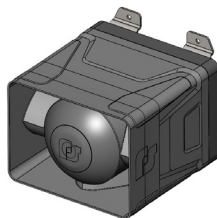


eHorn

Marine and Indoor/Outdoor Rated
Electronic EHorn

25500146 Rev A2 0725



Limited Warranty: This product's limited warranty can be found at www.fedsig.com/SSG-Warranty

SAFETY MESSAGES TO INSTALLERS AND USERS : People's lives depend on your safe installation of our products. It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and/or Canadian Electrical Code and will follow the NEC and/or CEC Guidelines as well as all local codes. This horn should be considered a part of the warning system and not the entire warning system.

The selection of the mounting location for this horn, its controls, and the routing of the wiring are 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, operating, or servicing this equipment.
- In accordance with FM requirement of 120 dBA maximum sound level, this product shall be mounted at the minimum hearing distance from the audible appliance of ten feet.
- For optimum sound distribution, do not install this horn where objects would block any portion of the front of the horn.
- Do not connect this horn to the system when power is on.
- Do not paint the horn. No finish or coating is required. Paint may obstruct the sound output, reducing the effectiveness of the horn.
- 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.
- Establish a procedure to routinely check the signal system for proper activation and operation.
- Any maintenance to the unit **MUST** be performed by a trained electrician in accordance with NEC Guidelines and local codes.
- Never alter the unit in any manner.
- The nameplate should **NOT** be obscured, as it contains cautionary and/or other information of importance to maintenance personnel.
- After installation and completion of the initial system test, provide a copy of these instructions to all personnel responsible for operation, periodic testing, and maintenance of the equipment.
- File these instructions in a safe place and refer to them when maintaining and/or reinstalling the device.

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

Unpacking the eHorn

After unpacking the eHorn, examine it for damage that may have occurred in transit. If the horn 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 discarding them. If any parts are missing, please call Federal Signal Customer Support at 708-534-4756 or 877-289-3246.

Overview

The Federal Signal eHorn is a high-output, continuous-duty, marine and indoor/outdoor-rated electronic horn with volume adjustment. The eHorn is perfect for use in high-ambient noise environments.

The horn's non-metallic, polycarbonate housing is corrosion-resistant and weatherproof for improved durability in harsh industrial environments.

Product Specifications

- Operating Voltages:
 - eHorn-024: 24 Vdc
 - eHorn-120-240: 120 Vac, 240 Vac
- Weight:
 - eHorn-024: 11.7 lb
 - eHorn-120-240: 13.7 lb
- Housing Material: Polycarbonate
- Brackets and Hardware: Stainless Steel

Sound Pressure Level and Current Data

NOTICE

DO NOT USE UNSUITABLE TAPS: Not every tap is suitable for use with all voltages and tones. Use of unsuitable taps significantly reduces the life of the product. The following tables identify the acceptable taps selection. A table is also located on the rear cover of the product for quick reference.

Table 1 SPL and Current Data: DC Model 52 Horn Tone (315.6 Hz Steady)

LEVEL	TAPS		SPL	DC Current (A)
	WIRE 1	WIRE 2	(dBA at 10 ft)	24 Vdc
High	P1	P4	116	3.0
Med	P1	P3	109	1.0
Low	P2	P3	100	0.4

NOTE: Apply wires only to the positions designated in Table 1. Other variations could cause damage to the eHorn.

Table 2 SPL and Current Data: DC Model 55/56 Horn Tone (330.0 Hz Steady)

LEVEL	TAPS		SPL	DC Current (A)
	WIRE 1	WIRE 2	(dBA at 10 ft)	24 Vdc
High	P1	P5	117	3.3
Med	P1	P3	106	0.5
Low	P2	P3	96	0.24

NOTE: Apply wires only to the positions designated in Table 2. Other variations could cause damage to the eHorn.

Table 3 SPL and Current Data: AC Model 52 Horn Tone (315.6 Hz Steady)

LEVEL	TAPS		SPL	AC Current (A)	
	WIRE 1	WIRE 2	(dBA at 10 ft)	120 Vac	240 Vac
High	P2	P4	114	0.78	0.40
Med	P1	P3	111	0.35	0.16
Low	P2	P3	101	0.15	0.03

NOTE: Apply wires only to the positions designated in Table 3. Other variations could cause damage to the eHorn.

Table 4 SPL and Current Data: AC Model 55/56 Horn Tone (330.0 Hz Steady)

LEVEL	TAPS		SPL	AC Current (A)	
	WIRE 1	WIRE 2	(dBA @ 10 ft)	120 Vac	240 Vac
High	P3	P5	116	0.76	0.41
Med	P1	P3	107	0.16	0.08
Low	P2	P3	98	0.10	0.06

NOTE: Apply wires only to the positions designated in Table 4. Other variations could cause damage to the eHorn.

Mounting the eHorn

The eHorn can be mounted on any relatively flat surface with or without the supplied mounting brackets. The mounting surface must be capable of supporting the weight of the eHorn. Four installer-supplied 1/4-inch screws are required. Use screws that are suitable for the mounting surface.

Mounting the eHorn with the Brackets

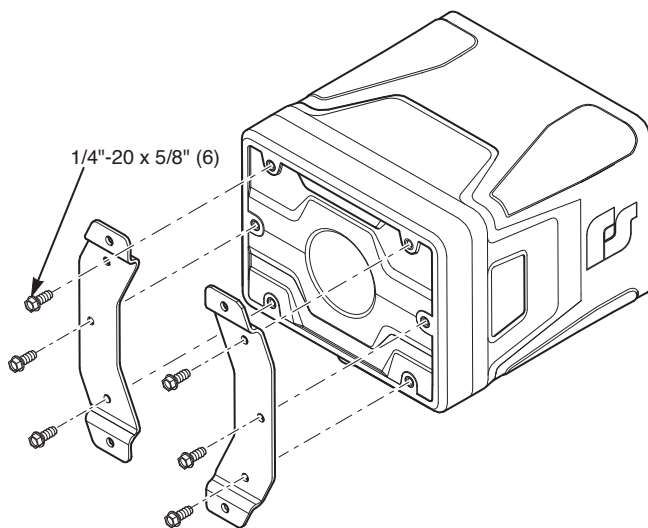
For dimensions, see Figures 2 and 3 on page 5.

NOTE: For trunnion (U-bracket) mounting, the Model EHORN-TKIT is available as an accessory. Refer to instruction manual 25500314 for bracket kit details.

To secure the eHorn to the mounting surface:

1. Attach the mounting brackets to the eHorn with the six supplied 1/4 in-20 x 5/8-inch screws. Tighten them to 80 +/-10 in-lb. See Figure 1.

Figure 1 Brackets attached to eHorn



2. Hold the eHorn against the mounting surface and use the two mounting holes on the bracket as a template. Scribe drill-position marks on the mounting surface.
3. Remove the eHorn and drill a hole at each mark.
4. Secure the eHorn to the mounting surface using installer-supplied 1/4-inch screws.

Figure 2 Depth and height with brackets

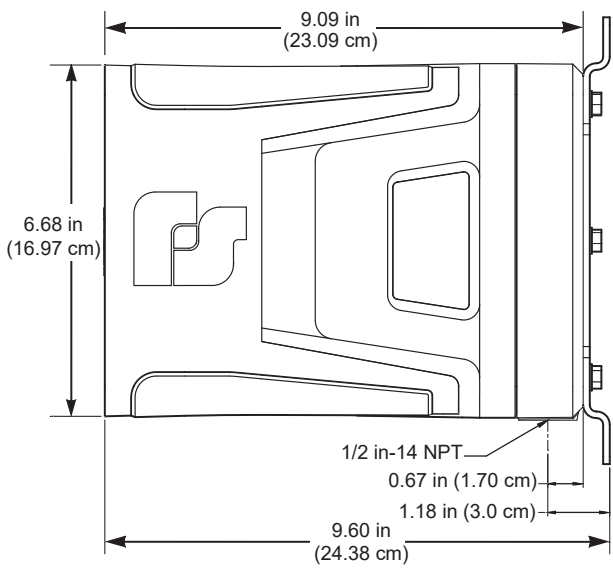
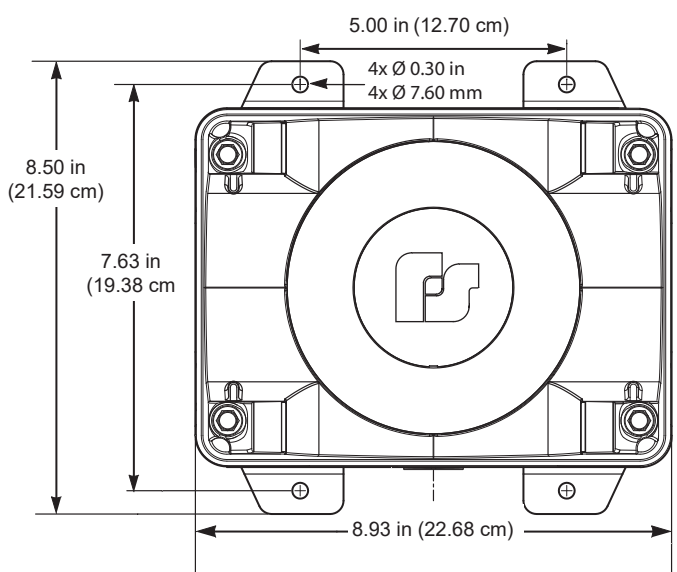


Figure 3 Width and height with brackets



Mounting the eHorn without the Brackets

To mount the eHorn directly to the mounting surface:

1. Using the template included with the eHorn (doc. no 25500239), scribe the centers of the six mounting holes on the mounting surface.
NOTE: For most applications, only four outer mounting points are necessary.
2. Drill a 9/32-inch hole at each of the four scribe marks.
3. Secure the eHorn from behind the surface with the installer-supplied 1/4-inch x 20 screws. Choose a fastener of the appropriate length. Note that the threads in the cover have a depth of 1/2 inch.

Opening and Closing the Housing

Depending upon the model, the factory-supplied leads are strain-relieved to the housing or to the cover.

NOTICE

HOUSING DAMAGE: Use caution and support the housing when loosening the cover screws. The housing is not supported by any means other than the cover screws. Once they are loosened, the housing will separate from the cover.

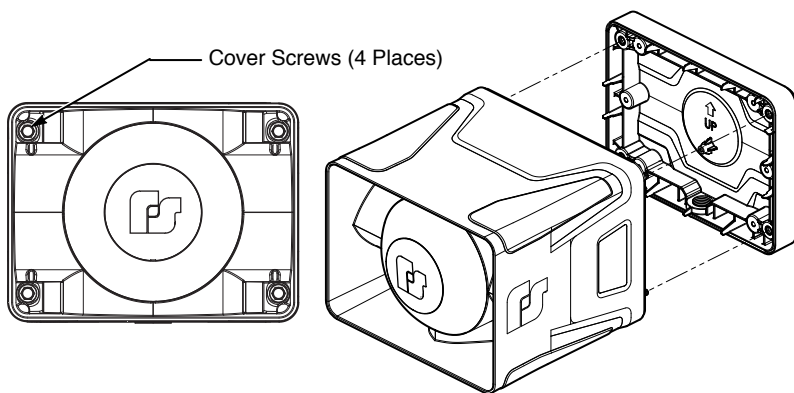
Opening the Housing

Tools required:

- 3/8-inch socket
- 6-inch extension

Loosen the four cover screws while supporting the housing so it does not fall. (The cover screws are retained in the housing.) See Figure 4.

Figure 4 Locations of housing screws



Closing the Housing

1. Verify that the cover gasket is in the groove around the perimeter of the cover.
2. Align the housing with the cover. Note that the **FS** logo on the front of the eHorn needs to be oriented correctly with the arrow on the inside of the cover, or the two parts will not fit together.
3. Tighten the cover screws hand tight, and then torque them to 60 in-lb +/- 10 in-lb.

Wiring the 24 Vdc Model

WARNING

SHOCK HAZARD: To avoid electrical shock, do not connect wires when the circuits are energized.

To extend wire for the power connections, use only 12 AWG to 18 AWG (2.5 mm² to 1.0 mm²) wire. The external leads and connector must be suitably protected to prevent damage. Use grommets, bushings, and wires ties to protect them from abrasion.

Wiring the eHorn with the Supplied Leads

The power connection is made via the external leads.

To wire the 24 Vdc Model eHorn:

1. Connect the positive (+) lead of the power source to the red wire.
2. Connect the negative (-) lead of the power source to the black wire.

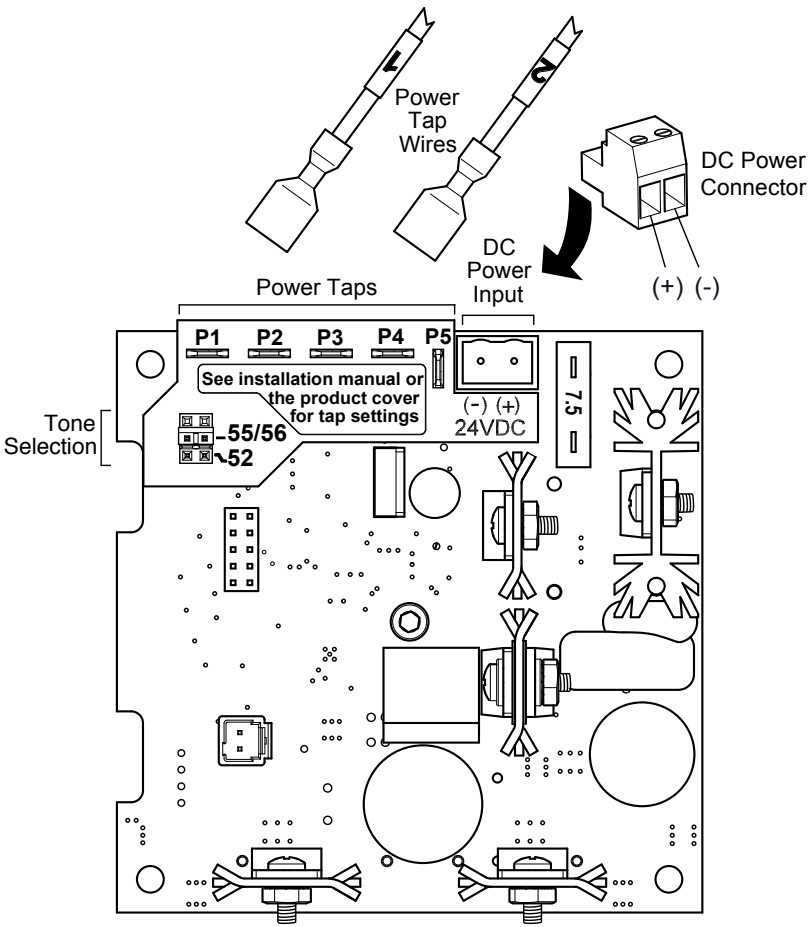
Wiring the eHorn with User-Supplied Leads

If you are not using the external leads supplied with the eHorn, follow these steps:

1. Strip no more than 0.25 inch (6 mm) of wire insulation from the ends of the power leads. If you are using stranded wire, ensure that there are no loose strands outside the connector plug that could touch the adjacent lead and cause a short circuit. Torque the terminal screws to 4.4 in-lb (0.5 Nm) maximum.
2. Connect the power source positive (+) lead to the (+) terminal of the connector.

3. Plug and connect the power source negative (-) lead to the (-) terminal of the connector plug as shown in Figure 5.

Figure 5 Tone generator/amplifier board



4. Plug the DC power connector into the power input connector on the printed circuit board.

Wiring the 120 Vac/240 Vac Model

⚠ WARNING

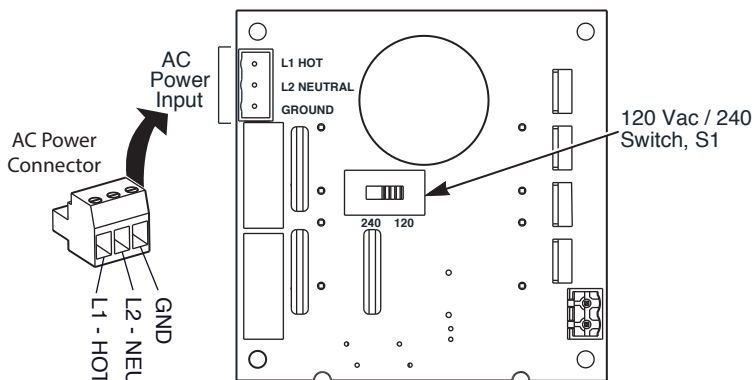
SHOCK HAZARD: To avoid electrical shock, do not connect wires when the circuits are energized.

To extend wire for the power connections, use only 12 AWG to 18 AWG (2.5 mm² to 1.0 mm²) wire. The external leads and connector must be suitably protected to prevent damage. Use grommets, bushings, and wires ties to protect them from abrasion.

To wire the 120 Vac or 240 Vac Model eHorn:

1. Strip no more than 0.25 inch (6 mm) of wire insulation from the ends of the power leads. If you are using stranded wire, ensure that there are no loose strands outside the connector plug that could touch the adjacent lead and cause a short circuit. Torque the terminal screws to 4.4 in-lb (0.5 Nm) maximum.
2. Connect the power source hot, neutral, and earth ground wires as shown in Figure 6.

Figure 6 120 Vac/240 Vac power supply board



3. Plug the AC power connector into the power input connector on the printed circuit board.

NOTE: The eHorn is factory-set for 120 Vac operation. For 240 Vac operation, move switch **S1** to the **240 Vac** position. See Figure 6.

Selecting the Tone

The eHorn is factory-set to the 55/56 tone. To select the 52 eHorn tone, move the jumper on the tone generator/amplifier board. (See Figure 5 on page 8).

Setting the Tone Volume

The volume of the eHorn is adjusted by tap selection on the tone generator/amplifier board.

Activating the Horn

To activate the horn, apply the appropriate line voltage to the horn power input terminals. The horn remains active as long as line voltage is present.

Maintenance and Service

Technical Assistance: Contact our Technical Support Team at +1 708-587-3587 or signalsupport@fedsig.com.

Repair Service: A return authorization is required. Contact your Authorized Distributor or Federal Signal Customer Support. Defective products under warranty will be repaired or replaced at Federal Signal's discretion.

Product Returns: Returns require authorization from Federal Signal. Contact your Authorized Distributor for more information on our return policy or to request a return.



FEDERAL SIGNAL
Safety and Security Systems

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