

## Description

**Ceiling mount addressable visible (A/V) notification appliances** are individually addressed audible/visible notification appliances that receive power, supervision, and control signals from a fire alarm control unit (FACU) providing IDNAC Signaling Line Circuits (SLCs). LED and Xenon tube strobes devices are interoperable on the same IDNAC channel. See [TrueAlert ES A/V LEGACY Compatibility Reference](#)

## Features

**Individually addressed and controlled multi-candela TrueAlert ES A/V (audible/visible) notification appliances provide:**

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity programmable from the FACU or jumper selected as 15 cd, 30 cd, 75 cd, or 110 cd on the AV model, or 110 cd, 135 cd, or 185 cd on the AVH model
- Advanced addressable notification controlled by IDNAC SLCs.
- IDNAC SLCs provide regulated 29 VDC allowing horns to operate with lower current
- Wiring supervision to each appliance allowing T-tapped connections for Class B circuits to simplify wiring. Class A circuits require in/out wiring.
- Self-Test Mode allows on-board sensors to detect the strobe and horn output and then report their status to the FACU
- TrueAlert Device Reports at the FACU detailing appliance point ID, custom label, type, and candela setting, see sample in [TrueAlert Device Reports Reference](#)
- Magnet Test diagnostics to assist checkout and testing of appliances and wiring
- Electrical test point access by removing the cover
- Compatibility with ADA requirements; see [Installation Reference](#) for important installation information
- Compatibility with legacy TrueAlert addressable systems for upgrade and replacement, see [TrueAlert ES A/V LEGACY Compatibility Reference](#)
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526; Horn operation is listed to UL Standard 464 and ULC Standard S525

### LED indicator and magnet test feature:

- Appliance LED can be selected to display each polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the Magnet Test pulses the LED to indicate appliance address and can be set to also briefly flash the strobe and sound the horn

### Mechanical design features

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, FEU, ALERT, FEU/FIRE, FUEGO/FOGO, or blank lettering
- Separate covers are available to change application type onsite or for replacement
- You can use a back box to mount the appliance assembly to the wall. Mount to a 4 in. (10.16 cm) square electrical box
- Covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional red wire guards, see [Product Selection](#)

### Audible notification appliance (horn):

- Harmonically rich output sound for either coded or steady

operation

- Horns sound as Temporal Code 3, March Time pattern, continuous; or Temporal Code 4, controlled separately from visible appliances on the same two-wire circuit
- Selectable March Time rates of 20, 60, or 120 beats per minute
- Output is high or low (~5 dBA difference) selectable at the appliance or from the controller with FACU mode selected at the appliance

Figure 1: TrueAlert ES addressable A/V



### Strobe application reference

Proper selection of visible notification is dependent on occupancy, location, and local codes, and proper applications of: the National Fire Alarm and Signaling Code (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

### TrueAlert ES operation advantage

#### TrueAlert ES addressable appliances on IDNAC SLCs

Provide separate visible and audible notification using a single two-wire circuit that also confirms connection to the individual notification appliance's electronic circuit. This operation increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

#### Reduced current usage on IDNAC SLCs

With IDNAC SLCs, a constant 29 VDC source voltage is maintained, even during battery standby, allowing strobes to operate at higher voltage with lower current, ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to two or three times farther than with conventional notification, or support for more appliances per IDNAC SLC, or use of smaller gauge wiring, or combinations of these benefits, all providing installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

#### Reducing installation and testing time

With separate controls on the same two-wire SLC, installation time and expense for both retrofit and new construction can be significantly reduced. You can T-tap Class B wiring, allowing more savings in distance, wire, conduit size and utilization, and overall installation efficiency. Use of Self-Test and Magnet Test features improve installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

\* Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co.

## TrueAlert ES Diagnostics

### Test features

When IDNAC SLCs are in diagnostic mode, Self-Test and Magnet Test features provide individual appliance testing. With the Self-test feature, appliance operation can be confirmed without leaving the FACU. Additionally, each appliance's LED can be selected to pulse when it receives a supervision poll during normal operation.

### Self-test details

Selecting Self-test mode from the FACU allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the FACU. Operation is by selected VNAC appliance groups and is either automatic, all briefly simultaneously activated, or individually activated by applying a magnet. Refer to FACU data sheet for more Self-Test information, see list in [Table 10](#).

### Silent appliance magnet test

In this test mode, in response to application of a magnet, the appliance LED pulses sequentially to conveniently indicate the appliance's address.

### Operational appliance magnet test.

In this test mode, after the address is indicated by pulsing the appliance LED, the strobe will briefly flash and the horn will briefly sound to indicate proper operation.

### TrueStart instrument two (TSIT)

The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications before connection to the control panel. Contact your local representative for additional information.

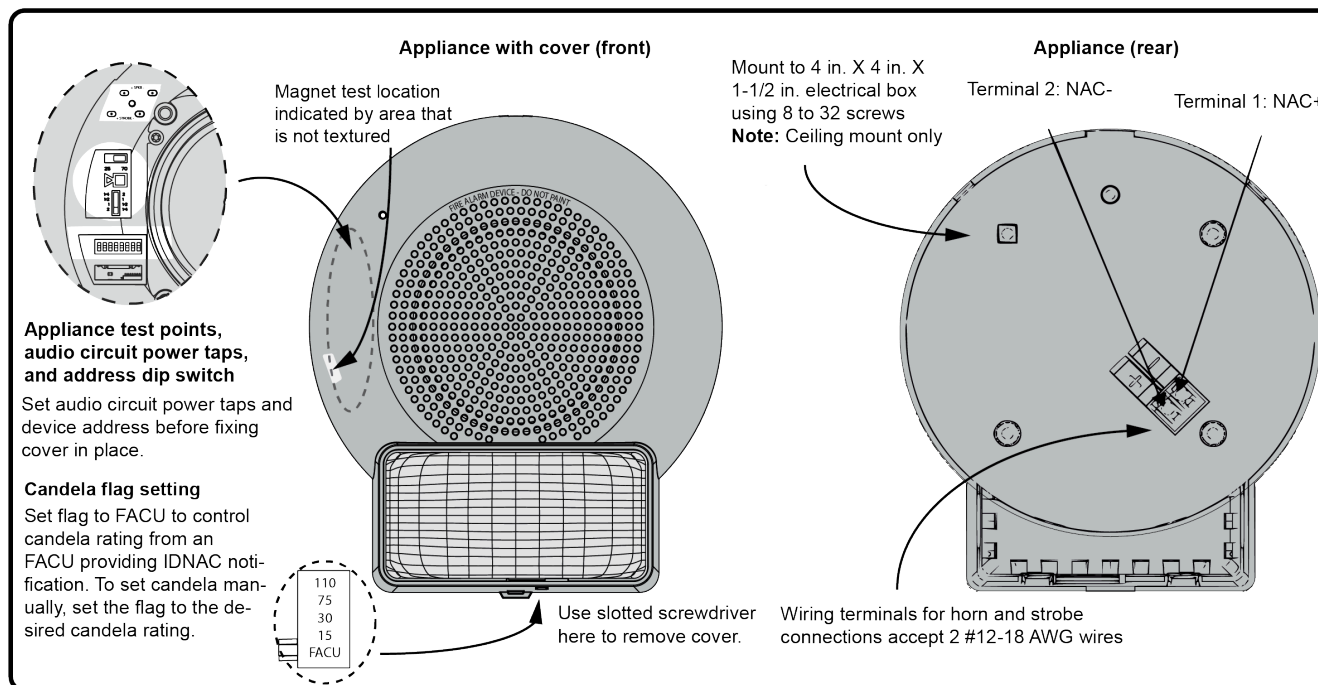
## TrueAlert Addressable Wiring Isolator

### Isolator Model 4905-9929

Isolator Model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. Refer to data sheet *TrueAlert Addressable Isolator+ Module, Model 4905-0001*.

## Installation Reference

Figure 2: TrueAlert ES Addressable A/V installation



**TrueAlert Device Reports Reference**

| Service Port                       |  |                          | Page 1  |
|------------------------------------|--|--------------------------|---------|
| REPORT 5 : TrueAlert Device Report |  | 12:34:56am TUE 27-Jan-15 |         |
| POINT ID                           | CUSTOM LABEL                             | DEVICE TYPE              | CANDELA |
| T14-1-1                            | Location Label . . . up to 40 characters | V/O                      | 15      |
| T14-1-2                            | Break Room 5                             | A/V                      | 110     |
| T14-1-3                            | Boiler Room                              | A/V                      | 75      |
| T14-1-4                            | Elec. Room 7                             | A/V                      | 135     |

**Product Selection**
**Ceiling Mount Addressable Audible/Visible (A/V) Appliances**

TrueAlert ES Addressable A/V appliance dimensions with cover: 8 1/8 in. H x 7 1/8 in. W x 3 in. D ( 206 mm x 180 mm x 76 mm)

**Table 1: Ceiling Mount Addressable Audible-Visual Only A/V Appliances**

| SKU*                      | Lens color | Description                                 | Installation Instructions |
|---------------------------|------------|---|---------------------------|
| 49AV-APPLC                | Clear      | AV appliance only. Select cover separately. | 579-1242                  |
| 49AV-APPLC-BA             |            |   |                           |
| 49AVH-APPLC               |            |   |                           |
| 49AVH-APPLC-BA            |            |   |                           |
| 49AVH-APPLCA-BA           | Amber      |   | 579-1279                  |
| 49AVH-APPLCB-BA           | Blue       |   |                           |
| 49AVH-APPLCG-BA (Pending) | Green      |   |                           |
| 49AVH-APPLCR-BA (Pending) | Red        |   |                           |

**Table 2: Back boxes**

| SKU         | Color |
|-------------|-------|
| 49WPBB-SVCR | Red   |
| 49WPBB-SVCW | White |

**Note:** Use WP back boxes for surface mounting only. Using weatherproof back boxes does not make an appliance weatherproof.

**Table 3: Separate Covers, required when ordering model 49AV-APPLC(-BA)**

| SKU*         | Color | Wording           |
|--------------|-------|-------------------|
| 49AVC-CRFIRE | Red   | FIRE              |
| 49AVC-CWFIRE | White | FIRE              |
| 49AVC-CRALT  | Red   | ALERT             |
| 49AVC-CWALT  | White | ALERT             |
| 49AVC-CRS    | Red   | Simplex logo only |
| 49AVC-CK     | Black | Blank             |
| 49AVC-CRFBL  | Red   | FUEGO/FOGO        |
| 49AVC-CRFEU  | Red   | FEU               |
| 49AVC-CWFEU  | White | FEU               |
| 49AVC-CRBF   | Red   | FEU/FIRE          |
| 49AVC-CWBF   | White | FEU/FIRE          |
| 49AVC-CWS    | White | Simplex logo only |
| 49AVC-CWCALT | White | 火警/FIRE           |

**Table 4: Wire Guards and Wire Guard Back Boxes**

| SKU           | Description                              |
|---------------|--|
| 49WG-SVWCR    | AV Ceiling Mount Red Wire Guard          |
| 49WGGB-SVCR-O | AV Ceiling Mount Red Wire Guard Back Box |

## TrueAlert ES A/V Specifications

**Table 5: Electrical Ratings**

| Specification                   | Rating                                |
|---------------------------------|---------------------------------------|
| Typical Operating Voltage Range | 23 VDC to 30 VDC, Special Application |
| Supervisory Requirements        | 1 unit load (= 0.8 mA FACU current)   |
| IDNAC SLC Loading               | Maximum of 127 addresses per SLC      |

**Table 6: Sound Output Ratings @ 10 ft (3 m) (with IDNAC SLCs)**

| Sound Type/Setting               | Voltage | Steady/High | Steady/Low | Coded/High | Coded/Low |
|----------------------------------|---------|-------------|------------|------------|-----------|
| Reverberant Chamber, UL 464 Test | 23      | 89.0 dBA    | 83 dBA     | 85 dBA     | 80 dBA    |
|                                  | 31      | 91 dBA      | 85.5 dBA   | 87 dBA     | 82 dBA    |
| Anechoic Chamber, ULC 525 Test   | 23      | 97 dBA      | 92.5 dBA   | 97 dBA     | 92.5 dBA  |
|                                  | 31      | 99 dBA      | 95 dBA     | 99 dBA     | 95 dBA    |

**Table 7: Maximum RMS operating current**

| 49AV Visible         |                          |                          | 49AVH Visible |              |               |         |
|----------------------|--------------------------|--------------------------|---------------|--------------|---------------|---------|
| Candela              | 23 VDC to 30 VDC Current | 17 VDC to 31 VDC Current | Candela       |              |               | Current |
|                      |                          |                          | CD amber dome | CD blue dome | CD clear dome |         |
| 15                   | 67 mA                    | 84 mA                    | -             | -            | -             | -       |
| 30                   | 95 mA                    | 119 mA                   | 95            | 75           | 110           | 300 mA  |
| 75                   | 187 mA                   | 250 mA                   | 110           | 95           | 135           | 330 mA  |
| 110                  | 248 mA                   | 332 mA                   | 135           | 110          | 185           | 391 mA  |
| <b>UL rated only</b> |                          |                          |               |              |               | 18 mA   |

AO: 17 V or 23 V rating

**Table 8: General Specifications**

| Specifications   | Ratings  |
|--|--|
| Sound Characteristics  | 2400 Hz to 3700 Hz sweep, modulated at 120 Hz rate   |
| Temperature Range  | 32°F to 120°F (0°C to 49°C)  |
| Humidity Range   | 10% to 93%, non-condensing @ 104°F (40°C)  |
| Connections  | Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm <sup>2</sup> to 3.31 mm <sup>2</sup> ); two wires per terminal for in/out wiring |
| IDNAC SLC Wiring Specifications (refer to FACU installation instructions for more information) | UTP, unshielded twisted pair recommended   |
|  | Maximum wire length allowed with T-Taps for Class B wiring per SLC = 10,000 ft (3048 m)  |
|  | Maximum wire length to any appliance = 4000 ft (1219 m)  |

**Note:** UL 464 test coded values are typical of the output measured with a Temporal or a March Time pattern and with a sound level meter reading on a fast setting. Under the same test conditions, coded horn output peak sound level readings are typically 4 dBA higher. Anechoic horn output ratings are typically more representative of actual installed sound output.

## IDNAC SLC Controller Compatibility Reference

**Table 9: Compatibility Reference**

| Compatible Controllers                 | Data Sheet Reference | Controller Output | IDNAC SLC Output Voltage | Appliance Voltage Design Reference |
|--|----------------------|-------------------|--------------------------|------------------------------------|
| 4100ES with EPS+ or EPS Power Supply   | S4100-0100           | IDNAC SLC         | 29 VDC (regulated)       | 23 VDC (with 6 VDC drop)           |
| 4009 IDNAC Repeater                    | S4009-0004           |                   |                          |                                    |
| 4007ES with IDNAC Notification         | S4007-0002           |                   |                          |                                    |
| 4010ES with ESS Enhanced System Supply | S4010-0011           |                   |                          |                                    |

**TrueAlert ES A/V LEGACY Compatibility Reference**

Table 10: Compatibility Reference

| Compatible Controller  | Data Sheet Reference             | Controller Output                     | Available Strobe Intensity      |  | Appliance Voltage Minimum |
|--|----------------------------------|---------------------------------------|---------------------------------|--|---------------------------|
| 4100ES or 4100U with TrueAlert Power Supply  | S4100-0031                       | TrueAlert Addressable SLC             | 15 cd, 30 cd, 75 cd, and 110 cd | Continuous, Temporal Code 3, and March Time of 60 bpm or 120 bpm | 17 VDC                    |
| 4009 TPS, Remote TrueAlert Power Supply*   | S4100-0037                       |                                       |                                 |  |                           |
| TrueAlert Addressable Controller (4009T)*  | S4009-0003                       |                                       |                                 |  |                           |
| <b>Electrical Ratings Differences for Legacy Applications, see <a href="#">TrueAlert ES A/V Specifications</a> for other ratings</b> |                                  |                                       |                                 |  |                           |
| Voltage Range  |                                  | 17 VDC to 31 VDC, Special Application |                                 |  |                           |
| Sound Output Ratings @ 10 ft (3 m) @ 17 VDC  | Sound Type/Setting               | <b>Steady/High</b>                    | <b>Steady/Low</b>               | <b>Coded/High</b>  | <b>Coded/Low</b>          |
|  | Reverberant Chamber, UL 464 Test | 87.0 dBA                              | 81.0 dBA                        | 82.0 dBA   | 77.0 dBA                  |
|  | Anechoic Chamber, ULC 525 Test   | 94.5 dBA                              | 90.0 dBA                        | 94.5 dBA   | 90.0 dBA                  |
|  | <b>Candela Setting</b>           | <b>15 cd</b>                          | <b>30 cd</b>                    | <b>75 cd</b>   | <b>110 cd</b>             |
| <b>17 VDC RMS Current Ratings, with horn on continuous at high setting, use when connected to TrueAlertAddressable SLCs</b>          |                                  | 74 mA                                 | 85 mA                           | 140 mA   | 185 mA                    |

\*Not compatible with 49AVH-APPLC. For connection to legacy fire panel models Simplex 4009T and 4100/TPS. High candela (49AVH) appliances are not compatible with Simplex models 4009T and TPS, see the fire panel compatibility charts.

