

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 Simplex 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, 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 and ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to 2 to 3 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 Simplex representative for additional information.

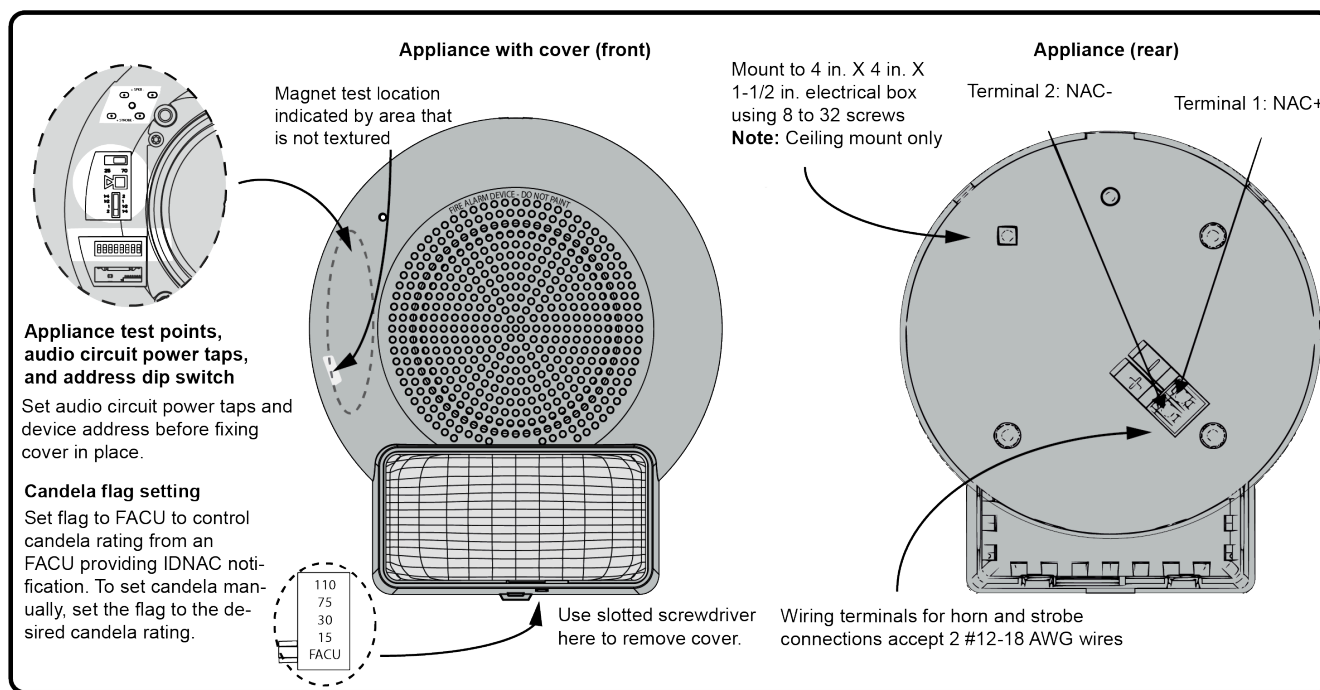
TrueAlert Addressable Wiring Isolator

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 4905-9929S4905-0001*.

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

Model*	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

Model	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)

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

Table 4: Wire Guards and Wire Guard Back Boxes

Model	Description
49WG-SWWCR	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	CD amber dome	CD blue dome	CD clear dome	Current
15	67 mA	84 mA	-	-	-	-	-
30	92 mA	119 mA	95	75	110	110	300 mA
75	159 mA	214 mA	110	95	135	135	330 mA
110	215 mA	279 mA	135	110	185	185	391 mA
UL rated only	AO: 17 V or 23 V rating						18 mA

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 ² to 3.31 mm ²); 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				
Electrical Ratings Differences for Legacy Applications, see TrueAlert ES A/V Specifications for other ratings					
Voltage Range		17 VDC to 31 VDC, Special Application			
Sound Output Ratings @ 10 ft (3 m) @ 17 VDC	Sound Type/Setting	Steady/High	Steady/Low	Coded/High	Coded/Low
	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
	Candela Setting	15 cd	30 cd	75 cd	110 cd
17 VDC RMS Current Ratings, with horn on continuous at high setting, use when connected to TrueAlertAddressable SLCs		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.

