

# Sounder base for CO and fire detectors

SIGA-AB4GT, SIGA-TCDR



## Description

The Signature Series AB4GT sounder base, which requires the use of a SIGA-TCDR Temporal Pattern Generator, adds an audible output function to any Signature Series detector. The SIGA-TCDR requires EST3 control with V4.0 firmware or higher. It uses the same address and programming label as the detector it supports.

The AB4GT is field-configurable for output volume (low or high dBA). By default, the SIGA-AB4GT sounder base is set for high dBA.

AB4GT sounder bases on the same circuit may be activated as a group or zone with the use of a SIGA-CRR polarity reversal module.

Additionally, the AB4GT sounder base can simply operate according to the state of its detector, or it can be configured through system programming to operate in conjunction with all sounder bases on the same circuit, or it can be controlled by program rules.

The base generates a loud piercing tone that has excellent wall penetration qualities. It uses the same tone generator found in the award-winning Genesis line of wall and ceiling horns.

The AB4GT sounder base matches the finish of Signature Series detectors and the sound output slots complement the smoke/heat/CO entry openings of the detector. The result is a compact unit with a clean attractive appearance.

## Standard Features

- **Compatible with CO, smoke, and heat detectors**  
Approved audible output facilitated by the SIGA-TCDR Temporal Pattern Generator module.
- **High or low dB output**  
Jumper selects low or high dBA output.
- **Single or group operation**  
Optional polarity reversing module configures base for group alarm output.
- **UL268, UL464, and UL2075 listed**  
UL listing under smoke detector, CO detector, and audible signal standards allows application as smoke alarm, CO alarm and/or audible signal.
- **Attractive installation**  
Flush mount to a wide selection of North American boxes or surface mount to optional custom-matched box.

Application

The Signature Series AB4GT sounder base is for use with Signature Series detectors in applications where localized or group alarm signaling is required. The base uses the same address and programming label as the detector it supports.

The base is listed by Underwriters Laboratories under the UL268, UL464, and UL2075 standards, allowing its application where smoke alarms, CO alarms, and/or notification appliances are required. This makes the AB4GT ideal for hotels, dormitories, and other residential occupancies where supplementary audible output is required to meet required sound levels for sleeping areas or areas subject to high levels of ambient noise.

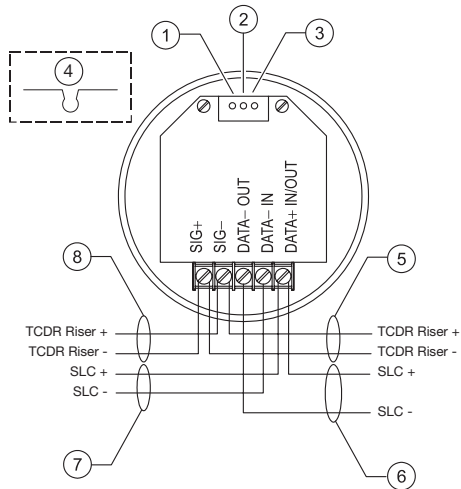
CO Applications

When an AB4GT gets a signal from its detector to activate, there is a delay so the AB4GT doesn't immediately go in steady tone. When the AB4GT detects pulses on the TCDR riser, it activates the sounder. If there are no pulses, the AB4GT just sounds steady after the short delay expires.

Depending on the type of alarm, the panel can select the corresponding pattern and send the activation command to the SIGA-TCDR.

To control all sounder bases in the loop, use a SIGA-CRR module. The panel sends a signal to the SIGA-CRR so it flips the reverse relay. With the polarity on the riser reversed, all the sounder bases on this loop activate. The SIGA-TCDR maintains synchronization by processing the SYNC commands from the loop controller.

Configuration



- 1. Volume setting. Default is high volume. For low volume, cut trace per item 4.
- 2. Reserved for future use. Do not cut.
- 3. Reserved for future use. Do not cut.
- 4. To configure output volume, cut trace as shown.
- 5. To next SIGA-AB4GT sounder base or EOL relay.
- 6. SLC\_OUT to next intelligent addressable device.
- 7. SLC\_IN from intelligent addressable controller or previous device.
- 8. From SIGA-TCDR Temporal Pattern Generator or previous SIGA-AB4GT sounder base.

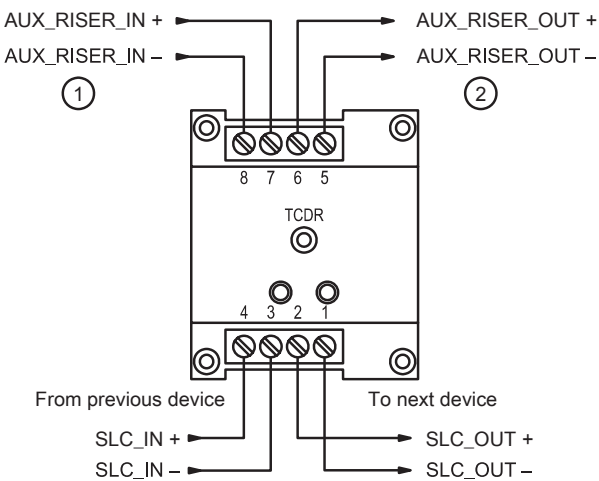
SIGA-TCDR Temporal Pattern Generator

The SIGA-TCDR Temporal Pattern Generator is an addressable device that generates sound patterns for carbon monoxide (CO) and fire signals for the AB4GT sounder base. The control panel sends synchronization and channel commands to the SIGA-TCDR; the channel selection determines the pattern. In the U.S. Channel 1 is TC3 and Channel 2 is TC4. In Europe, Channel 1 is TC4 and Channel 2 is TC3 (in case both channels are activated, Channel 1 has priority). Other markets depend on local requirement

Temporal patterns

| Name | Code    | Used for |
|------|---------|----------|
| TC4  | UL2075  | CO       |
| TC3  | NFPA 72 | Fire     |

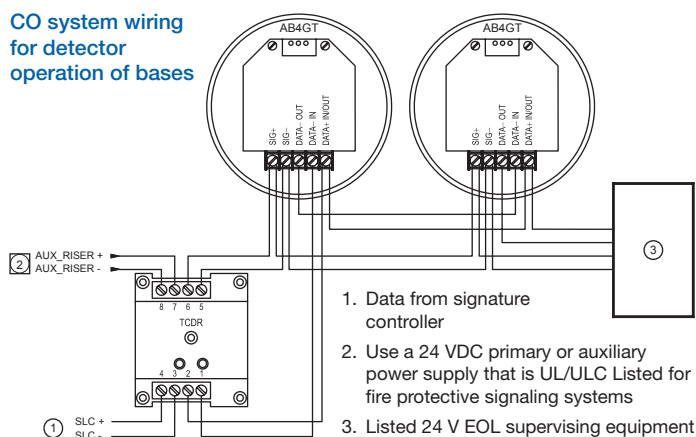
The SIGA-TCDR module uses two addresses on the signaling line circuit (SLC). Address 1 is tied to Channel 1; Address 2 is tied to Channel 2.



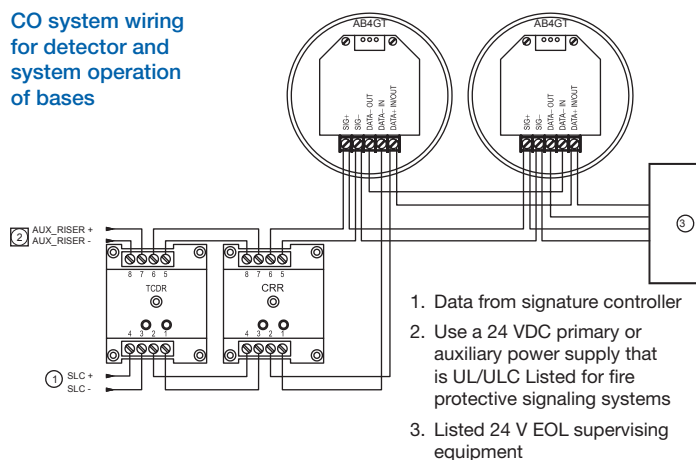
- 1. Use a power-limited and regulated 24 VDC primary or auxiliary power supply that is UL/ULC listed for fire protective signaling systems.
- 2. Power out to AB4GT sounder base or listed EOL relay and supervising module

## Typical Wiring

### CO system wiring for detector operation of bases



### CO system wiring for detector and system operation of bases



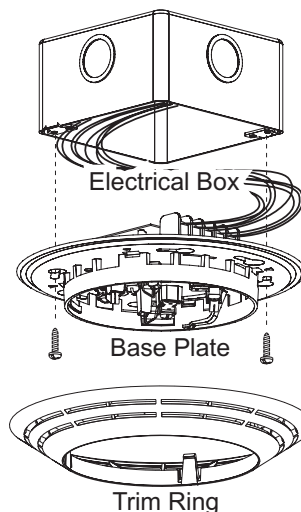
## AB4GT Operating current in mA (RMS)

| 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

## Installation and Mounting

**Flush Mounting:** The sounder base flush mounts into 2-1/8 inch (54 mm) deep standard North American 4 inch square electric box, North American 4 x 4 inch octagonal concrete ring (mud box), and standard European 100 mm square electric boxes. The terminal block makes field wire connections fast and efficient. After wiring, a simple push and twist motion locks the Signature detector into the base.



### AB4G-SB

Optional Surface Box  
(6.8" diameter x 1.8" deep)

Edwards recommends that life safety systems and their devices always be installed in accordance with the latest recognized edition of national and local fire alarm codes.

## Sound Level Output

| Signal                                                    | Voltage | Low dBA | High dBA |
|-----------------------------------------------------------|---------|---------|----------|
| <b>Reverberant room per UL 464 <sup>1</sup></b>           |         |         |          |
| TC3 (fire pattern)                                        | 16 VDC  | 80.5    | 85.2     |
| TC4 (CO pattern)                                          | 16 VDC  | 73.9    | 77.5     |
| <b>Reverberant room per UL 268 and FM <sup>2</sup></b>    |         |         |          |
| TC3 (fire pattern)                                        | 16 VDC  | 86.5    | 90.8     |
| TC4 (CO pattern)                                          | 16 VDC  | 77.5    | 84.1     |
| <b>Sound pressure level per CAN/ULC-S525 <sup>3</sup></b> |         |         |          |
| Temporal                                                  | 24 VDC  | 95      | 91       |
| Steady                                                    | 24 VDC  | 93      | 89       |

<sup>1</sup> For UL 464 applications, low dBA settings are for private mode only.

<sup>2</sup> For UL 268 applications, the high setting must be used for evacuation.

<sup>3</sup> Voltage is regulated and filtered.

## Audible directional characteristics

| Angle (degrees) | Output sound pressure level |
|-----------------|-----------------------------|
| 90 (ref)        | 0 dBA                       |
| 75 and 110      | -3 dBA                      |
| 55 and 115      | -6 dBA                      |

ULC anechoic room



## Detection & alarm since 1872

### U.S.

T 888 378 2329  
F 866 503 3996

### Canada

Chubb Edwards  
T 519 376 2430  
F 519 376 7258

### Southeast Asia

T : +65 6391 9300  
F : +65 6391 9306

### India

T : +91 80 4344 2000  
F : +91 80 4344 2050

### Australia

T +61 3 9239 1200  
F +61 3 9239 1299

### Europe

T +32 2 725 11 20  
F +32 2 721 86 13

### Latin America

T 305 593 4301  
F 305 593 4300

utcfireandsecurity.com

© 2010 UTC Fire & Security.  
All rights reserved.

## AB4GT Specifications

|                               |                                                                                                                                                                                |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Riser operating voltage       | 16 to 33 VDC                                                                                                                                                                   |
| Current (RMS)                 |                                                                                                                                                                                |
| Operating                     | 31 mA (low dBA); 52 mA (high dBA)                                                                                                                                              |
| Supervisory                   | DC = 1.46 mA, FWR = 2.15 mA                                                                                                                                                    |
| Default output volume         | High dBA                                                                                                                                                                       |
| Resonant frequency            | 3.2 kHz                                                                                                                                                                        |
| Temporal pattern              | As determined by the SIGA-TCDR                                                                                                                                                 |
| Compatible detectors          | All Signature Series detectors connected to a 3-SDU version 3.8 or higher using the latest microcode                                                                           |
| Compatible electrical boxes   | AB4G-SB surface box for audible base; 4 in. square by 2-1/2 in. (64 mm) deep box; 3-1/2 in. octagonal by 2-1/2 in. (64 mm) deep box; Standard European 100 mm <sup>2</sup> box |
| Wire size                     | 12 to 18 AWG (0.75 to 2.50 mm <sup>2</sup> )                                                                                                                                   |
| 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              | 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)                                                                                                                                                      |

## Ordering Information

| Catalog Number | Description                                      | Ship Wt., lb. (kg) |
|----------------|--------------------------------------------------|--------------------|
| SIGA-AB4GT     | Audible (Sounder) Base for CO and Fire Detectors | 0.3 (0.15)         |
| SIGA-TCDR      | Temporal Pattern Generator                       | 0.2 (0.1)          |
| AB4G-SB        | Surface Box for Audible Base                     | 1.0 (0.45)         |

| Related Equipment |                                                 |             |
|-------------------|-------------------------------------------------|-------------|
| SIGA-MCRR         | Polarity Reversal Relay (Plug-in UIO module)    | 0.18 (0.08) |
| SIGA-CRR          | Polarity Reversal Relay (Standard mount module) | 0.2 (0.1)   |
| SIGA-MCR          | Control Relay Module (Plug-in UIO module)       | 0.18 (0.08) |
| SIGA-CR           | Control Relay Module (Standard mount module)    | 0.2 (0.1)   |
| SIGA-RM1          | Riser Monitor Module                            | 0.2 (0.1)   |
| G1M-RM            | Signal Master (1-gang remote mount)             | 0.2 (0.1)   |