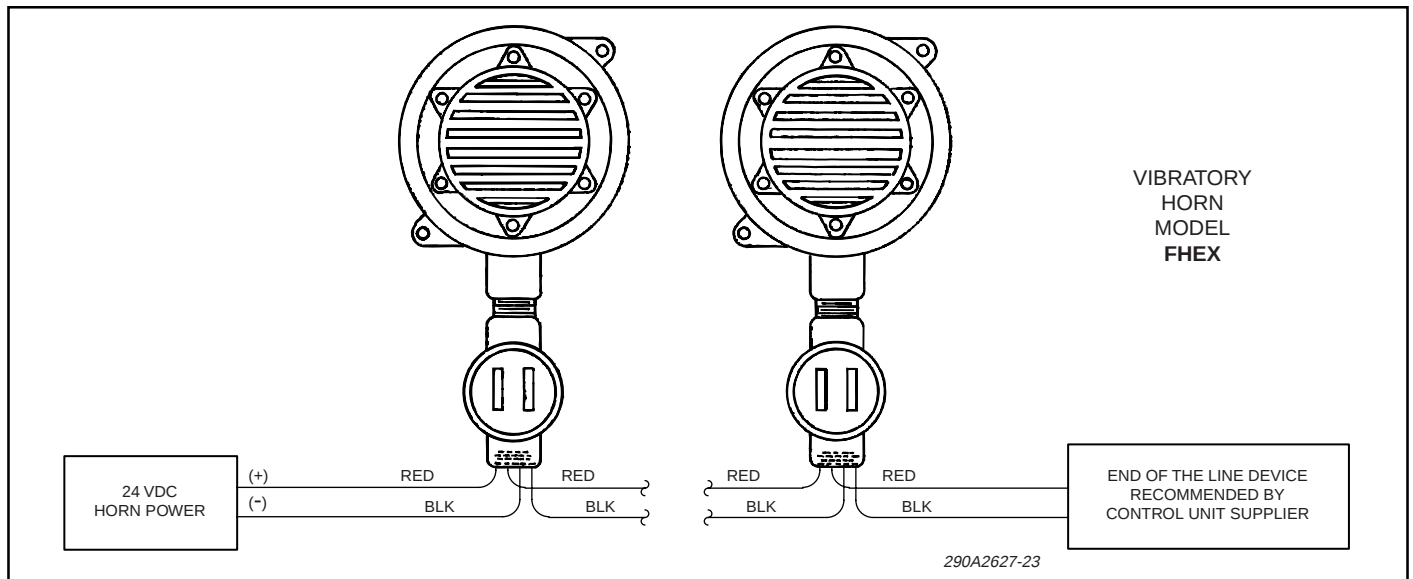


Figure 2. Typical Horn Installation Wiring.

## E. 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. People's lives depend on your safe maintenance of our products. Read and understand all warnings in paragraph C. INSTALLATION. In addition, listed below are some other safety messages and precautions you should follow:

- 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.

1. Periodically check this device to verify that there are no foreign substances in, or in front of, the horn's grille which will reduce its effectiveness.

2. Testing should be periodically performed. Refer to NFPA 72G, local Fire Codes and the authority having jurisdiction for information.

### WARNING

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.

## F. SERVICE.

The factory will service your equipment or provide technical assistance with any problem that cannot be handled locally with satisfaction or promptness.

If any unit is returned to factory for repair, it can be accepted only if we are notified by mail or phone in advance of its arrival. Such notice should clearly indicate service requested and give all pertinent information regarding nature of problem and, if possible, its cause.

Communications and shipments should be addressed to:

**Federal Signal Corporation,**  
Electrical Products Division  
Service Department  
2645 Federal Signal Drive  
University Park, IL 60466-3195

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