Simplex

*UL,ULC Listed; FM Approved**

TrueAlert ES Addressable Notification Appliances

Audible and Visible Notification Appliances, Weatherproof Ceiling Mount Multi-Candela Horn and Strobe, Model Series 49AV

Description

Ceiling Mount Addressable Visible (A/V) Notification Appliances are individually addressed audible and 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 strobe devices are interoperable on the same IDNAC channel.

Features

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

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity programmable from the control unit, or jumper selected at the appliance as 110 cd, 135 cd or 185 cd.
- Advanced addressable notification controlled by IDNAC SLCs.
- IDNAC SLCs provide regulated 29 VDC to allow horns to operate with lower current.
- Wiring supervision to each appliance to allow T-tap connections for Class B circuits to simplify wiring. Class A circuits require in and out wiring.
- **Self-Test Mode** uses an on-board sensor to detect the horn output and report the status to the control unit.
- **TrueAlert Device Reports** at the control unit detailing appliance point ID, custom label, type, and candela setting. See an example in TrueAlert device reports reference.
- **Magnet Test diagnostics** to assist checkout and testing of the appliances and wiring.
- Remove the cover to access the electrical test point.
- Compatibility with Americans with Disabilities Act (ADA) requirements, see Installation 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 also be set to briefly flash the strobe and sound the horn.

Mechanical design features

- Rugged, high impact, flame retardant thermoplastic housing available in a variety of colors and lettering.
- Separate covers are available for replacement, or to change the application type on-site.
- Covers can be easily removed without disturbing the connected housing, avoiding trouble conditions.
- In and 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 beats per minute (bpm), 60 bpm, or 120 bpm.
- 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

Correct selection of visible notification is dependent on occupancy, location, local codes, and correct 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 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 may include the following:

- Wiring distances up to three times farther than with conventional notification.
- Support for more appliances for each IDNAC SLC.
- Use of smaller gauge wiring.

This provides 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. When Class B wiring is used, wiring can be T-tapped, to allow more savings in distance, wire, conduit size and utilization as well as overall installation efficiency. Use of the **Self-Test** and **Magnet Test** features improve installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

TrueAlert ES diagnostics

Test features

When IDNAC SLCs are in diagnostic mode, the **Self-Test** and **Magnet Test** features provide individual appliance testing. Use the **Self-Test** feature to confirm appliance operation without leaving the control unit. Additionally, you can set each appliance's LED to pulse when it receives a supervision poll during normal operation.

Self-Test details

Selecting **Self-Test** mode from the control unit allows on-board sensors, depending on the device type, to detect their own strobe or horn output and then report their status to the control unit. Operation is by selected VNAC appliance groups and is either automatic, all briefly simultaneously activated, or individually activated by applying a magnet. Refer to the list of control unit data sheets for more **Self-Test** information in Table 10.

Silent appliance Magnet Test

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

Operational appliance Magnet Testje

In this test mode, after the address is indicated by pulsing the appliance LED, the strobe briefly flashes and the horn briefly sounds to indicate correct operation.

TrueStart Instrument Two (TSIT)

The second 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 unit. Please 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 *S4905-0001*.

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

Audible Visual 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 audible visual only V/O appliances

Model	Lens color	Description	Installation instructions
49AVH-APPLC-O-BA 49AVH-APPLC-O	Clear	A/V appliance only. Select cover and backbox separately.	579-1228

Table 2: Back boxes

Model	Color
49WPBB-SVCR	Red
49WPBB-SVCW	White

Table 3: S/V covers (required when ordering APPLC-O models)

SKU	Color	Wording
49SVC-CRALT-O	Red	**ALERT**
49SVC-CWALT-O	White	
49SVC-CRBA-O	Red	**حريق/FIRE**
49SVC-CWBA-O	White	
49SVC-CRBC-O	Red	**火警/FIRE ALARM**
49SVC-CWBC-O	White	
49SVC-CRBF-O	Red	**FEU/FIRE**
49SVC-CWBF-O	White	
49SVC-CRFEU-O	Red	**FEU**
49SVC-CWFEU-O	White	
49SVC-CRFIRE-O	Red	**FIRE**
49SVC-CWFIRE-O	White	
49SVC-CRS-O	Red	**Simplex** logo only
49SVC-CWS-O	White	

Table 4: Wire guards and wire guard back boxes

Model	Description
49WG-SVWCR	A/V ceiling mount red wire guard
49WGBB-SVCR-O	A/V ceiling mount red wire guard back box

TrueAlert ES A/V specifications

Table 5: Environmental specifications

Specifications	Details
Rated DC control or strobe voltage range	Special application 23 VDC to 30 VDC
UL and ULC temperature rating - W110 CD/W135 CD/W185 CD	-40°F to 151°F or -40°C to 66°C
UL and ULC temperature rating for indoor and uncontrolled wet Public Mode - 110 CD	0°F to 120°F or 0°C to 49°C
FM temperature rating	-40°F to 120°F or -40°C to 49°C
UL and ULC humidity range	95%, non-condensing at 140°F or 60°C
Connections	Terminal for 18 AWG to 12 AWG or 0.82 mm^2 to 3.31 mm^2
CAUTION: The appliance covers and backboxes are available in red and white. Do not paint or otherwise alter the factory finishes in any way.	

Table 6: Maximum RMS operating current

Candela	Current	Candela	Current
49AVH-APPLC-O **49AVH-APPLC-O-BA**			
W110	323 mA	W185	413 mA
W135	350 mA	110	270 mA
49VOH-APPLC-O **49VOH-APPLC-O-BA**			
W110	298 mA	W185	393 mA
W135	330 mA	110	250 mA
Horn Only (AO)	22 mA		

Table 7: Vertical and horizontal light dispersion ratings (ceiling to walls and floors)

Percent of rated light output at 110 candela setting (room temperature)					
Vertical dispersion			**Horizontal dispersion**		
Y-plane angle	**UL req output %**	**Typical output %**	**X-plane angle**	**UL req output %**	**Typical output %**
0	100	284	0	100	284
±5	90	270	±5	90	152
±10	90	252	±10	90	139
±15	90	187	±15	90	144
±20	90	159	±20	90	156
±25	90	144	±25	90	169
±30	75	137	±30	75	164
±35	75	145	±35	75	152
±40	75	148	±40	75	157
±45	75	107	±45	75	141
±50	55	102	±50	55	135
±55	45	103	±55	45	125
±60	40	110	±60	40	115
±65	35	104	±65	35	137
±70	35	100	±70	35	133
±75	30	99	±75	30	99
±80	30	101	±80	30	96
±85	25	97	±85	25	108
±90	25	85	±90	25	64

Table 8: Private mode candela (CD) rating for W110 CD/ W135 CD/ W185 CD

	Straight out from unit	**Vertical above or below unit**		**Left or right horizontal**	
Angle	**0°**	**45°**	**90°**	**45°**	**90°**
W110 CD at 77°F or 25°C	238	82	69	100	42
W135 CD at 77°F or 25°C	267	104	77	108	47
W185 CD at 77°F or 25°C	312	108	94	129	56

Table 9: UL rated sound pressure level (SPL) measurement (dBA)

Reverberant room at 10 feet or 3.048 m in accordance with UL464, see note 2	**Voltage (VDC)**	**Horn See note 1**
High volume setting using addressable controller, see note 3	23	87
	30 max.	89
Low volume setting using addressable controller, see note 3	23	82
	30 max.	84
Anechoic room at 10 feet or 3.048 m in accordance with ULC S525		
High volume setting	23	90
	30 max.	93
Low volume setting	23	85
	30 max.	87

Note:

1. Representative of all tones: steady, temporal, march.
2. **Reverberant** dBA measurements are a minimum UL rating based on sound power level measurements made in UL's reverberant test chamber.
3. High and low volume settings are configured using the DIP Switch (CFIG1) on the controller.
4. Subtract 4 dB from anechoic SPL levels above to obtain Factory Mutual SPL ratings.

IDNAC SLC controller compatibility reference

Table 10: 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			

Installation reference

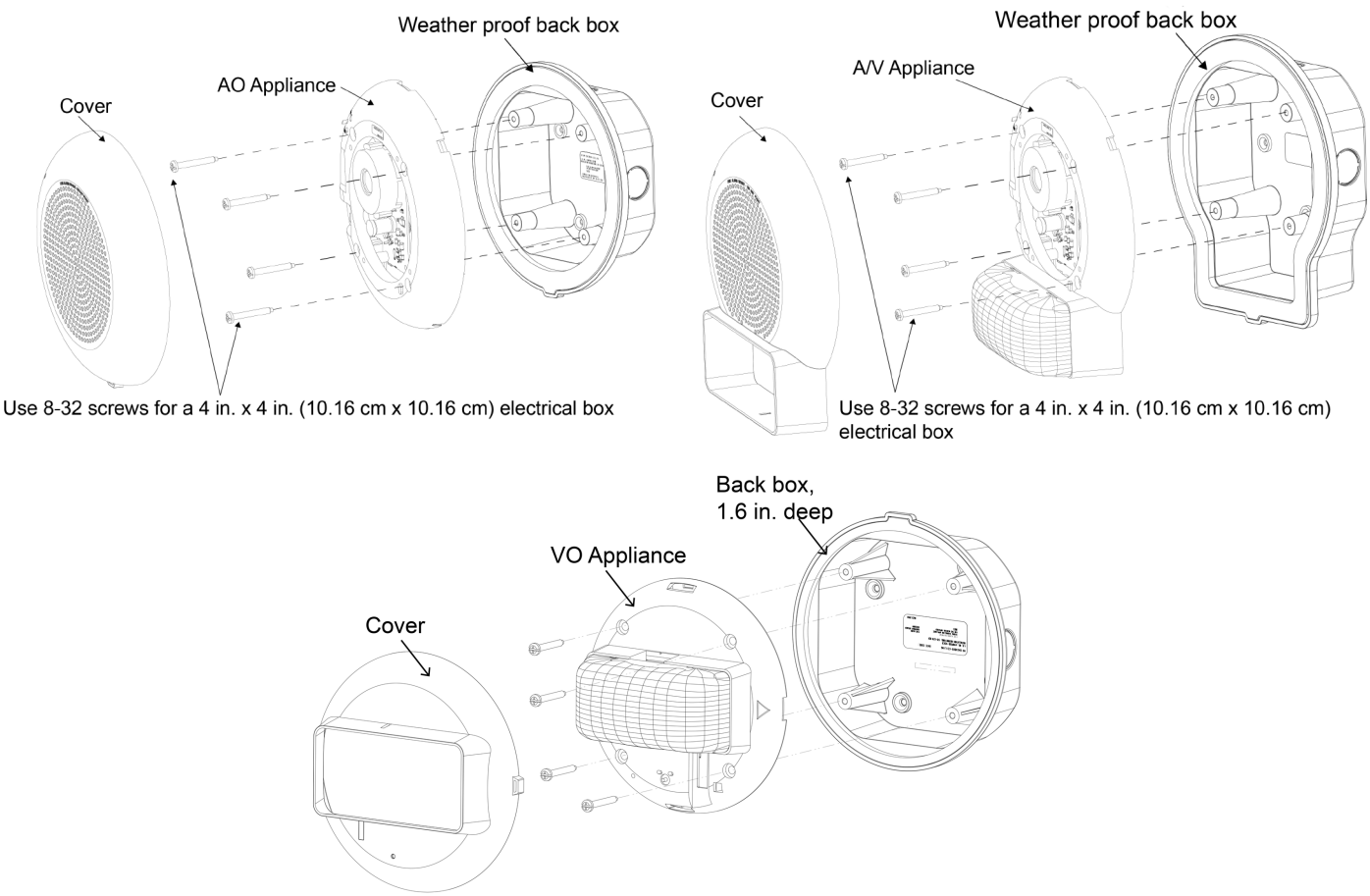

Figure 2: Installation reference