Simplex

*UL, ULC, CSFM Listed; FM Approved**

Datasheet

TrueAlert ES Addressable Notification Appliances

Visual Only Notification Appliances, Weatherproof Ceiling Mount Strobe, Model Series 49VO

Description

Ceiling Mount Addressable Visible (VO) Notification Appliances are individually powered, addressed, and controlled from a Simplex fire alarm control panel IDNAC signaling line circuit (SLC). VO notification appliances use a multi-candela strobe with synchronized 1 Hz flash rate and selectable candela rating. LED and Xenon tube strobes devices are interoperable on the same IDNAC channel. Order the appliance and cover separately to simplify the ordering and installation process.

Features

Individually addressed visible only (VO) notification appliances

- Multi-candela LED strobe available in 110 cd, 135 cd and 185 cd range candela models.
- Small compact design and low current draw due to energy efficient Xenon tube strobes, with LED indicators.
- Advanced addressable notification controlled by ***IDNAC*** SLCs.
- ***IDNAC*** SLCs provide ***regulated 29 VDC*** allowing strobes to operate with lower current.
- Remove the cover to access the electrical test point.
- Program the strobe intensity from the control panel or the device.
- Wiring supervision to each appliance allows T-tap 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 output and report the status to the control panel.
- TrueAlert Device Reports at the control panel detail appliance point ID, custom label, type, and candela setting.
- Magnet test diagnostics assist checkout and testing of the appliances and wiring.
- Compatibility with ADA requirements.
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526.
- Synchronized strobe operation on IDNAC channel.

LED indicator and Magnet Test feature:

- Indicator LED indicates magnet test acknowledgment, three-digit IDNAC address, and candela rating.
- Indicator LED can be configured to blink every polling cycle to indicate appliance supervision.
- When the controller is in diagnostic mode, the magnet test pulses the indicator LED to indicate the appliance address, and can also be set to briefly flash the strobe LEDs.

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 onsite.
- Various covers and lettering options available, red with white letters or white with red letters.
- Covers can be easily removed without disturbing the connected housing, avoiding trouble conditions.
- In/out wiring terminals for 18 AWG to 12 AWG.
- Optional wire guards.

Figure 1: TrueAlert ES Addressable Strobe

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 Americans with Disabilities Act (ADA).

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*** for additional information.

* Additional listings may be applicable; contact your local Simplex product supplier for the latest status.

TrueAlert ES diagnostics

Test features

Controllers can be selected to pulse each appliance's LED when it receives a supervision poll. When the controller is selected for diagnostic mode, the appliance magnet test feature provides a response at the individual appliance being tested.

Self-Test details

Selecting **Self-Test Mode** from the control panel 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 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.

Silent appliance Magnet Test

The appliance LED pulses sequentially to conveniently indicate the appliance's address when a magnet is applied.

Operational appliance Magnet Test

In this test mode, after the address is indicated by pulsing the appliance LED, the strobe will briefly flash 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 panel. Contact your local Simplex representative for additional information.

IDNAC SLC operation advantage

TrueAlert addressable visible appliances on IDNAC SLCs

TrueAlert Addressable visible appliances on IDNAC SLCs provide visible notification using one 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

A constant 29 VDC source voltage is maintained, even during battery standby. This allows appliances 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 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.

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 the magnet test feature improves installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

Product selection

Table 1: Ceiling Mount Addressable Visual Only V/O Appliances

Model	Lens color	Description	Installation Instructions
49VOH-APPLC-O	Clear	VO appliance only. Select a cover and back box separately.	579-1228

Table 2: Surface/WP back boxes

Model	Color	Description	Installation instructions
49WPBB-VOCR	Red	Surface/WP back box in red	579-1270
49WPBB-VOCW	White	Surface/WP back box in white	

Table 3: V/O Covers (Required when ordering APPLC models)

Model*	Color	Wording
49VOC-CRALT-O	Red	**ALERT**
49VOC-CRBF-O		**FEU/FIRE**
49VOC-CRFEU-O		**FEU**
49VOC-CRF-O		**FIRE**
49VOC-CRS-O		**Simplex** logo only
49VOC-CRBAA-O		**إنذار/ALERT**
49VOC-CRBCF-O		**火警/FIRE**
49VOC-CRBAF-O		**حريق/FIRE**
49VOC-CWALT-O	White	**ALERT**
49VOC-CWBF-O		**FEU/FIRE**
49VOC-CWFEU-O		**FEU**
49VOC-CWF-O		**FIRE**
49VOC-CWS-O		**Simplex** logo only
49VOC-CWBAA-O		**إنذار/ALERT**
49VOC-CWBCF-O		**火警/FIRE**
49VOC-CWBAF-O		**حريق/FIRE**

Table 4: Wire Guards

Model	Description
49WG-VOCR	VO ceiling mount red wire guard
49WGBB-VOCR	VO ceiling mount wire guard back box

Note: Model numbers ending in –BA are assembled in the USA.

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			
4100ES Flex 35, 4100ES Flex 50, and 4100ES Flex 100 Amplifiers	S4100-0034			
4100ES constant supervision and signal cards				

Ceiling mount VO specifications

Table 6: Environmental specifications

Specifications	Details
Rated DC control/strobe voltage range	Special application 23 VDC - 30 VDC
UL/ULC temperature rating - W110 CD/W135 CD/W185 CD	-40 °F to 151 °F (-40 °C to 66 °C)
UL/ULC temperature rating for indoor and uncontrolled wet Public Mode - 110 CD	0 °F to 120 °F (0 °C to 49 °C)
FM temperature rating	-40 °F to 120 °F (-40 °C to 49 °C)
UL/ULC humidity range	95 %, non-condensing at 140 °F (60 °C)
Connections	Terminal for 18 AWG to 12 AWG (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 7: Maximum RMS operating current

Candela	Current	Candela	Current
49AVH-APPLC-O **49VOH-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 8: 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 %

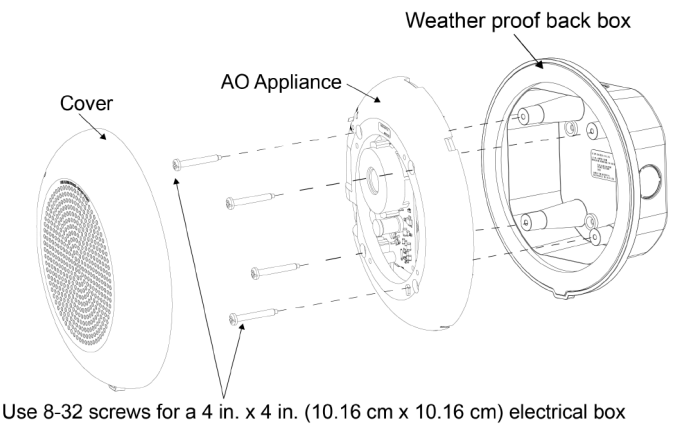
Table 9: Private mode Candela (CD) rating for W110 CD/ W135 CD/ W185 CD

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

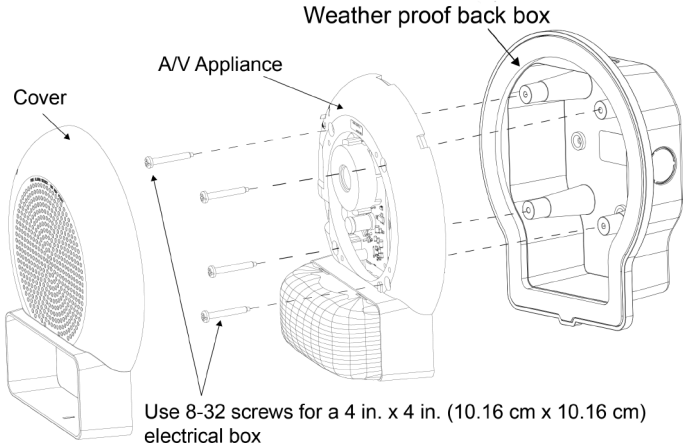
Table 10: ULC directional characteristics for horn (AO)

Specifications
Both axes 45° for -3 dBA
Both axes 85° for -6 dBA

Installation Reference



Use 8-32 screws for a 4 in. x 4 in. (10.16 cm x 10.16 cm) electrical box



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