Simplex

*UL,ULC Listed; FM Approved**

TrueAlert ES Addressable Notification Appliances

Audible Only Notification Appliances, Indoor Ceiling Mount Electronic Horns, Model Series 49AO

Features

Individually addressed and controlled low power TrueAlert ES A/O (audible only) Notification Appliances:

- 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 allows "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- ***Self-Test Mode*** allows an on-board sensor to detect the horn output and then report its status to the control panel
- Horns are controlled separately from visible appliances on the same SLC with control panel selection of operation as: Temporal Code 3, March Time (selectable as 20, 60, or 120 bpm), Continuous, or Temporal Code 4
- Output of "high" or "low" (~6 dBA difference) selectable at the appliance or from the controller with FACP mode selected at the appliance
- ***Unobtrusive Magnet Test diagnostics*** are available to assist checkout and testing of appliances and wiring
- ***Electrical test point access*** by removing the cover
- Compatible with legacy TrueAlert addressable systems for upgrade and replacement (see TrueAlert ES Horn LEGACY Compatibility Reference)
- 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 is selectable to also briefly sound the horn to confirm operation

Mechanical design features include:

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



Figure 1: TrueAlert ES Addressable Horns are Available in Red with White Lettering and White with Red Lettering

Description

TrueAlert ES addressable horns

TrueAlert ES addressable horns are individually addressed audible notification appliances that receive power, supervision, and control signals from a Simplex fire alarm control panel providing **IDNAC** Signaling Line Circuits (SLCs). (See Table 5.)

TrueAlert ES Operation Advantage

TrueAlert ES addressable appliances on IDNAC SLCs provide

separate audible (and visible) 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 allows efficient IDNAC SLC operation.

With ***IDNAC SLCs***, a ***constant*** 29 VDC source voltage is maintained, even during battery standby, allowing horns on the same SLC 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. When Class B wiring is used, wiring can be "T" tapped, allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency. Use of Self-Test and Magnet Test features improves 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. are the property of Tyco Fire Protection Products.

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 control panel***. 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 control panel allows on-board sensors, depending on the device type, to detect its own horn output and then report their status to the control panel. Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet. (Refer to control panel data sheet for more Self-Test information, see list in IDNAC SLC Controller Compatibility Reference.)

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 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. 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. (See data sheet S4905-0001.)

Product Selection

Ceiling Mount Addressable Audible Only A/O Appliances

TrueAlert ES Addressable A/O appliance dimensions with cover: 7 ⅛" H x 7 ⅛" W x 1 ¼" D (180 mm x 180 mm x 32 mm)

Table 1: Audible Only A/O Appliances

Model*	Description
49AO-APPLC 49AO-APPLC-BA	AO appliance only. Select cover separately.

Table 2: Back boxes

Model	Color
49WPBB-SOCR	Red
49WPBB-SOCW	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 49AO-APPLC(-BA)

Model*	Color	Wording
49AOC-CRFIRE	Red	FIRE
49AOC-CWFIRE	White	
49AOC-CRALT	Red	ALERT
49AOC-CWALT	White	
49AOC-CRFEU	Red	FEU
49AOC-CWFEU	White	
49AOC-CRBF	Red	FEU/FIRE
49AOC-CWBF	White	
49AOC-CRBAA	Red	إنذار/ALERT
49AOC-CWBAA	White	
49AOC-CRBAF	Red	حريق/FIRE
49AOC-CWBAF	White	
49AOC-CK	Black	Blank
49AOC-CWCALT	White	火警/FIRE
49AOC-CRS	Red	Simplex logo only
49AOC-CWS	White	

Note: * Model numbers ending in -BA, APPLC models, and separate mounting plates are assembled in the USA.

Table 4: Wire Guards and Wire Guard Back Boxes

Model	Description
49WG-SOCR	SO Ceiling Mount Red Wire Guard

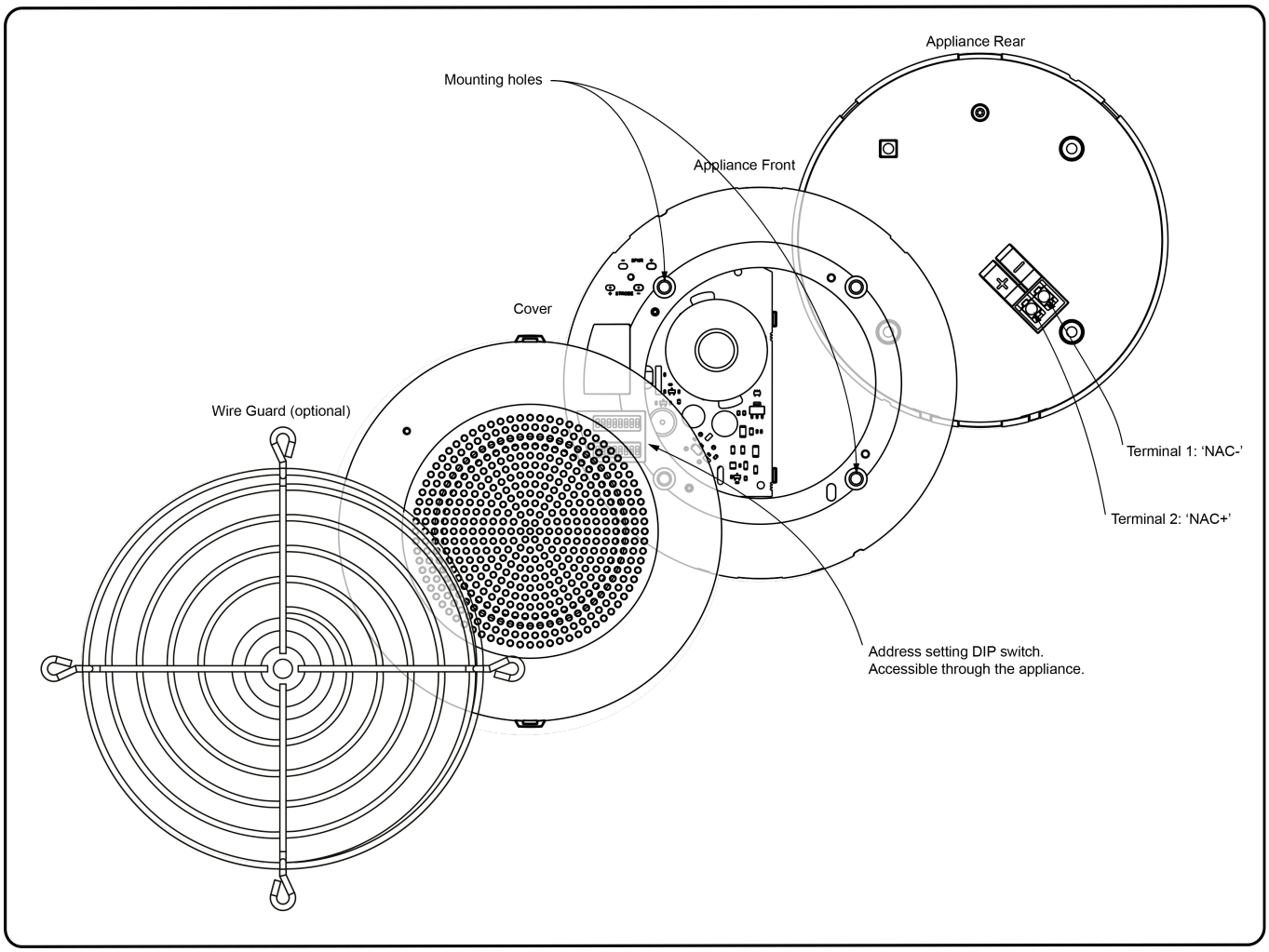
TrueAlert Device Reports Reference

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Service Port                                                          Page 1
REPORT 5 : TrueAlert Device Report                  12:34:56am  TUE  27 Jan-15

                                                      DEVICE
POINT ID     CUSTOM LABEL                               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
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Figure 2: Device Reports Reference

Installation Reference



IDNAC SLC Controller Compatibility Reference

Table 5: 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 Horn Specifications

Table 6: Electrical Ratings

Specification	Rating
Typical Operating Voltage Range	23 VDC to 30 VDC, Special Application (see below for 17 VDC ratings)
RMS Current Rating	18 mA maximum @ 17V or 23V rating VDC
Supervisory Requirements	1 unit load (= 0.8 mA control panel current)
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads

Table 7: Sound Output Ratings @ 10 ft (3 m) @ 23 VDC (with IDNAC SLCs)

Sound Type/Setting	Steady/High	Steady/Low	Coded/High	Coded/Low
Reverberant Chamber, UL 464 Test	89.0 dBA	83.0 dBA	85 dBA	80 dBA
Anechoic Chamber, ULC 525 Test	97.0 dBA	92.5 dBA	97.0 dBA	92.5 dBA

Table 8: Sound Output Dispersion per ULC S541 Anechoic Testing

Specification	Rating
Horizontal	-3 dBA @ 45° at both left and right from center; -6 dBA @ 85° from center
Vertical	-3 dBA @ 45° above and 35° below center; -6 dBA @ 85° from center

Table 9: General Specifications

Specification	
Sound Characteristics	2400 to 3700 Hz sweep, modulated at 120 Hz rate
Temperature Range	32° to 120° F (0° 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
Installation Instructions	579-1242
Installation Instructions 579-1242 IDNAC SLC Wiring Specifications (refer to control panel 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.

TrueAlert ES Horn LEGACY Compatibility Reference

Table 10: Compatibility Reference

Compatible Controller	Data Sheet Reference	Controller Output	Available Horn Control	Appliance Voltage Minimum
4100ES or 4100U with TrueAlert Power Supply	S4100-0031	TrueAlert Addressable SLC	Continuous, Temporal Code 3, and March Time of 60 or 120 bpm	17 VDC
4009 TPS, Remote TrueAlert 17 VDC Power Supply	S4100-0037			
TrueAlert Addressable Controller (4009T)	S4009-0003			
Electrical Ratings Differences for Legacy Applications (refer to above 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 dBA	81 dBA	82 dBA	77 dBA
Anechoic Chamber, ULC 525 Test	94.5 dBA	90 dBA	90 dBA	83.6 dBA

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