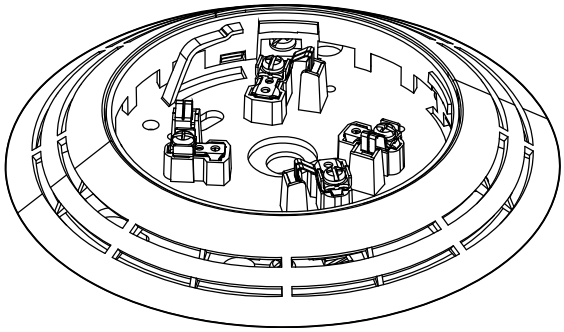
KI-ABST Sounder Base Installation Sheet



Description

The KI-ABST sounder base adds alarm signaling capability to compatible single-function smoke detectors. See “Specifications” on page 3 for compatible detectors.

The KI-ABST sounder base is field-configurable for a low dB or high dB output, and for a steady or temporal signal. See Figure 1.

In temporal mode, the KI-ABST generates the required fire alarm signal and uses a separate synchronization module and polarity reversal relay for signal synchronization. See Figure 4.

For application and programming details, refer to the control unit documentation.

Installation

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

Cautions

- To prevent accidentally alarming the system, disconnect the signaling line circuit (SLC) from the control unit before connecting this device.
- Electrical supervision requires that you break the wire run at each terminal. Do not loop the field wires around the terminals.
- Equipment damage hazard. Printed circuit boards are not field repairable. When configuring the sounder base, make sure you are cutting the correct location before you make the cut.
- Equipment damage hazard. Overtightening the screw terminals can damage the terminal and make wire connections less secure. Tighten screws firmly, but do not overtighten.

Notes

- Always connect the base to a steady voltage, whether the output signal on the audible detector base is set to steady or temporal.
- This device is prohibited from being installed in a dwelling unit as defined in the National Building Code of Canada.
- For determining where to locate the sounder base, refer to the detector installation instructions.

To install the sounder base:

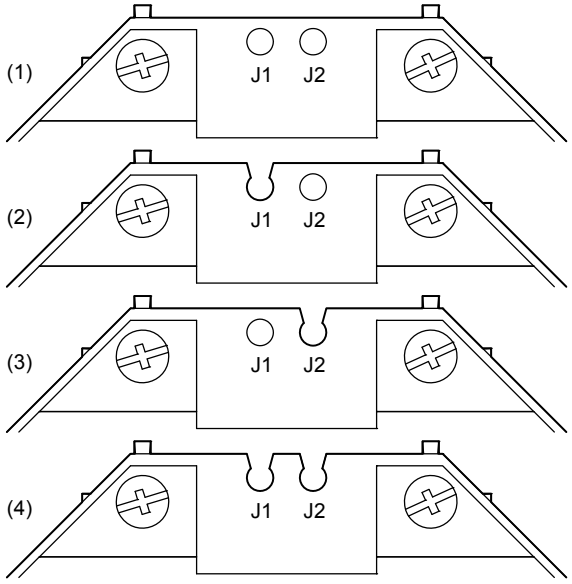
1. Configure the sounder base. See Figure 1.

   To select a low dB output, cut the printed circuit board at J1. For a high dB output, leave J1 intact.

   To select a steady output, cut the printed circuit board at J2. For a temporal output, leave J2 intact.
2. Connect the field wiring to the terminals. Observe the signal polarity of the AUX riser (plus to minus and minus to plus). See Figure 3 and Figure 4. Do not overtighten the screws.
3. Attach the base plate to the electrical box. See Figure 5. Do not overtighten the screws.

   If you are using the AB4G-SB surface mount box, make sure to install a reinforcing plate at each knockout used. Reinforcing plates are included with the AB4G-SB. See Figure 2.
4. Align the trim ring so that the four tabs on the ring mate with the four slots in the base plate, and then press the trim ring onto the base plate until the tabs lock.

Figure 1: Output configuration



(1) High dB, Temporal
(2) Low dB, Temporal
(3) High dB, Steady
(4) Low dB, Steady

Figure 2: Installing reinforcing plates on the AB4G-SB box

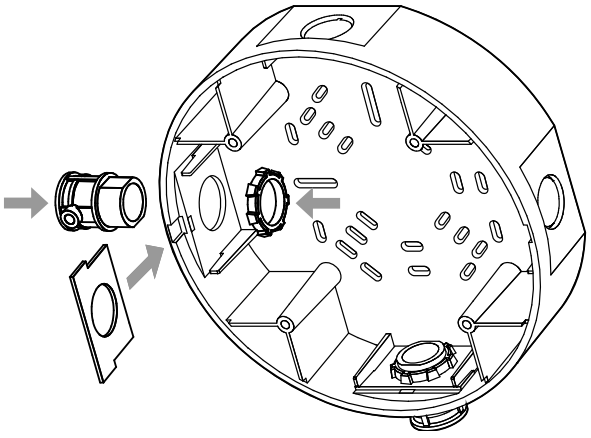


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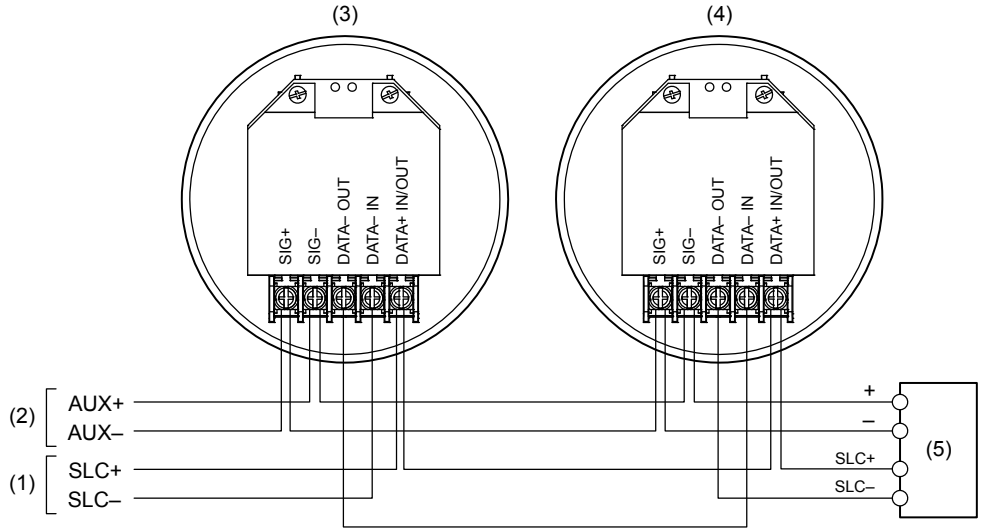
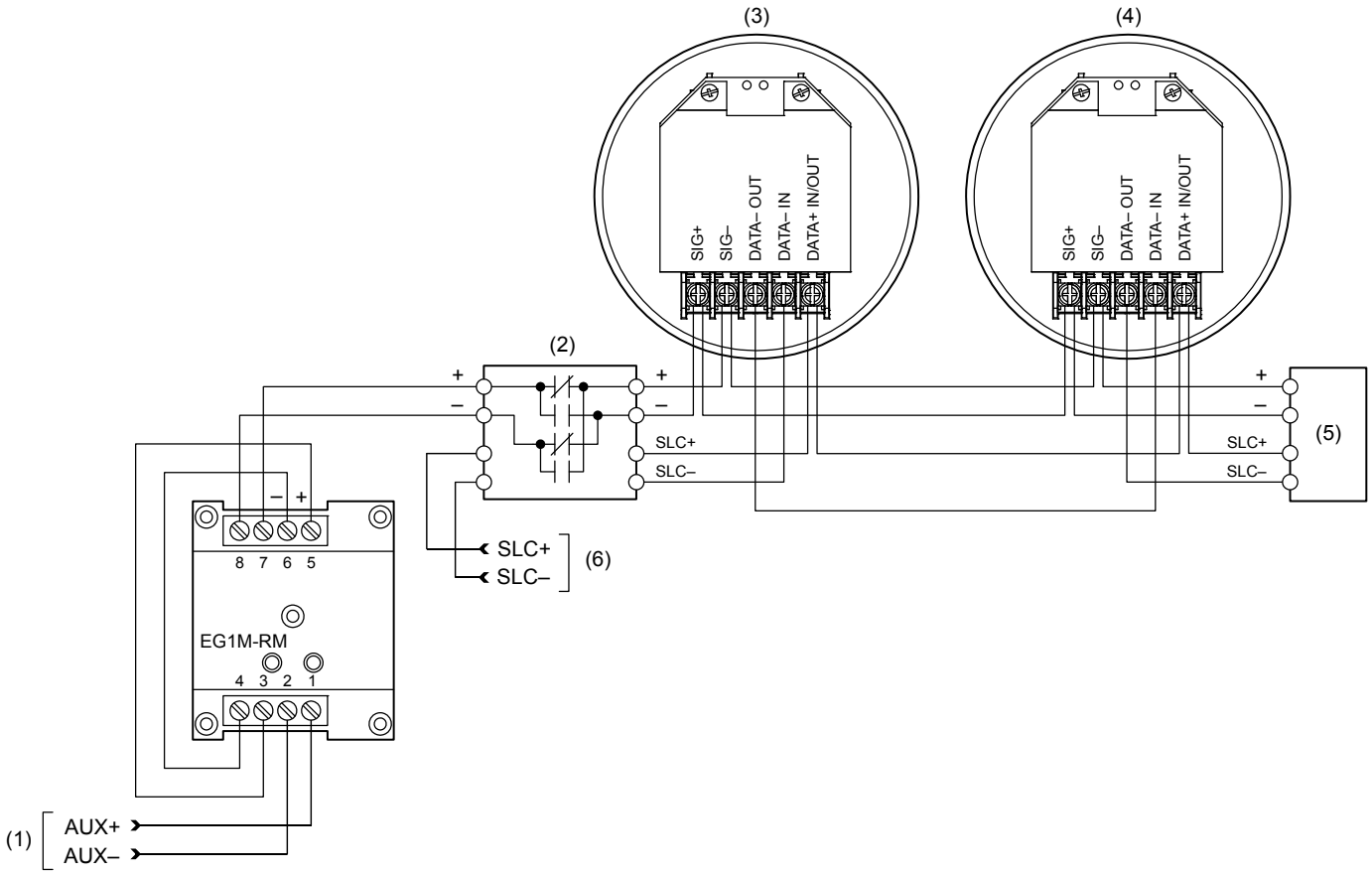
Figure 3: Typical unsynchronized sounder base circuit (steady output signal)



(1) From the control unit signaling line circuit controller.
(2) From a 24 VDC auxiliary power supply that is UL/ULC Listed for fire protective signaling systems.
(3) First KI-ABST on the AUX riser.
(4) Last KI-ABST on the AUX riser.
(5) AUX riser supervision circuit.

Figure 4: Typical synchronized sounder base circuit (temporal output signal)



(1) From a 24 VDC auxiliary power supply that is UL/ULC Listed for fire protective signaling systems.
(2) Polarity reversal relay module. Polarity shown in the normal state.
(3) First KI-ABST on the AUX riser.
(4) Last KI-ABST on the AUX riser.
(5) AUX riser supervision circuit.
(6) From the control unit signaling line circuit controller.

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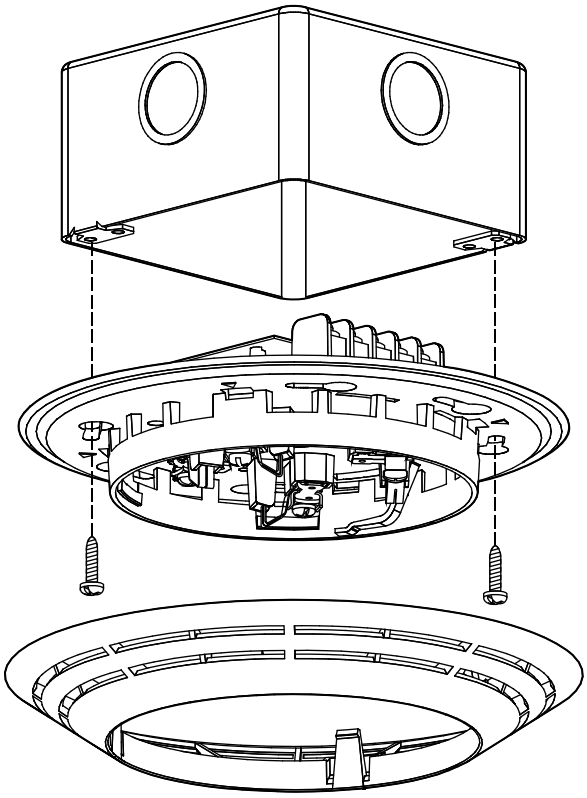
Figure 5: Mounting diagram



Maintenance and testing

Caution: Equipment damage hazard. To maintain the required agency listings, do not change factory-applied finishes.

This unit is not serviceable or repairable. Should the unit fail to operate, contact the supplier for a replacement.

Perform a visual and operational inspection in accordance with applicable codes and standards or as directed by the local authority having jurisdiction.

Specifications

Operating voltage	24 VDC or 24 VFWR, nominal
Current	
Operating	See Table 1
Supervisory	DC = 1.46 mA, FWR = 2.15 mA
Default settings	
Output level	High dBA
Output signal	Temporal
Sound level output	
ULC	See Table 2
UL	See Table 3
Resonant frequency	3.2 kHz
Audible directional characteristics	See Table 4
Temporal pattern	0.5 s on, 0.5 s off, 0.5 s on, 0.5 s off, 0.5 s on, 1.5 s off, repeat cycle
Compatible detectors	All KI and KIR Series detectors
Compatible electrical boxes	AB4G-SB surface box for audible base; 4 in. square × 2-1/2 in. (64 mm) deep box; 3-1/2 in. octagonal × 2-1/2 in. (64 mm) deep box; Standard European 100 mm² box
Wire size	12 to 18 AWG (1.0 to 4.0 mm²) Sizes 16 and 18 AWG (1.0 and 1.5 mm²) are preferred
Screw torque	
Base mounting	18 lbf-in (2.0 N·m) max.
Terminal	12 lbf-in (1.4 N·m) max.
Base diameter	6.8 in. (173 mm)
Base height from box	0.8 in. (21 mm)
Maximum distance from ceiling (wall mount)	12 in. (305 mm)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing
Storage temperature	−4 to 140°F (−20 to 60°C)

Table 1: Operating current in mA (RMS)

Voltage	Low dBA	High dBA
16 VDC	17	28
24 VDC	24	41
33 VDC	31	52
16 VFWR	41	48
24 VFWR	51	60
33 VFWR	60	66

VDC = Volts direct current, regulated and filtered
VFWR = Volts full wave rectified

Table 2: Sound pressure level per CAN/ULC-S525

Voltage	High dBA	Low dBA
Reg. 24 VDC	93	89
Reg. 24 VFWR	96	92

Table 3: Sound level output (dBA)

Signal	Voltage	Low dBA	High dBA
Reverberant room per UL 464 [1]			
Steady	16 VDC	75.5	81.7
	24 VDC	79.5	84.5
	33 VDC	81.8	86.5
Reverberant room per UL 268 and FM [1]			
Steady	16 VDC	81.5	87.7
	24 VDC	85.5	90.5
	33 VDC	87.8	92.5

[1] For UL 464 and UL 268 applications, low dBA settings are for private mode only

Table 4: Audible directional characteristics [1]

Angle (degrees)	Change in output sound pressure level
90 (ref)	0 dBA
75 and 105	−3 dBA
65 and 110	−6 dBA

[1] Measured in a ULC anechoic room. Horizontal and vertical axes reflect the same pattern.

Regulatory information

UL ratings	Regulated 24 DC, Regulated 24 FWR
ULC ratings	20 to 31 VDC or 20 to 31 VFWR
Environmental class	Indoor, dry
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.
Industry Canada compliance	This Class A digital apparatus complies with Canadian ICES-003.

Contact information

For contact information, see www.kiddelifesafety.com

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