Simplex

UL, ULC, CSFM Listed FM Approved**

Datasheet

TrueAlert LED Addressable Notification Appliances

Audible/Visible LED Notification Appliances, Wall Mount Multi-Candela Horn/LED Strobe, Model Series 59AV

Features

Individually addressed multi-candela TrueAlert ES LED A/V (audible/visible) notification appliances

- Multi-candela LED strobe available in low (15, 30 and 75 cd) and high (110 , 135 and 185 cd) range candela models
- Small compact design and low current draw due to energy efficient strobe LEDs
- Advanced addressable notification controlled by IDNAC SLCs providing regulated 29 VDC allow strobes to operate with lower current even under battery backup
- Strobe intensity can be programmed from the control unit or the device
- 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 on-board sensors to detect the strobe and horn output and then report their status to the control unit
- TrueAlert Device Reports at the control unit detail appliance point ID, custom label, type, and candela setting
- Magnet test diagnostics assist checkout and testing of appliances and wiring
- Compatibility with ADA requirements
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526; Horn operation is listed to UL Standard 464 and ULC Standard S525
- Synchronized LED strobe and piezo operation on the same IDNAC channel

LED Indicator and Magnet Test

- Indicator LED indicates magnet test acknowledgment, 3-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 appliance address and can be set to also briefly flash the strobe LEDs and sound the horn

Mechanical design

- Rugged, high impact, flame retardant thermoplastic housing in red and white colors
- Various covers options available – Red with white letters or white with red letters
- Available with English/Arabic FIRE lettering
- Covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts to single gang US electrical boxes
- Optional mounting adapter plate to adapt to European electrical boxes

Figure 1: TrueAlert ES 59AV LED Addressable A/Vs are Available in Red with White Lettering and White with Red Lettering



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

Description

TrueAlert ES 59 series LED

Addressable A/Vs are individually addressed audible/visible notification appliances that receive power, supervision, and control signals from a Simplex fire alarm control unit providing IDNAC Signaling Line Circuits (See IDNAC SLC Controller Compatibility).

Strobe Application Reference

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the National Fire Alarm 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).

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:0383 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status.

TrueAlert ES Operation Advantage

Increased circuit integrity

TrueAlert ES A/V LED addressable appliances on IDNAC SLCs provide visible notification using a single two-wire circuit that also confirms connection to the individual notification appliance's electronic circuit. This provides 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 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, support for more appliances per IDNAC SLC, use of smaller gauge wiring, or combinations of these benefits.

Reduced installation and testing time

Installation time and expense for retrofit or new construction is significantly reduced with separate controls on the same two-wire SLC. 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.

TrueAlert ES Diagnostics

Magnet Test allows individual appliances to be tested when IDNAC SLCs are in diagnostic mode.

Self-Test allows selected devices to detect their own strobe and/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 control unit data sheet for more information on the Self-Test feature.

Silent Appliance Magnet Test pulses the appliance indicator LED sequentially in response to an applied magnet to conveniently indicate the appliance's address.

Operational Appliance Magnet Test indicates device location by pulsing the indicator LED briefly and then flashes the strobe LEDs and sounds the horn to indicate proper operation.

TrueStart Instrument Two (TSIT) can be used to test IDNAC SLC wiring and TrueAlert ES appliance IDC, NAC, 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 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. See data sheet 4905-0001 for more information.

Product Selection

TrueAlert ES LED Wall Mount Addressable Audible/Visible Appliances

Table 1: Appliance and cover (dimensions with cover = 5 ¼" H x 3 ½ " W x 1 ⅝" D / 132 mm x 86 mm x 39 mm)

Model	Color	Wording	Candela rating	Model	Color	Wording	Candela rating
59AV-WRF 59AV-WRF-BA	Red	FIRE	Low (15, 30 and 75 cd)	59AV-WRFH 59AV-WRFH-BA	Red	FIRE	High (110, 135 and 185 cd)
59AV-WWF 59AV-WWF-BA	White			59AV-WWFH-BA	White		
59AV-WRFAB	Red			59AV-WRFABH	Red	FIRE / حريق	
				59AV-WWFABH	White		

Table 2: Appliance only (Select cover and mounting plate separately)

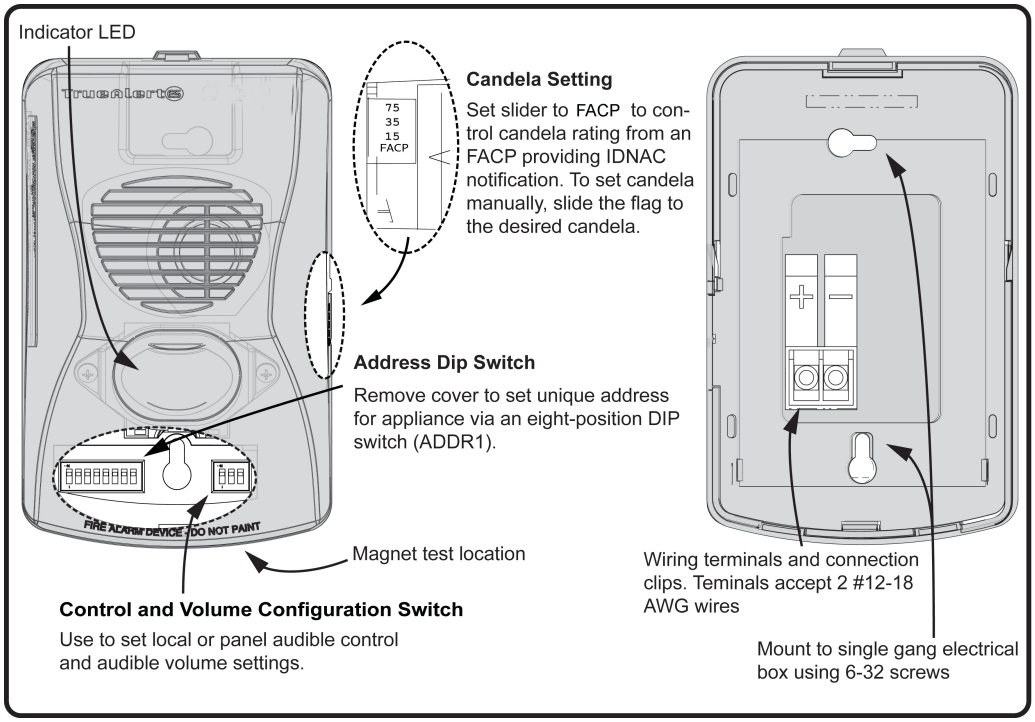
Model	Color	Description	Candela rating
59AV-APPLWR	Red	Indoor	Low
59AV-APPLWW	White		
59AV-APPLWRH	Red		High
59AV-APPLWWH	White		

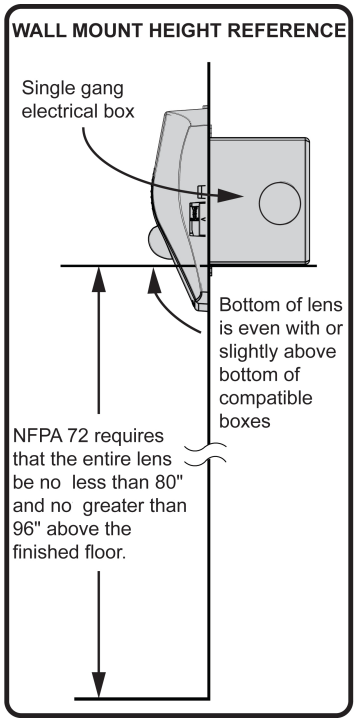
Table 3: Separate covers (Required when ordering appliance only models)

Model	Color	Wording
59AVC-WRF	Red	FIRE
59AVC-WWF	White	
59AVC-WRA	Red	ALERT
59AVC-WWA	White	
59AVC-WRS	Red	Logos only
59AVC-WWS	White	

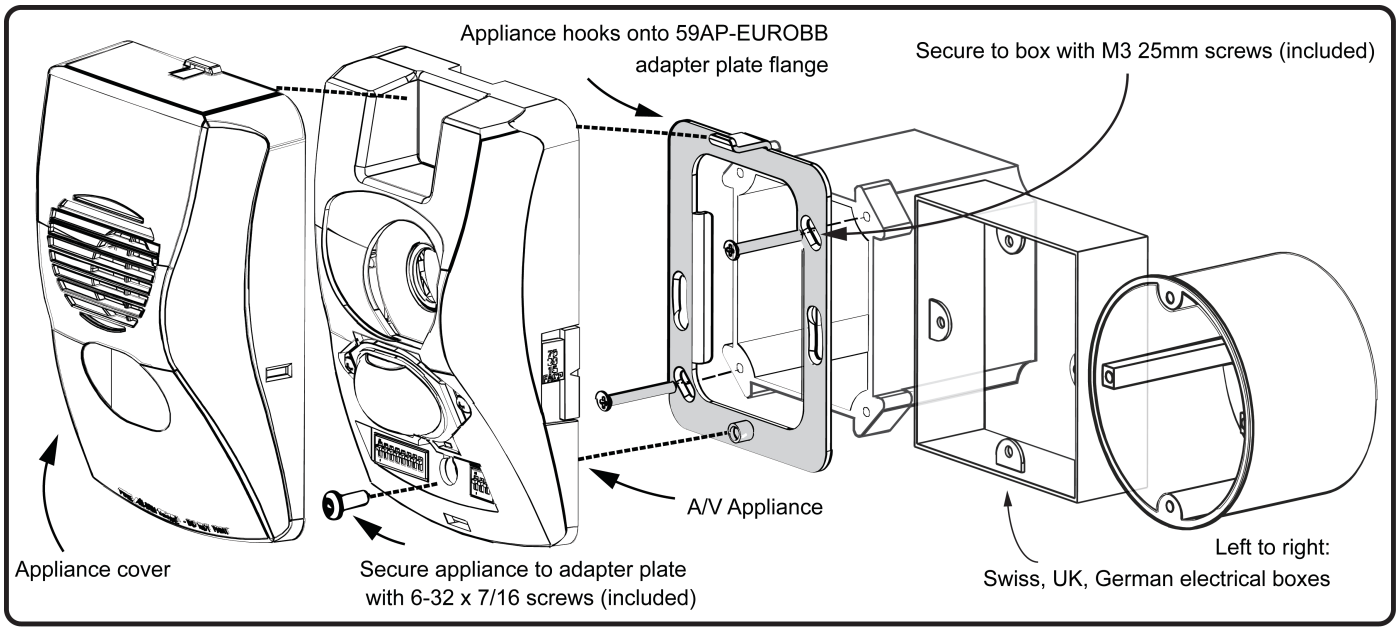
Note: Model numbers ending in –BA are assembled in the USA.

Installation Reference





Adapter Plate Installation Reference



IDNAC SLC Controller Compatibility

Compatible Controllers	Data Sheet	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage
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*			

Specifications

Table 4: Electrical Ratings

Rating	Details
Typical Operating Voltage Range	23 - 29.5 VDC, Special Application
Supervisory Requirements	1 unit load (= 0.8 mA control unit current)
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads

Table 5: 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	85.2 dBA	80.4 dBA	81.5 dBA	77.3 dBA
Anechoic Chamber, ULC 525 Test	91.5 dBA	86.2 dBA	91.2 dBA	85.9 dBA

Table 6: Sound Output Dispersion per ULC S541 Anechoic Testing

Horizontal	**-3 dBA @ 50°; -6 dBA @ 63°; left and right from center**					
Vertical	**-3 dBA @ 20° above, 48° below; -6 dBA @ 65° above, 60° below; ref. to center**					
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**	**135 cd**	**185 cd**
23 VDC RMS Current Ratings, with horn on continuous at high setting	51 mA	63 mA	81 mA	143 mA		

Table 7: Percentage of rated light output at room temperature

Angle	On-Axis	Vertical, Below Axis		Horizontal, Left/Right of Axis	
	0°	45°	90°	45°	90°
UL required output	100%	34%	12%	75%	25%
Typical output	145%	84%	21%	102%	47%

Table 8: General Specifications

Specifications	Details
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
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.	

Note: Refer to 579-1162 Installation Instructions for additional information.

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