

Informer15 Speaker

Model I-IP15 Series C
IP-Enabled Indoor/Outdoor Speaker



Description, Specifications, Installation, Operation, and Service Manual

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 Messages

⚠ WARNING

It is important to follow all instructions shipped with this product. This device is to be installed by trained personnel who are thoroughly familiar with the country's electric codes and will follow these guidelines as well as local codes and ordinances, including any state or local noise-control ordinances.

Planning

- If suitable warning equipment is not selected, the installation site for the Informer15 Speaker is not selected properly, or the Informer15 Speaker is not installed properly, it may not produce the intended optimum audible warning. Follow Federal Emergency Management Agency (FEMA) recommendations.
- If Informer15 Speakers are not activated in a timely manner when an emergency condition exists, they cannot provide the intended audible warning. It is imperative that knowledgeable people, who are provided with the necessary information, be available at all times to authorize activation.
- When Informer15 Speakers are used out of doors, people indoors may not be able to hear the warning signals. Separate warning devices or procedures may be needed to effectively warn people indoors.
- The sound output of sirens is capable of causing permanent hearing damage. To prevent excessive exposure, carefully plan siren placement, post warnings, and restrict access to areas near sirens. Review and comply with any local or state noise control ordinances as well as OSHA noise exposure regulations and guidelines.
- Activating the Informer15 Speaker may not result in people taking the desired actions if those to be warned are not properly trained about the meaning of warning sounds. Users should follow FEMA recommendations and instruct those to be warned of corrective actions to be taken.

After installation, service, or maintenance, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.

Safety Messages to Installers

People's lives depend on the 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 Informer15 Speaker should be considered a part of the warning system and not the entire warning system.

The selection of the mounting location for this Informer15 Speaker, its controls and the routing of the wiring is to be accomplished under the Facilities Engineer and the Safety Engineer direction. Listed below are some other important safety instructions and precautions you should follow:

- Electrocutation or severe personal injury can occur when performing various installation and service functions such as making electrical connections, drilling holes, or lifting equipment. Therefore, only experienced electricians should install this

product per national, state, and any other electrical codes having jurisdiction. Perform all work under the direction of the installation or service crew safety foreman.

- Read and understand all instructions before installing, operating, or servicing this equipment.
- This product shall be mounted at the minimum hearing distance of ten feet per FEMA guidelines limiting sound level exposure to 123 dBc maximum sound level.
- All effective warning sounds may, in certain circumstances, cause permanent hearing loss. Take appropriate precautions, such as wearing hearing protection. The maximum sound level exposure limits specified in OSHA 29 CFR 1910 should not be exceeded.
- These devices are intended for permanent installation and operation per Title 46, Code of Federal Regulations, Parts 110–113, or Title 33, Code of Federal Regulations, Part 183, Sub-part I, Section 183.410, and the applicable requirements of the American Boat and Yacht Council, Inc., and/or ANSI/NFPA 302, “Fire Protection Standard for Pleasure and Commercial Motor Craft.”
- For optimum sound distribution, do not install this speaker where objects would block any portion of the front of the Informer15 Speaker.
- Do not paint the Informer15 Speaker. No finish or coating is required. Paint may obstruct the sound output, reducing the effectiveness of the horn.
- Establish a procedure to check the signal system for proper activation and operation routinely.
- Any maintenance to the unit **MUST** be performed by a trained electrician per NEC Guidelines and local codes or a Federal Signal certified Service Provider.
- 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 the operation, periodic testing, and equipment maintenance.
- 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.

Installation and Service

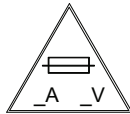
- After installation or service, test the system to confirm that it is operating properly. Test the system regularly to confirm that it will be operational in an emergency.
- If future service and operating personnel do not have these instructions to refer to, the system may not provide the intended audible warning, and service personnel may be exposed to death, permanent hearing loss, or other bodily injuries. File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to recruits and trainees. Also give a copy to anyone who is going to service or repair the Informer15 Speaker.

- To reduce the risk of electric shock, do not perform any servicing other than what is contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Always test the Informer15 Speaker before using after repairs have been made.

Ethernet Wiring

- Unless shielded or run in conduit, Ethernet wiring must be at least six feet from bare power wiring or lightning rods and associated wires, and at least six inches from other wire (for example, antenna wires, doorbell wires, wires from transformers to neon signs), steam or hot water pipes, and heating ducts.
- Do not place Ethernet wiring or connections in any conduit, outlet, or junction box containing high voltage electrical wiring.
- If using a cable gland, the gland must be UL listed. The Informer15 Speaker has a 1/2-inch NPT entry size.

Symbol Definition



Indicates to reduce the risk of fire, replace the fuse as marked.

Pay careful attention to the notice located on the equipment.

Read and understand the information contained in this manual before attempting to install or service the siren.

General Description

Overview

The Informer15 Speaker is a 15-watt, IP-enabled indoor and outdoor speaker. Use the Informer15 as a warning and alert device with both audible and visual indicators. The audible capabilities include locally stored, high-quality, high-powered tones and voice messages. The visual indicators include an integrated high-powered LED light and an optional scrolling message display that can be controlled by the Informer15. The Informer15 can be equipped with up to four local initiation devices (switches) to activate the unit locally and to the Commander® controller for mass notification communications.

The Informer15 Speaker has an internal 15-watt amplifier/driver to deliver tone warnings and intelligible voice messages from Informer15 stored memory. The Informer15 also has several unique capabilities when working with the Federal Signal Commander software. Using Commander software, the Informer15 can play text-to-speech, stream WAV files, or broadcast live PA. Commander software can perform a talk/listen to individual Informer15s to allow call-box type communications. The Informer15 also has remote volume control for optimizing sound levels across your alerting area. Remote volume control also includes an ambient-noise-monitoring capability to automatically adjust the volume depending on external noise levels.

The Informer15 can be programmed and configured as a standalone device to only use the inputs to activate the Informer15. This may be useful if the location has no network connectivity but where voice and tone alerts from locally activated inputs are required. The Informer15 can be networked later, and the activations can be brought into the Commander system for full system capability. When the Informer15 is networked using the Commander software, alerts initiated at the Informer15 can be used to activate other devices. The Commander software system can also alert emergency personnel via email, SMS, and handheld radios using optional messaging software.

The Informer15 includes one output to control the visual indicator and an output to activate an external relay, which can be used to control external devices. The Informer15 has two 1/2-inch NPT openings on the bottom of the speaker for simple installation of pipe-mount devices. The openings allow access to LAN, open collector output, and activation inputs. The Commander system allows multiple configurations for activation of the open collector output or visual indicator during alerts.

The Informer15 is designed for outdoor use and large indoor structures. A 24 Vdc and a POE+ model are available. The POE+ version of the Informer15 obtains its operating voltage solely from a POE+ (IEEE 802.3at) network switch or power injector. No other AC or DC power is required for the integrated speaker or light. All wiring interfaces are accessible via internal connectors and built-in NPT entrances for quick and easy installation.

The Informer15 Speaker is a perfect addition to existing notification systems where lack of coverage exists. The unit can be used as a call station where emergency alert buttons are required.

See the Informer-IP Series C Setup, Program, and User Manual (part number 25500395 revision C or later) to learn how to set up, configure, program, and use Informer-IP devices.

Features

The Informer15 has the following features; some features require using the Commander® software system:

- Outdoor or indoor IP-enabled speaker for audible and visual alerts
- Speaker rated at 112 dB for tones and 107 dB for pink noise at 10 feet
- Seven standard built-in warning signals: Wail, Steady, Alternate Wail, Alternate Steady, Pulsed Wail, Pulsed Steady, Auxiliary Chime
- Broadcasts live voice, text-to-speech, and prerecorded voice or tone files
- Deliver intelligible voice messages from locally prerecorded files or through the Commander system
- Removable microSD card for custom message generation. Store up to 4000 voice or tone messages that total up to 17 hours of recording time.
- Ambient-noise-level monitoring with automatic volume control
- Each device can be remotely configured for volume and noise-level adjustments
- Speaker as a microphone for talkback feature
- Alerts can be sent to single devices, groups or zones, or all devices
- Integrated Modbus® TCP industrial PLC interface for control and monitoring
- Integrated SIP phone interface for live PA, remote WAV file, and function control
- Commander and CommanderOne® HMI software provide configuration, control, activation, and notification options
- Wall mount
- Four local alarm initiation inputs to activate unit locally or standalone operation
Momentary mode: contact closure sounds the alarm for the programmed duration.
Continuous mode: sounds the alarm for duration of the closure.
- One open collector output paired with 24 Vdc for controlling an external relay
- High-intensity LED light that can be activated independently or with messages
- Models available with white, red, amber, blue, and green LED lights
- Wide variety of flash patterns
- Power over Ethernet using 802.3at PoE+ 25.5 W or 24 Vdc powered (two models)
- Wide operating temperature range
- Allows remote software upgrades
- NEMA 4X Enclosure
- UL and cUL listed
- Complies with FCC Title 47, Part 15

Ordering Information

Table 1 Ordering Information

Part Number	Description
I-IP15-W	15 W PoE Speaker with white high-output LED
I-IP15-R	15 W PoE Speaker with red high-output LED
I-IP15-A	15 W PoE Speaker with amber high-output LED
I-IP15-B	15 W PoE Speaker with blue high-output LED
I-IP15-G	15 W PoE Speaker with green high-output LED
I-IP15-KIT1	I-IP15 Kit Components
I-IP15-024W	15 W, 24 Vdc, Speaker with white high-output LED
I-IP15-024R	15 W, 24 Vdc, Speaker with red high-output LED
I-IP15-024A	15 W, 24 Vdc, Speaker with amber high-output LED
I-IP15-024B	15 W, 24 Vdc, Speaker with blue high-output LED
I-IP15-024G	15 W, 24 Vdc, Speaker with green high-output LED

Specifications

Table 2 Electrical Requirements

Input Power for PoE model	Power over Ethernet (PoE+ 802.3at) 48 Vdc Requires 25.5 W
Input Power for 24 Vdc model	24 Vdc, 1.0 A
Serial Port Protocol	FLASH programming and configuration Default: 9600 bit/s, 8 data, 1 stop, no parity. Configurable up to 115,200 bit/s
Open Collector Output	Maximum 30 V or 100 mA maximum, (speaker provides +24 Vdc, 20 mA maximum for external relay)
Ethernet Port for PoE model	IEEE 802.3, 10/100 Base-T connection with PoE+ 802.3at, Type 2, 25.5 W
Ethernet Port for 24 Vdc model	IEEE 802.3, 10/100 Base-T connection
Alarm Initiating Inputs	Four optically Isolated Inputs
Audio Storage	Warning siren audio, seven factory-installed tones: Wail, Steady, Alternate Wail, Alternate Steady, Pulsed Wail, Pulsed Steady, Auxiliary Chime Prerecorded files—up to 4000 messages with up to 17 hours of recording time
Audio Data	8 bit 8 kHz mono WAV
Audio Frequency response	300 Hz to 3000 Hz, +1 to -3 dB per octave
Maximum Audio Output	15 W, 112 dB for tones and 107 dB for pink noise at 10 feet
Power Output	15 W into 8 ohm load
Frequency response	+/- 3 dB from 300-6.0 kHz
THD	< 5% at output
Hum and Noise	< -45 dB
Input Levels	1.77 V _{RMS} (5 V _{P-P}), 10 V _{RMS} (28.3 V _{P-P}) and 25 V _{RMS} (70.7 V _{P-P})

Table 3 Connectors and Jacks for the Controller Board

JP1	LED Lamp Test Short pins 1 and 2 to turn on LED lamp
JP2	Inputs 1 – ISO-GND 2 – Input #1 3 – ISO-GND 4 – Input #2 5 – ISO-GND 6 – Input #3 7 – ISO-GND 8 – Input #4
JP3	LED Lamp Output 1 – GND 2 – Power, switched +24 Vdc
JP4	Test mode
JP5	Factory Default Short pins 1 and 2 to restore to factory defaults
JP6	Open Collector Output 1 – Output #1 Open Collector Output 2 – Output #1 +24 Vdc
JP8	Option1 Jumper Short pins 1 and 2 for Standalone Option
JP9	Option2 Jumper Short pins 1 and 2 for Option
JP11	Serial Port RJ25 6 conductor mod jack
JP12	Controller to Amplifier Interface
JP13	microSD FLASH card holder
M1	Communications from PoE board

Table 4 Connectors and Jacks for the Amplifier Board

JP1	Power Input from PoE board or the 24 Vdc power board
JP2	Balanced Audio Input – 10 or 25 V _{RMS} in (Not used)
JP3	Audio Input Select Jumper (Not used with I-IP15 configuration.) Jumper 1 and 2 = 25 V _{RMS} input Jumper 3 and 4 = 10 V _{RMS} input
JP4	Amplifier to Controller Interface
Pin1	(-) Speaker output
Pin2	(+) Speaker output
VR1	Amplifier Gain (For max volume, turn clockwise.)

Table 5 Connectors and Jacks for the PoE Board (PoE models only)

J1	LAN/PoE communications interface
J2	LAN to Controller Board interface
JP1	Power to Amplifier

Table 6 Connectors for the 24 Vdc Power Board

JP1	Power to Amplifier
JP2	24 Vdc Field wiring power input
JP3	24 Vdc Field wiring power output (in parallel with JP2)

The following indicators are for troubleshooting purposes only. These indicators are not visible when the unit is closed.

Table 7 Visual Indications for the Controller Board

D1	Power
D2	Digital Input 1 active
D3	Listen
D4	Talk
D5	Digital Input 2 active
D7	Network connected
D8	CPU running
D9	Digital Input 3 active
D11	Digital Input 4 active
D19	Relay Output active

Table 8 Visual Indications for Amplifier Board

D6	Power LED
D8	ARM LED

Table 9 Environmental and Physical

Operating temperature range	-22°F to +149°F (-30°C to +65°C)
Humidity range	0-95%, non-condensing
Dimensions (H x W x D)	13.9 x 10.2 x 10.0 inches (35.3 x 25.9 x 25.4 cm)
Weight	6.19 lb (2.81 kg)
Amplifier Housing	Diecast aluminum alloy with powder-coated finish. Housing sealed with a neoprene rubber gasket. External mounting bracket included.
Speaker Cone Tip and Projector	Spun aluminum alloy with powder coated finish.

Installation

⚠ WARNING

Read and adhere to all safety warnings in this manual before installing the Informer15 Speaker.

⚠ DANGER

***ELECTROCUTION HAZARD:** Electrocution or severe personal injury can occur when making electrical connections, drilling holes, or lifting equipment. Therefore, experienced electricians per national and local electrical codes, acting under the direction of the installation crew safety foreman, should perform the installation.*

⚠ WARNING

***OBSTRUCTION HAZARD:** Property damage, serious injury, or death could occur if an accumulation of water, snow, dust, etc. resides in the speaker projector or if any objects are in front of the speaker, severely reducing or preventing operation of this device. Mount the unit so speaker projector is pointed horizontally or slightly downward and ensure that the front of the speaker is clear of obstructions.*

⚠ WARNING

***SHOCK HAZARD:** Property damage, serious injury, or death could occur if the projector is mishandled during installation or over time. **DO NOT** rotate the projector more than 180 degrees, or internal speaker wiring may be damaged.*

Flat Surface Mounting

Mount the speaker on any relatively flat surface. Make conduit connections to the two 1/2-inch threaded openings at the bottom of the housing. A 1/2-inch conduit plug is supplied for field installation if one of the 1/2-inch threaded openings is not used. After you have selected the mounting location and mounting method, proceed with the applicable instructions below.

To flat surface mount the Informer15 Speaker:

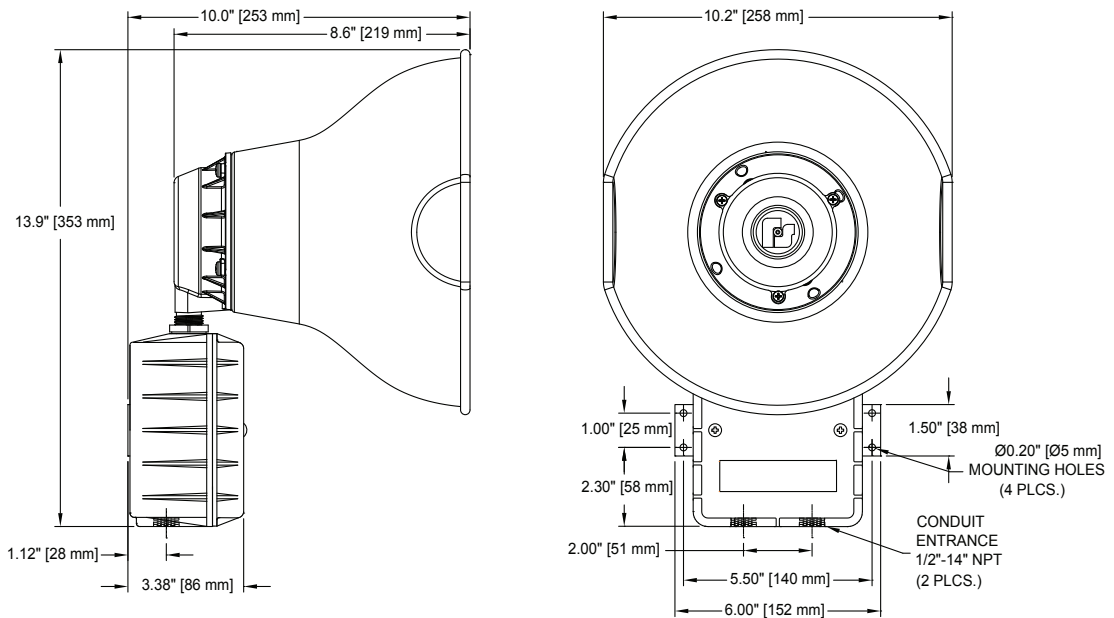
1. Select the mounting location and place the rear of the housing against the mounting surface.
2. Use the four mounting holes on the external housing bracket as a template to scribe drill position marks on the mounting surface. See Figure 1 for mounting hole locations and dimensions.

NOTICE

DRILLING PRECAUTION: Before drilling holes in any surface, ensure that both sides of surface are clear of items that could be damaged.

3. Secure the unit to a wooden mounting surface with #10 x 1-inch wood screws. If mounting on a metal surface, drill 13/64-inch diameter holes and secure the unit with #10 screws, lock washers, and nuts.
4. Route wires through the 1/2-inch threaded openings into the Informer15 Speaker unit per National and Local Electrical codes.
5. Reposition speaker projector if necessary to obtain desired sound coverage. Loosen the collar nut and move the projector to the desired position. See Figure 1.

Figure 1 Depth and Height of Informer15 Speaker



Opening the Housing

Tools required: Phillips head screwdriver

To open the housing, loosen the two cover screws while supporting the cover so it does not fall. (The cover screws are retained in the housing.) Carefully remove the visual indicator cable to allow the cover to be removed.

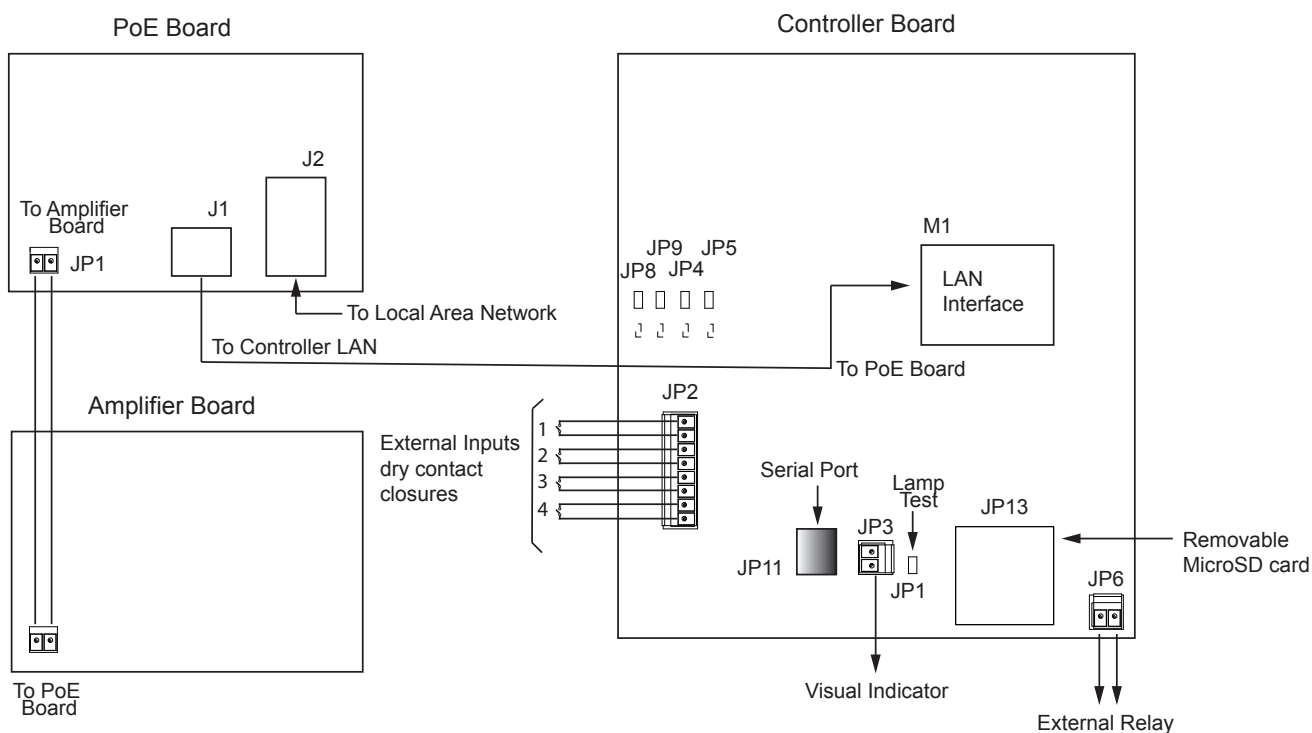
Wiring the Network and Power Connections

PoE model (See Figure 2)

To wire the PoE model, connect the Ethernet field wiring to J1 on the PoE board to provide both the IP communications and the PoE from the switch.

The Informer15 Speaker has an eight-pin Ethernet port for connecting to the network. Ethernet wire runs must be less than 328 feet (100 meters) from the nearest network switch. Do not install in a conduit carrying high voltage. The wired Ethernet port auto-negotiates a 10/100, full or half-duplex connection and provides PoE to the Informer15 Speaker. Do not remove the prewired Ethernet cable between the PoE supply PCB J2 and the controller PCB. The Ethernet field wiring must be connected to the J1 Ethernet input.

Figure 2 I-IP15 PC Boards

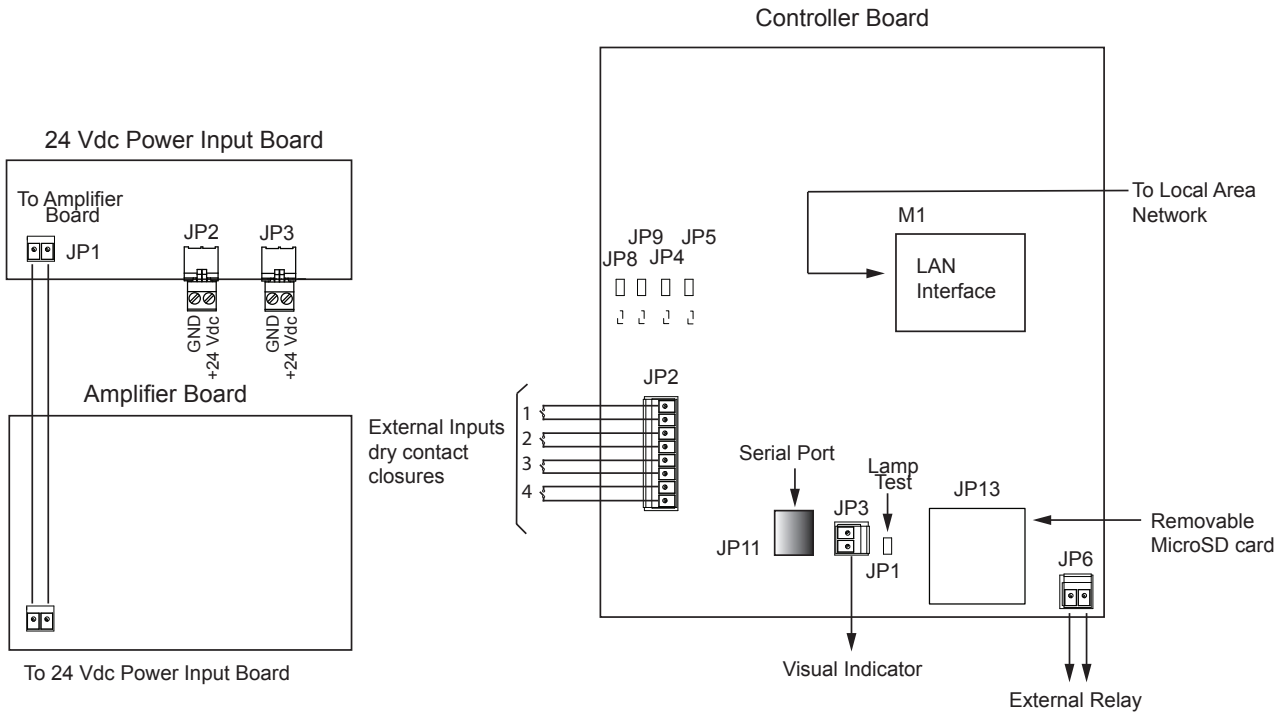


24 Vdc model (See Figure 3)

To wire the 24 Vdc model:

1. Connect the Ethernet field wiring to M1 on the Controller board.
2. Connect the 24 Vdc power input to the JP2 on the 24 Vdc Power Input board. An additional 24 Vdc Informer15 speaker can be connected to JP3 if required.

Figure 3 I-IP15-024 PC Boards



Wiring to the Controller Board

To wire the Controller Board:

1. Use JP13 to provide tone and messages into the Informer15 via the microSD memory card.
2. If local activations are required, use JP2.

The Alarm Initiation Inputs are activated by shorting the input to the ISO-GND next to it, usually through a normally open switch or normally open dry relay contact.

NOTE: Momentary mode: contact closure sounds the alarm for the typical programmed duration. Continuous mode: sounds alarm for the duration of the closure. The system can also be configured to allow activation from normally closed contacts.

JP2– Alarm Initiation Inputs

- 1 – ISO-GND
- 2 – Input #1
- 3 – ISO-GND
- 4 – Input #2

5 – ISO-GND

6 – Input #3

7 – ISO-GND

8 – Input #4

3. The visual indicator is wired to JP3 for activation and powering.
4. If controlling an external device, use JP6 to control an external relay to control the device.

The Informer15 Speaker has one independently programmable open collector output that can be used to control an external relay. The open collector/relay output timing is configured and programmed into the Informer15 Speaker from the Commander user interface.

The open collector/relay output is capable of controlling an external device. The open collector and +24 Vdc are located at pins 1 and 2 of the removable output connector JP6 on the PC board.

The output for controlling an external relay is limited to 30 Vdc and 100 mA maximum. The speaker provides a 24 Vdc source to power relays or devices that require current a draw of less than 20 mA. If a relay is used, which requires up to 100 mA, an external 24 Vdc supply is required. Do not exceed the voltage and current ratings listed in the Specifications section of this manual. When using this feature, the open collector/relay outputs turn on until one of the following occurs:

- Until the programmed default timeout occurs
- Until the CANCEL or RESET command is received

You can configure the open collector/relay output to open, close, and cycle based on a pre-programmed sequence. The open collector/relay output can also be configured to turn on when PA VOIP is active. See the Informer-IP Series C Setup, Program, and User Manual (part number 25500395) to learn how to set up, configure, program, and use Informer-IP devices.

5. If using a scrolling message board, use JP11.
6. If using in standalone mode (not connected to Ethernet network), install a shorting jumper on JP8. See the following instructions.

Standalone mode allows the Informer15 Speaker to be activated from the Alarm Initiation Inputs without being connected to a network. The Informer15 requires setup before placing into standalone mode. Perform all configurations before installing. Once the unit is configured and tested, place a shorting jumper across pins 1 and 2 of JP8, OPTION 1. To configure the Informer15 Speaker, use Commander software version 15.4 or later. See the Informer-IP Series C Setup, Program, and User Manual (part number 25500395) to learn how to set up, configure, program, and use Informer-IP devices.

Closing the Housing

To close the housing:

1. Verify that the cover gasket is in the groove around the perimeter of the rear cover.
2. If the front of the unit was removed, install the visual indicator cable and attach the cover to the Informer15 Speaker.

⚠ WARNING

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

Testing

⚠ WARNING

SOUND HAZARD: 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 the device while testing. Recommendations in the OSHA Sound Level Standard (29 CFR 1910F) should not be exceeded.

To test the system:

1. After installation is complete, test the system to verify that each speaker operates satisfactorily.
2. After completion of the initial system test, establish a program for periodic testing of this device.
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).

Maintenance

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.
- To reduce electrical shock risk, do not perform maintenance or service on this unit when circuits are energized.
- Periodic checks should be made to ensure that effectiveness of this device has not been reduced because the speaker has become clogged with a foreign substance or because objects have been placed in front of the speaker.
- Any maintenance on this unit MUST be performed by a licensed electrician in accordance with NEC guidelines and local codes.

- Never alter these units in any manner. Note that additional openings or alterations made to the Informer15 Speaker may jeopardize the safety of the hazardous location.
- The nameplates, which contain cautionary or other important information to maintenance personnel, should not be obscured if the exterior of the device is painted.
- Periodically inspect this device to verify that there are no foreign substances in or in front of the speaker, which will reduce its notification effectiveness.
- Periodic evaluation of the performance of the unit should be conducted at regular intervals.
- If a volume adjustment or other repair is required, be sure to refer to the Safety Message before proceeding.

⚠ WARNING

SOUND HAZARD: Unauthorized repair/servicing of the unit may result in degradation of performance and/or safety, resulting in 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.

Ordering Replacement Parts

To order replacement parts, call Customer Care. See Getting Service.

Table 10 Replacement Parts

Description	Part Number
Voice Coil	K8590246A

Getting Service

If you are experiencing any difficulties, contact Federal Signal Customer Support at 800-548-7229 or 708-534-3400 extension 7511 or Technical Support at 800-524-3021 or 708-534-3400 extension 7329 or through e-mail at techsupport@fedsig.com. For instruction manuals and information on related products, visit <http://www.fedsig.com/>



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