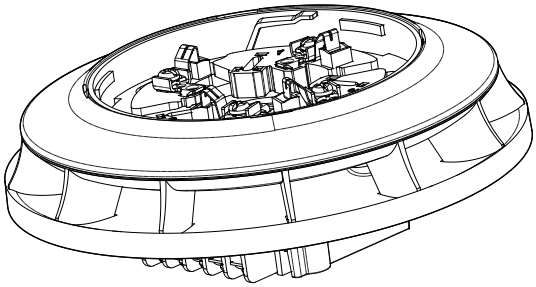
SIGA-AB4G-LF Low Frequency Audible Detector Base Installation Sheet



Description

The SIGA-AB4G-LF Low Frequency Audible Detector Base adds 520 Hz audible output functions to any compatible detector listed in Table 2. The output of the base is field-configurable for output mode (fire alarm or fire-plus-CO alarm) and output volume (low or high dBA).

For the fire output mode, the base firmware generates TC3 tones. Synchronized operation requires a separately installed synchronization control module. For the fire-plus-CO mode, the base generates a steady tone. The power circuit requires a SIGA-TCDR temporal pattern generator module to generate and synchronize the TC3 and TC4 tones.

Depending on the system supporting the detector signaling line circuit (SLC), the base can follow the state of the detector it supports, or can be controlled by program rules. This allows local or zoned operation.

The base uses the same address and programming label as the detector it supports.

Installation

Install and wire this device in accordance with applicable national and local codes, ordinances, and regulations.

Caution: Equipment damage hazard. To avoid accidental damage to the panel, disconnect all power before wiring the unit.

Notes

- Electrical supervision requires that the wire run be broken at each terminal. Do not loop the field wires around the terminals.
- Bases on a given power riser must be set for the same output mode; that is, all mode jumpers installed, or all mode jumpers removed.
- Configuration for TC4 output tones requires a SIGA-TCDR Temporal Pattern Generator to generate and synchronize the tones.

Base location: Refer to the detector installation instructions.

Sleeping rooms: In sleeping areas, configure the base for high volume output.

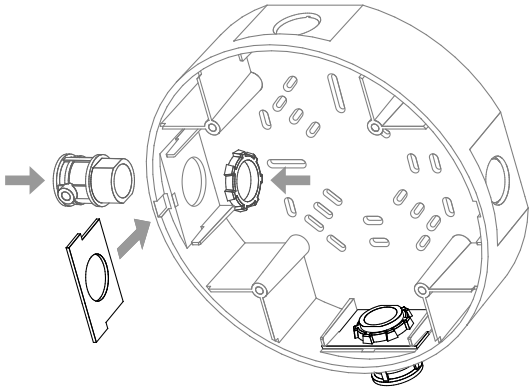
AB4G-SB: When using the AB4G-SB surface mount box, install a reinforcing plate at every knockout. (Reinforcing plates are included with the box.) Remove the knockout first, and then slide the reinforcing plate into the plastic housing. After the plate is in place, install a conduit connector and nut (not supplied). See Figure 1.

Refer to Figure 2 when following the installation steps.

To install the detector base:

1. Select and install a compatible electrical box, and bring the field wiring into the box.
2. The default mode setting for the base is for fire alarms. To configure it for fire-plus-CO alarms, remove the MODE jumper. (See Figure 3 for jumper locations.)
3. The default volume setting for the base is high dBA. To configure it for low dBA, remove the HI/LOW jumper.
4. Connect the field wiring to the terminals on the back of the base. For the unit to function properly, you must observe polarity. See Figure 3 and the diagrams in “Wiring” on page 3.
5. Attach the base to the electrical box.
6. Position the trim ring using the alignment marks, press the trim ring onto the base plate, and then turn the trim ring slightly until the tabs lock.
7. Position the detector using the alignment marks, press the detector into the base, and then turn the detector clockwise until it locks into place.

Figure 1: Installing reinforcing plates on the AB4G-SB box



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Figure 2: Installing the SIGA-AB4G-LF

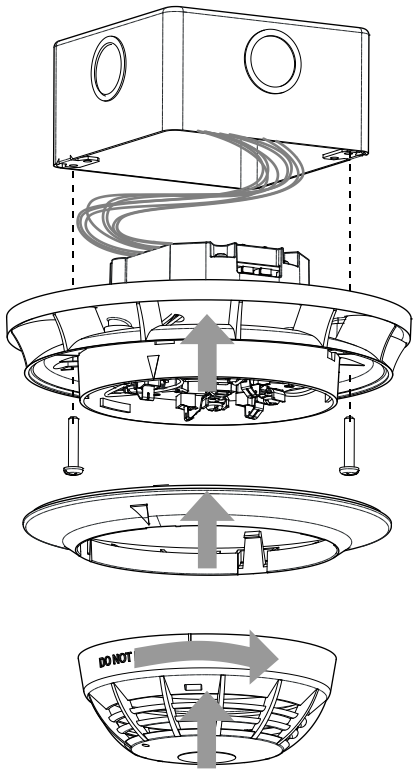
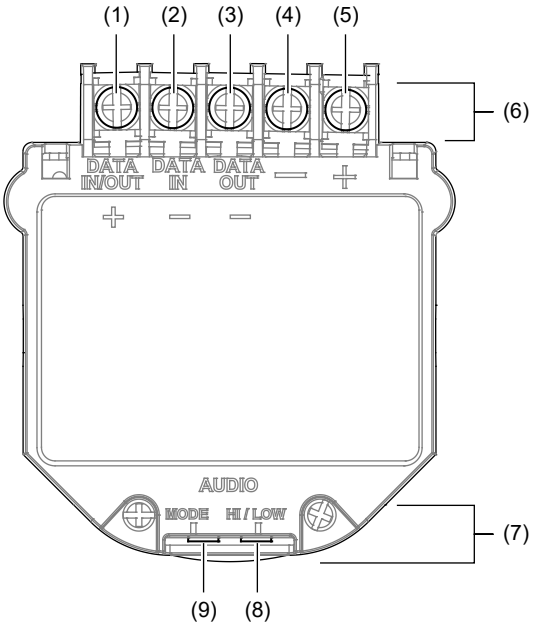


Figure 3: Jumpers and terminals



(1) SLC IN/OUT +
(2) SLC IN −
(3) SLC OUT −
(4) Power IN/OUT −
(5) Power IN/OUT +
(6) Terminal block
(7) Jumpers (see Table 1 for settings)
(8) Output volume jumper
(9) Output mode jumper

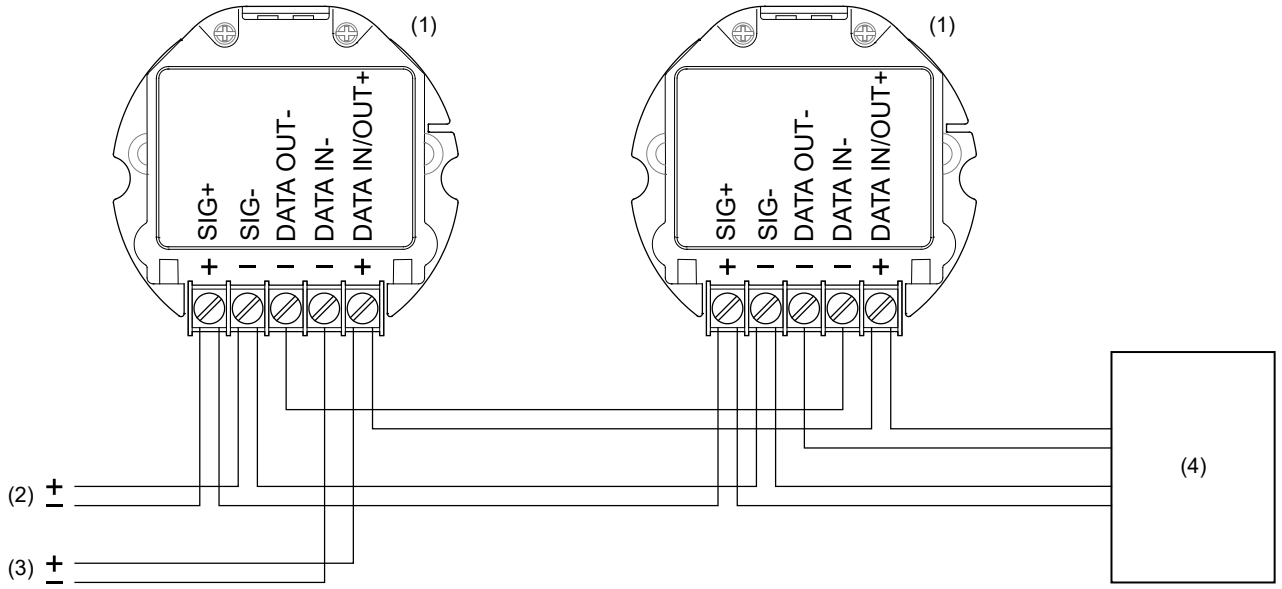
Table 1: Jumper settings

Jumper	Installed	Removed
MODE	Fire alarm mode. The TC3 pattern is generated by the base.	Fire-plus-CO alarm mode. The base generates a steady tone. A SIGA-TCDR is required for TC3 or TC4 pattern generation.
HI/LOW	High volume output	Low volume output

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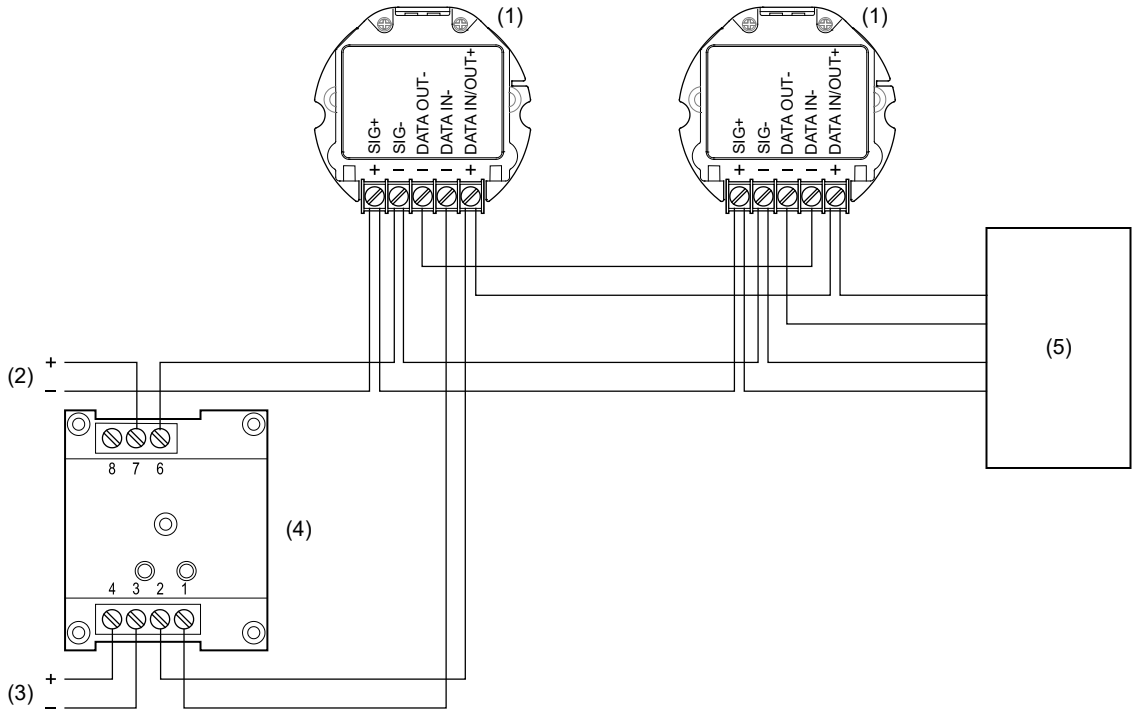
Wiring

Figure 4: Wiring to the power riser and SLC



(1) SIGA-AB4G-LF.
(2) Power riser. Use a 24 VDC primary or auxiliary power supply that is UL Listed for fire protective signaling systems. Polarity is shown in the supervisory state.
(3) Signaling line circuit (data circuit) from the SLC controller.
(4) SIGA-RM1 or SIGA-MRM1 riser monitor module.

Figure 5: Local fire alarm signaling application



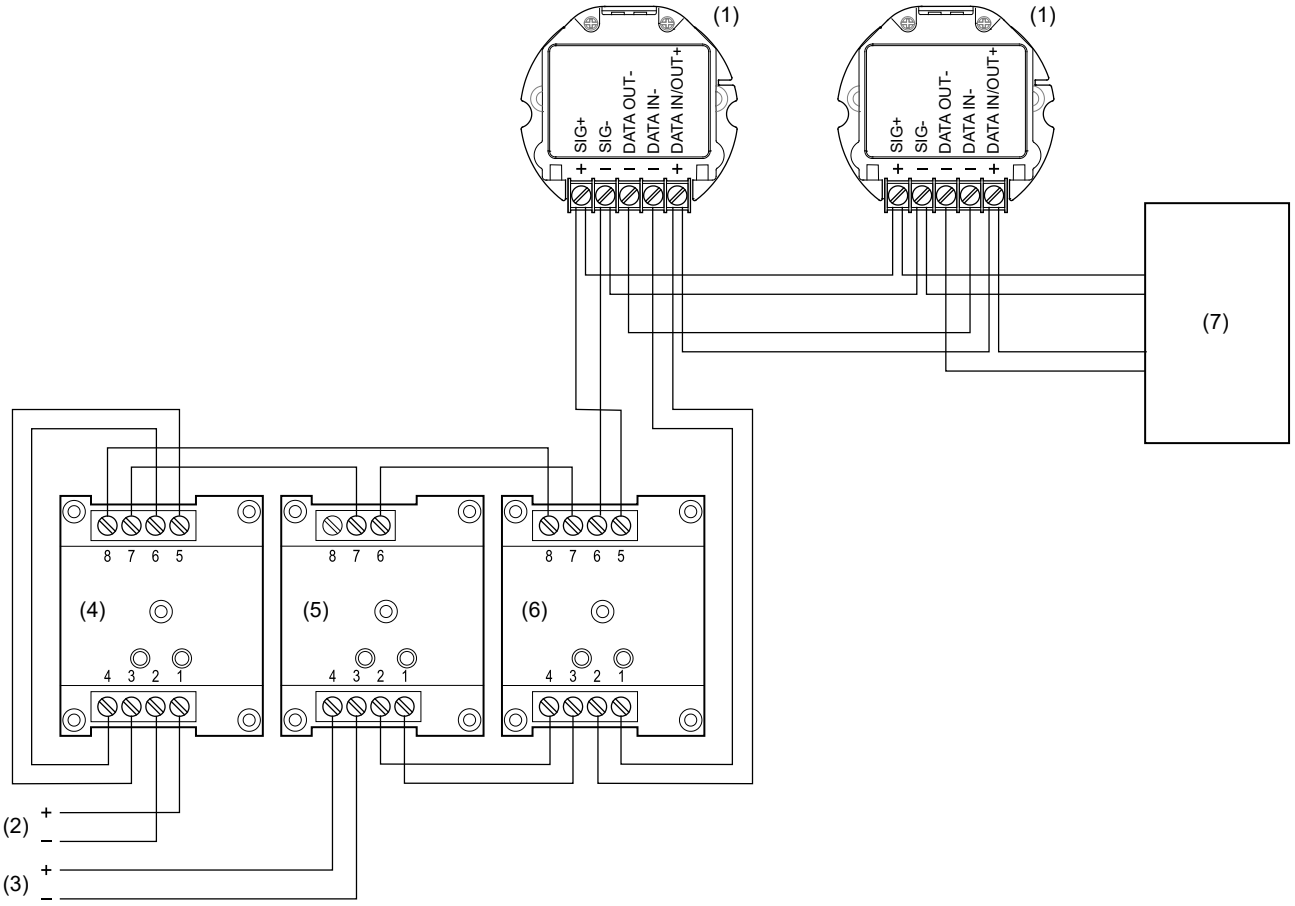
Legend

(1) SIGA-AB4G-LF. The MODE jumper must be installed.
(2) Power riser. Use a 24 VDC primary or auxiliary power supply that is UL Listed for fire protective signaling systems. Polarity is shown in the supervisory state.
(3) Signaling line circuit (data circuit) from the SLC controller.
(4) SIGA-CR module.
(5) SIGA-RM1 or SIGA-MRM1 riser monitor module.

Notes

- This application allows software control of the bases.
- The SIGA-CR module is optional. It allows silencing of all software activated bases on the circuit.
- Bases on this circuit will not meet UL synchronization requirements.

Figure 6: Synchronized fire alarm signaling application



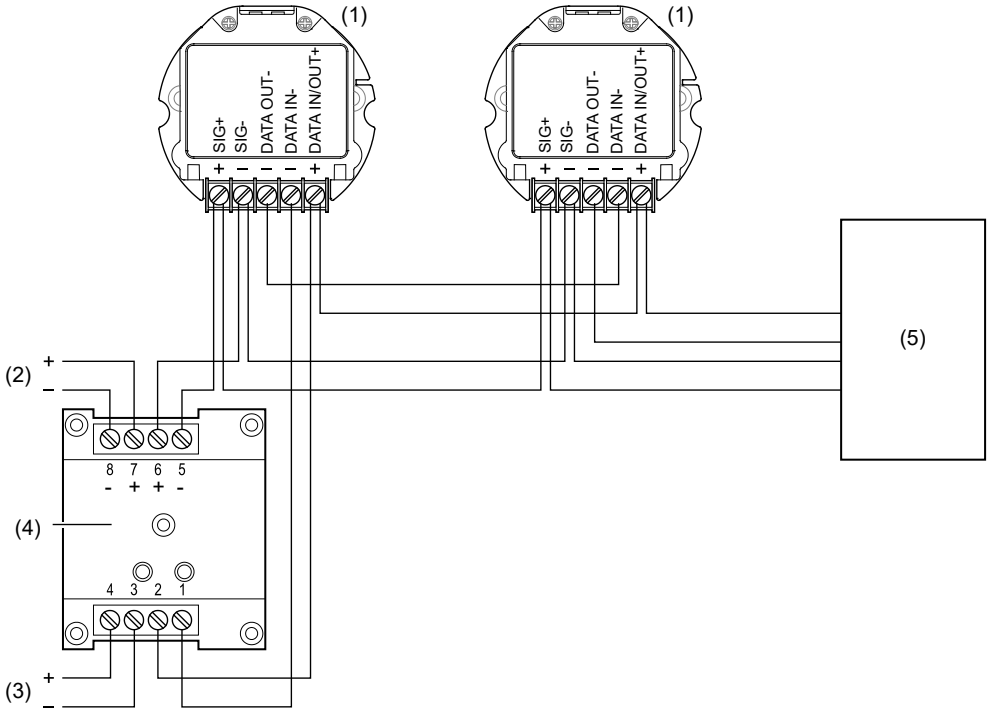
Legend

(1) SIGA-AB4G-LF. The MODE jumper must be installed.
(2) Power riser. Use a 24 VDC primary or auxiliary power supply that is UL Listed for fire protective signaling systems. Polarity is shown in the supervisory state.
(3) Signaling line circuit (data circuit) from the SLC controller.
(4) G1M-RM module.
(5) SIGA-CR module.
(6) SIGA-CRR module.
(7) SIGA-RM1 or SIGA-MRM1 riser monitor module.

Notes

- This application allows synchronization of all bases on the circuit.
- The SIGA-CR module is optional. It allows silencing of all software activated bases on the circuit.
- The SIGA-CRR module allows activation of all the bases on this circuit.
- Software control of individual bases is also possible
- Bases on this circuit meet UL synchronization requirements only if the SIGA-CRR is used to activate the entire circuit of bases. The G1M-RM provides this synchronization control
- Bases on this circuit will not meet UL synchronization requirements if they are software activated.

Figure 7: Fire-plus-CO alarm application



Legend

(1) SIGA-AB4G-LF. The MODE jumper must be removed.
(2) Power riser. Use a 24 VDC primary or auxiliary power supply that is UL Listed for fire protective signaling systems. Polarity is shown in the supervisory state.
(3) Signaling line circuit (data circuit) from the SLC controller.
(4) SIGA-TCDR module.
(5) SIGA-RM1 or SIGA-MRM1 riser monitor module.

Notes

- This application allows software control of individual bases.
- The SIGA-TCDR module allows the software activated sounder bases to emit steady, TC3, or TC4 tone patterns.
- Bases on this circuit will meet UL synchronization requirements for the bases on the circuit, and for bases on other similar circuits, provided that the SLC controller, or SLC controllers synchronized by the panel, lead to the same SIGA-TCDR module. Bases do not need to be on the same SLC as the SIGA-TCDR module to maintain synchronization.
- Bases on this circuit will synchronize to Genesis horns and chimes if the following conditions are met:
  - The Genesis audible devices are controlled by CC1S sync modules configured with the proper synchronization personality.
  - The SIGA-TCDR and the CC1S sync modules must be on the same SLC or on SLCs that are capable of synchronizing with each other.
  - This only applies to the TC3 pattern output tones. TC4 is not currently supported for Genesis audible devices.

Specifications

Voltage	16 to 33 VDC (24 VDC nominal)
Current	
Operating	See Table 3 and Table 4
Supervisory	6 mA
Sound level output	See Table 5, Table 6, and Table 7
Resonant frequency	520 Hz ±10%
Output mode patterns	Determined by the mode jumper setting
Fire	Steady or TC3
Fire-plus-CO	TC3 or TC4
Default configuration	
Mode	Fire
Volume	High dBA
Wire size	12 to 18 AWG (1.0 to 4.0 mm²)
Base diameter	6.8 in. (173 mm)
Base height from box	1.4 in. (35 mm)
Compatible detectors	See Table 2
Compatible electrical boxes	AB4G-SB surface box for audible base; 4 in. square by 2-1/8 in. (54 mm) deep box; Standard European 100 mm square box
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

[1] A SIGA-TCDR is required to modulate the power riser when the SIGA-AB4G-LF is configured for a fire - CO detector.

Table 2: Compatible detectors

ADT-HFS	SIGA2-HCOS-CA	SIGA-HRS
ADT-HRS	SIGA2-HFS	SIGA-IPHS(B)
ADT-IPHS(B)	SIGA2-HRS	SIGA-PHS
ADT-PHS	SIGA2-PCOS	SIGA-PHS-105 [1]
ADT-PS	SIGA2-PCOS-CA	SIGA-PS
GSA-HFS	SIGA2-PHCOS	V-PCOS
GSA-HRS	SIGA2-PHCOS-CA	V-PCOS-CA
GSA-IPHS	SIGA2-PHS(B)	XLS-HFS
GSA-PHS	SIGA2-PS	XLS-HRS
GSA-PS	SIGA-DHI	XLS-IPHS(B)
SIGA2-COS	SIGA-DSI	XLS-PHS
SIGA2-COS-CA	SIGA-HFS	XLS-PS
SIGA2-HCOS	SIGA-HFS-105 [1]	

[1] This detector is not UL Listed

Table 3: Operating current (mA RMS) [1]

Signal	Low dBA			High dBA		
	16 VDC	24 VDC	33 VDC	16 VDC	24 VDC	33 VDC
TC3	76.0	76.4	85.6	92.0	76.0	93.6
TC4	112.8	148.0	125.6	107.2	150.0	150.8
Steady	75.2	76.0	92.4	143.0	92.0	97.0

[1] UL ratings

Table 4: Nominal alarm current for battery calculations (mA)

Signal	Low dBA	High dBA
TC3/TC4	35	92
TC4 only	32	45
Steady	53	143

Table 5: Nominal sound level [1]

Signal	Low dBA	High dBA
TC3	83	87
TC4	83	87
Steady	83	87

[1] As measured in an anechoic chamber at 10 ft.

Table 6: Sound level per UL 268, UL 521, UL 2075 [1]

Signal	Low dBA	High dBA [2]
TC3	76.3	80.8
TC4	73.0	77.4
Steady	80.9	85.3

[1] As measured in a UL reverberant room at 10 ft.

[2] For NFPA 72 and NFPA 720 applications, the high dBA settings can be used for public mode evacuation.

Table 7: Sound level per UL 464 [1]

Signal	Low dBA	High dBA [2]
TC3	70.3	74.8
TC4	67.0	71.4
Steady	74.9	79.3

[1] As measured in a UL reverberant room at 10 ft.

[2] For NFPA 72 and NFPA 720 applications, the high dBA settings can be used for public mode operation.

Regulatory information

UL rating	Regulated 24 DC
Environment type	Indoor only
North American standards	UL 268 UL 464 UL 521 UL 2075
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Contact information

For contact information, see www.edwardsfiresafety.com.