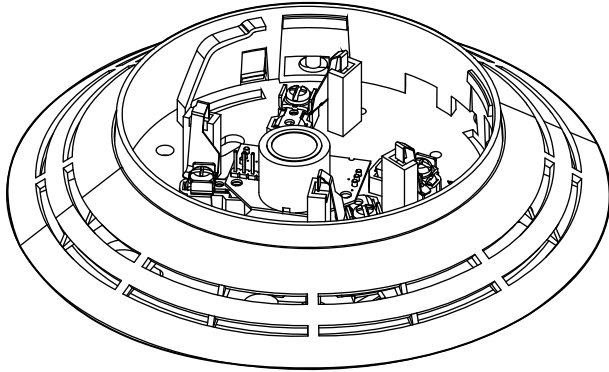


# AB4G Audible Detector Base Installation Sheet



## Description

This installation sheet applies to AB4G Audible Detector Base units with model numbers GSA-AB4G and SIGA-AB4G.

The AB4G Audible Detector Base adds an audible output function to any Signature Series detector. The output of this detector base is field-configurable for output tone (steady or temporal) and output volume (low or high dBA).

Depending on the system supporting the Signature loop, the base can:

- Follow the state of the device it supports
- Be configured (in the SDU) for other operating modes
- Be controlled by program rules

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

## Installation

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

### Cautions

- To avoid accidental damage to the panel, disconnect all power before wiring the unit.
- Do not loop the signaling circuit field wires around the terminals.

**Note:** Always connect the base to a continuous voltage, whether the output tone on the audible detector base is set to steady or temporal.

**Sleeping rooms:** In sleeping areas, use the high dBA output and temporal tone settings.

**AB4G-SB:** When using the AB4G-SB 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 the conduit connector and nut. See Figure 1.

Typically, the base is configured to produce a high dBA temporal tone and is connected to a notification appliance circuit that outputs a continuous 24 VDC signal.

Refer to Figure 2 when following the installation steps given below.

### To install the audible detector base:

1. The unit default is for high dBA output. To set the output to low dBA, cut the circuit board trace as marked on the back of the PC board. See Figure 3.
2. The unit default is for temporal pattern output. To set the output to steady tone, cut the circuit board trace as marked on the back of the PC board. See Figure 3.
3. Select and install a compatible electrical box, and then bring the field wiring into the box.
4. Connect the field wiring to the terminals on the back of the base plate. For the unit to function properly, observe polarity. See Figure 3.
5. Attach the base plate to the electrical box.
6. 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.
7. Attach the desired Signature detector to the base. Align the arrows on the detector and trim ring, press the detector into the base, and then rotate the detector until it locks into place.
8. Apply power and activate the unit to verify that it is operating properly.

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

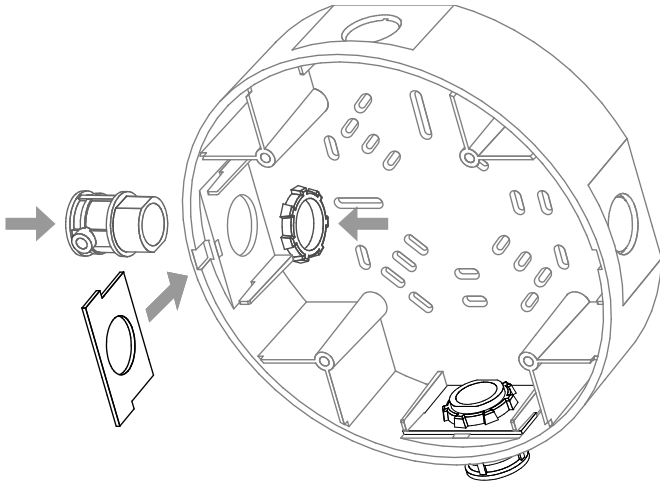
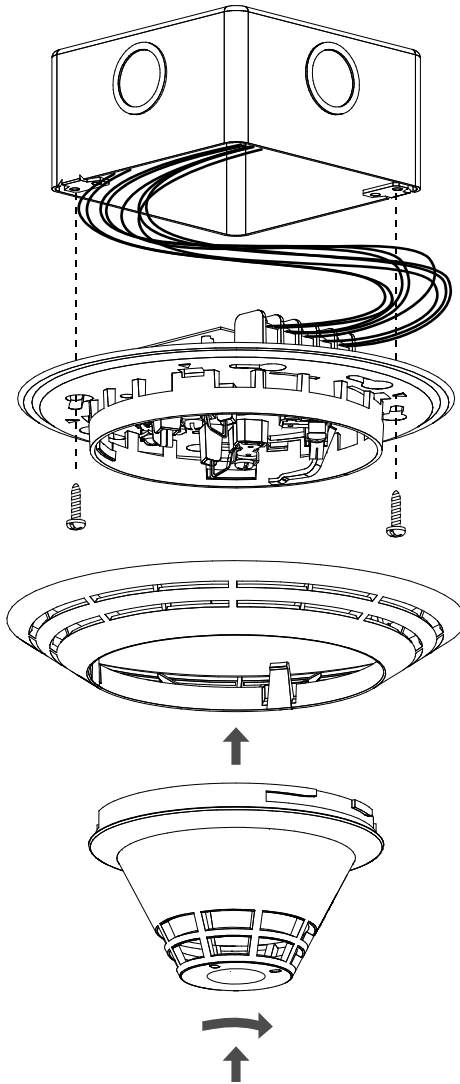


Figure 2: Installing the Audible Detector Base

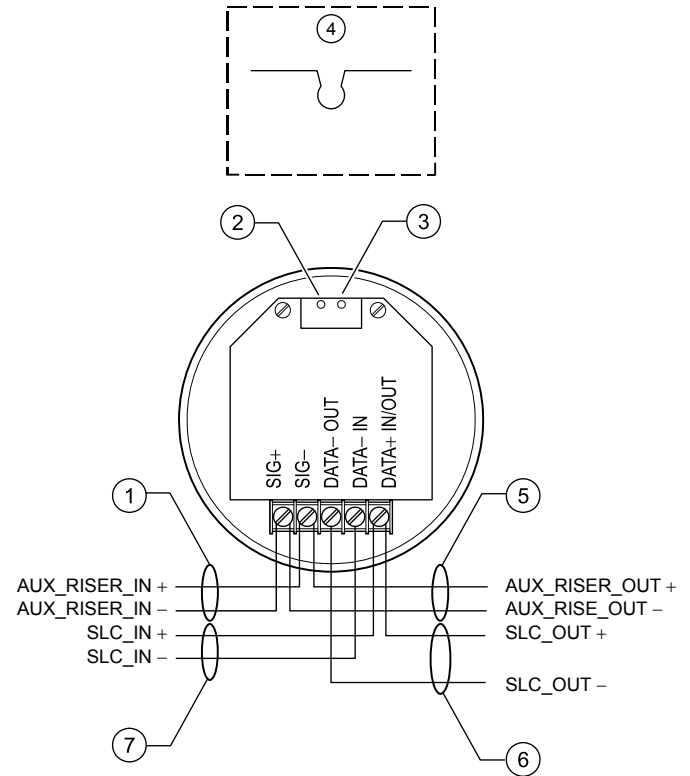


## Wiring diagram

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

See Figure 3. For additional wiring details, see the applicable control panel installation manual.

Figure 3: Output configuration and basic wiring



- (1) AUX-RISER\_IN (from previous base or 24 VDC primary or auxiliary power supply that is UL/ULC listed for fire protective signaling systems)
- (2) Volume setting: default is high volume; cut per item 4 for low volume
- (3) Tone Setting: default is temporal pattern: cut per item 4 for steady tone
- (4) To configure output volume or tone, cut the circuit board as shown
- (5) AUX-RISER\_OUT to next base or EOL relay
- (6) SLC\_OUT to next intelligent addressable device
- (7) SLC\_IN from intelligent addressable controller or previous device

## Maintenance

Do not change the factory-applied finish.

## 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 volume	High dBA
Output tone	Temporal pattern
Sound level output	
ULC	See Table 2
UL	See Table 3
Resonant frequency	3.2 kHz
Audible directional characteristics	See Table 4 and Table 5
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 Signature Series detectors [1]
Compatible electrical boxes	AB4G-SB surface box for audible base; 4 in. square x 2-1/2 in. (64 mm) deep box; 3-1/2 in. octagonal x 2-1/2 in. (64 mm) deep box; Standard European 100 mm <sup>2</sup> box
Wire size	12 to 18 AWG (1.0 to 4.0 mm <sup>2</sup> ) Sizes 16 and 18 AWG (1.0 and 1.5 mm <sup>2</sup> ) are preferred
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)
Environment type	Type A (Indoor only)
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)

[1] GSA series not CPD approved

**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
<b>Reverberant room per UL 464 [1]</b>			
Steady	16 VDC	75.5	81.7
	24 VDC	79.5	84.5
	33 VDC	81.8	86.5
<b>Reverberant room per UL 268 and FM [1]</b>			
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)	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.

**Table 5: Audible directional characteristics for EN 54-3**

Angle	Horizontal Plane		Vertical Plane	
	Min 16 V	Max 33 V	Min 16 V	Max 33 V
<b>Steady tone maximum volume (dBA)</b>				
15°	91.6	96.6	84.1	89.6
45°	97.5	102.6	82.9	87.6
75°	101.8	106.9	101.0	106.3
105°	100.1	105.4	99.8	105.1
135°	92.3	97.7	83.7	89.3
165°	92.7	98.2	86.2	92.0
<b>Temporal tone maximum volume (dBA)</b>				
15°	91.4	96.6	84.4	90.3
45°	97.3	102.5	81.5	86.9
75°	101.4	106.6	101.1	106.8
105°	100.6	105.8	100.1	105.8
135°	92.1	97.5	83.5	89.4
165°	92.1	97.4	87.9	93.5

## Regulatory information

Manufacturer	Edwards, A Division of UTC Fire & Security Americas Corporation, Inc. 8985 Town Center Parkway, Bradenton, FL 34202, USA Authorized EU manufacturing representative: UTC Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands
Year of manufacture	The first two digits of the product serial number (located on the product identification label) are the year of manufacture.
EN 54	EN 54-18: 2005
CPR [1]	0832-CPR-F0326
UL ratings	Regulated 24 DC, Regulated 24 FWR
ULC ratings	20 to 31 VDC or 20 to 31 VFWR
North American standards	Meets: UL 268, UL 464, CAN/ULC-S525, and CAN/ULC-S529 Follow: CSA C22.1 and CAN/ULC-S524 This device is prohibited from being installed in a dwelling unit as defined in the <i>National Building Code of Canada</i> .

[1] GSA series not CPR approved

## Contact information

For contact information, see [www.edwardsutcfs.com](http://www.edwardsutcfs.com).

## Applications

This section describes applications typically found in the North American marketplace that apply to the AB4G and Signature audible bases. For additional examples, see the applicable control panel application manual.

### Local alarm signaling application

Figure 4 shows the components and wiring required for a local alarm signaling application.

All other audible detector bases on the same riser remain silent until their detectors are activated. The audible detector base remains audible until the smoke clears and the control panel is reset.

### Zone alarm signaling application

Figure 5 shows the components and wiring required for a zone alarm signaling application.

In this application, use a CRR module to activate all the audible detector bases in the same notification zone when any one of their detectors activates (initiates an alarm event). The audible detector base remains audible until:

- Smoke is cleared from the active detectors and the control panel is reset.
- The control panel's Auto Signal Silence timer expires.
- It is silenced by the CRR that is programmed as a silencing relay. (This function of the CRR is panel dependent.)

For more information about the Auto Signal Silence timer function, and if the CRR can be programmed to silence the panel, see the applicable control panel manual.

### Synchronized alarm signaling application

Figure 6 shows the components and wiring required for a synchronized alarm signaling application.

In this application, use a CRR module to activate all audible detector bases when any alarm signal-initiating device activates. Use a G1M-RM to synchronize the sound. The audible detector base remains audible until:

- Smoke is cleared from the active detectors and the control panel is reset.
- The control panel's Auto Signal Silence timer expires.
- It is silenced by the CRR that is programmed as a silencing relay. (This function of the CRR is panel dependent.)

For more information about the Auto Signal Silence timer function, and if the CRR can be programmed to silence the panel, see the applicable control panel manual.

Figure 4: Local alarm signaling application

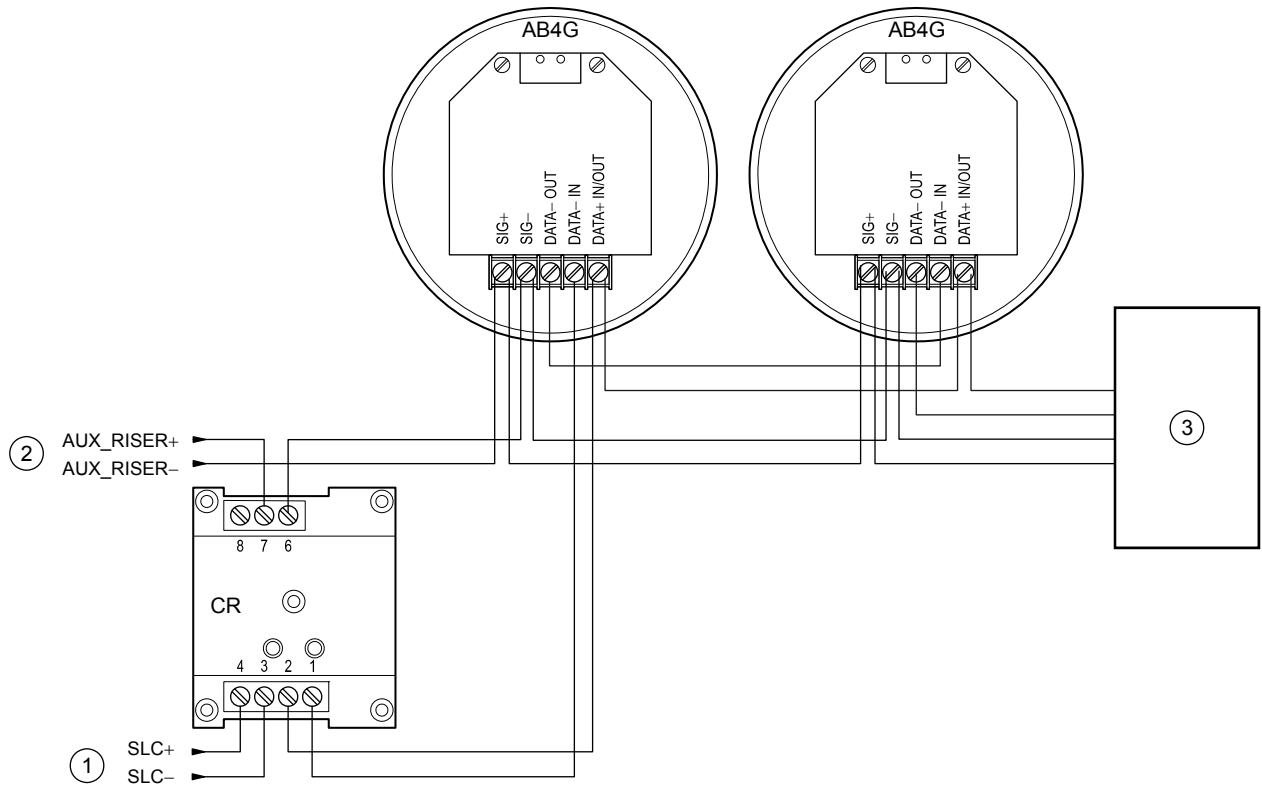
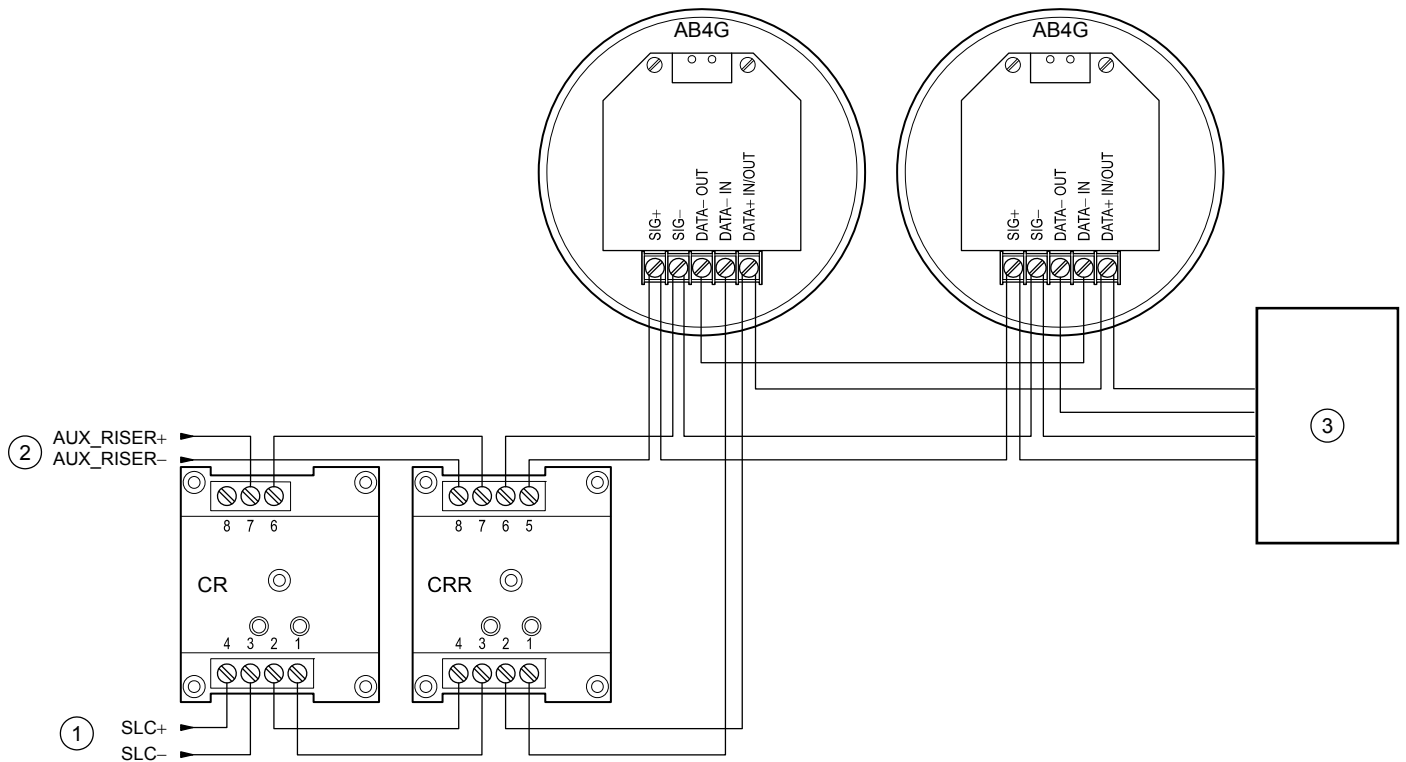
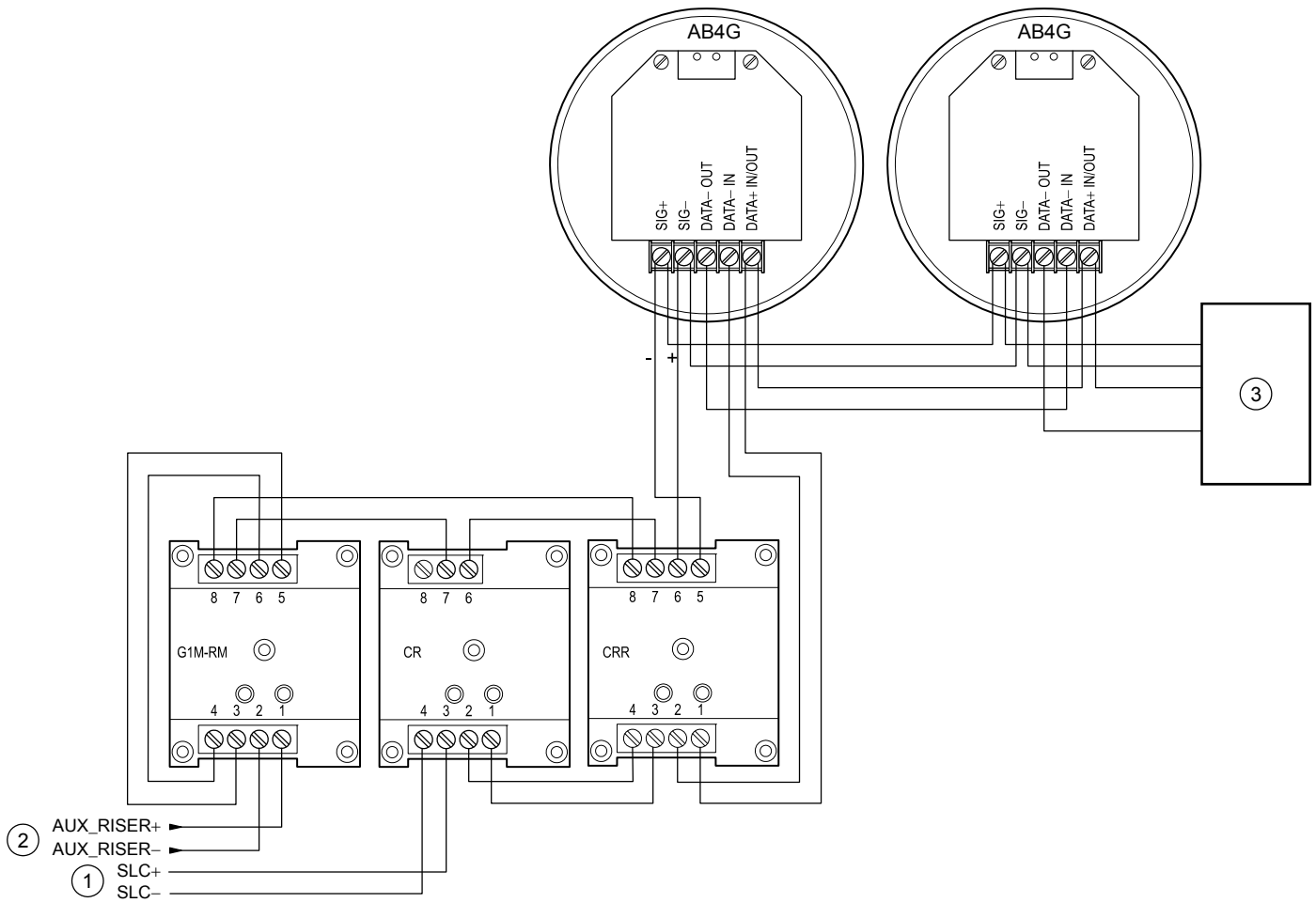


Figure 5: Zone alarm signaling application



- (1) Data from signature controller
- (2) Use a 24 VDC primary or auxiliary power supply that is UL/ULC Listed for fire protective signaling systems
- (3) Listed 24 V EOL supervising equipment

Figure 6: Synchronized alarm signaling application



- (1) Data from signature controller
- (2) Use a 24 VDC primary or auxiliary power supply that is UL/ULC Listed for fire protective signaling systems
- (3) Listed 24 V EOL supervising equipment