Introduction

Wall mount indoor and outdoor addressable speaker visible (S/V) notification appliances

Use a Simplex fire alarm control unit (FACU) IDNAC signaling line circuit (SLC) to individually power, address, and control wall mount indoor and outdoor addressable S/V notification appliances. Use a separate compatible Simplex FACU audio NAC for audio. The electronic monitoring of wiring supervision means you can T-tap audio and IDNAC wiring for Class B wiring, reducing wiring costs and wiring distances.

Install on standard 4 in. square 2 1/8 in. deep USA electrical boxes for flush installations, provided by others, or surface or weatherproof (WP) backboxes, see Table 15, for surface or WP installations .

The appliances are available in 400 Hz to 4000 Hz and 200 Hz to 10000 Hz high-fidelity models. You can select appliance and covers separately for simple ordering and installation. Model numbers that end in –BA are assembled in the USA.
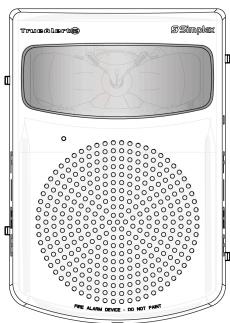

Figure 1: Wall mount addressable S/V notification appliance

Features

General

- Separate appliances, covers, back boxes, and wire guards provide complete flexibility for meeting customers installation requirements
- The TrueAlert device reports provide important appliance information details including point ID, custom label, type, and candela setting
- Rugged, high impact flame retardant thermoplastic housings
- The covers can be easily removed without disturbing the connected housing
- Terminals for wiring sizes 18 AWG to 12 AWG
- The appliance LED can be selected to display during each polling cycle indicating appliance supervision
- Magnet test diagnostics to assist checkout and testing of appliances
- Compatible with the Americans with Disabilities Act (ADA) requirements

IDNAC Signalling Line Circuit (SLC)

- The advanced addressable notification controlled by IDNAC SLCs provides regulated 29 VDC for low current operation even during battery backup conditions
- The wiring supervision is electronically monitored and allows IDNAC SLC wiring to be **T-tapped** for Class B wiring, which provides flexibility in reducing wiring sizes and or distance, and which reduces costs for wiring installation
- The strobe intensity can be selected within programming from the FACU

Audio (speaker)

- The wiring supervision is electronically monitored and allows audio (speaker) wiring to be **T-tapped** for Class B wiring, which provides flexibility in reducing wiring sizes and or distance, and reduces costs for wiring installation
- High quality voice and tone reproduction with taps for 1/4 W, 1/2 W, 1 W, or 2 W at 25 VRMS or 70.7 VRMS
- Audio (speaker) circuits are wired separately from IDNAC SLCs
- High fidelity models (200 Hz to 10,000 Hz) are also available
- Compliant with NFPA 72, 520 Hz Low frequency signal requirements for sleeping areas
- Listed to UL 1480 and ULC S541*
- UL 1480 Reverberant dBA measurements (10 ft or 3 m)
- ULC S541 Anechoic dBA measurements (10 ft or 3 m)

Product selection

Table 1: TrueAlert ES wall mount addressable speaker S/V appliances, NEMA 1

SKU	Description	Installation instructions
49SV-APPLW 49SV-APPLW-BA	Select cover, mounting plate, and surface or WP box separately, if required.	579-1190

Table 2: High Fidelity H/F appliances, NEMA 1

SKU	Description	Installation instructions
49HFV-APPLW 49HFV-APPLW-BA	High fidelity S/V appliance only. Select cover, mounting plate, and surface or WP box separately, if required.	579-1190

Table 3: S/V covers, required when ordering APPLW models, NEMA 1

Model	Color	Wording
49SVC-WRALT	Red	Alert
49SVC-WWALT	White	
49SVC-WRBA	Red	حريق/FIRE
49SVC-WWBA	White	
49SVC-WRBC	Red	/FIRE ALARM
49SVC-WWBC	White	
49SVC-WRBF	Red	FEU/FIRE
49SVC-WWBF	White	
49SVC-WRFBL	Red	FUEGO/FOGO

Table 3: S/V covers, required when ordering APPLW models, NEMA 1

Model	Color	Wording
49SVC-WRFEU	Red	FEU
49SVC-WWFEU	White	
49SVC-WRFIRE	Red	FIRE
49SVC-WWFIRE	White	
49SVC-WRS	Red	Simplex logo only
49SVC-WWS	White	

Table 4: S/V wall lens

Lens	Color	Installation instructions
49LENS-AMBER	Amber	579-1192
49LENS-BLUE	Blue	
49LENS-GREEN	Green	
49LENS-RED	Red	

Note: Use colored lenses only with indoor appliances.

Wall mount S/V specifications

Table 5: Non-weatherproof appliance general specifications

Specification	Rating
Dimensions	7 3/8 in. x 5 in. x 1 3/4 in. or 139 mm x 128 mm x 42 mm (H x W x D)
Environmental	32°F to 120°F or 0°C to 49°C, 10% to 93%, non-condensing at 104°F or 40°C
Connections	Terminal blocks for 18 AWG to 12 AWG or 0.82 mm^2 to 3.31 mm^2. Two wires for each terminal for in/out wiring. Use Unshielded Twisted Pair (UTP) for IDNAC and audio wiring.

Table 6: Weatherproof appliance general specifications

Specification	Rating
Dimensions	7 3/8 in. x 5 in. x 1 3/4 in. or 139 mm x 128 mm x 42 mm (H x W x D)
Environmental	UL or ULC temperature rating:
	Outdoor private: -40°F to 150.8°F (-40°C to 66°C)
	Indoor and uncontrolled wet Public Mode: 32°F to 122°F (0°C to 50°C)
	FM temperature rating: -40°F to 120°F (-40°C to 49°C)
	UL or ULC humidity range: 95 %, non-condensing at 140°F (60°C)
Connections	Terminal blocks for 18 AWG to 12 AWG or 0.82 mm^2 to 3.31 mm^2, two wires for each terminal for in/out wiring. Use Unshielded Twisted Pair (UTP) for IDNAC and audio wiring.

Table 7: Speaker audio specifications

Specification	Rating	
Input voltage	25 VRMS or 70.7 VRMS	
Power taps	1/4 W, 1/2 W, 1 W, and 2 W	
Frequency response	400 Hz to 4000 Hz (S/V), 200 Hz to 10000 Hz (H/F)	General signaling = 125 Hz to 12 kHz

Table 8: S/V speaker output ratings 25 Vrms or 70.7 Vrms at 10 ft or 3 m

Wattage tap	1/4 W		1/2 W		1 W		2 W	
Model	S/V	H/F	S/V	H/F	S/V	H/F	S/V	H/F
Reverberant Chamber Test, in accordance with UL 1480 (dBA)	79	76	83	80	86	82	89	86
Anechoic Chamber Test, in accordance with ULC-S541 (dBA)	81	78	84	81	88	84	90	87

Table 9: Polar dispersion reference, in accordance with ULC-S541 anechoic chamber testing

Attenuation	Angle	Attenuation	Angle
-3 dB	75°	-6 dB	85°

Table 10: 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	194%	90%	45%	121%	41%

Table 11: IDNAC SLC specifications

Typical operating voltage range	23 VDC to 30 VDC, special application
Appliance voltage design reference	23 VDC, with 6 VDC drop
Supervisory requirements	1 unit load (= 0.8 mA control unit current)
Flash rate and synchronized SLC loading	1 Hz; with up to 63 synchronized strobes maximum for each NAC
IDNAC SLC loading	Maximum of 127 addresses for each SLC, 139 unit loads. See device and compatible fire control unit installation instructions for circuit current load limits.
IDNAC SLC wiring specifications; refer to the control unit installation instructions for more information	UTP, unshielded twisted pair recommended
	Maximum wire length allowed with T-Taps for Class B wiring for each SLC = 10,000 ft or 3048 m
	Maximum wire length to any appliance = 4000 ft or 1219 m. This can be doubled to 8000 ft or 2438 m by using a 4009 IDNAC Repeater.

Table 12: Current consumption***

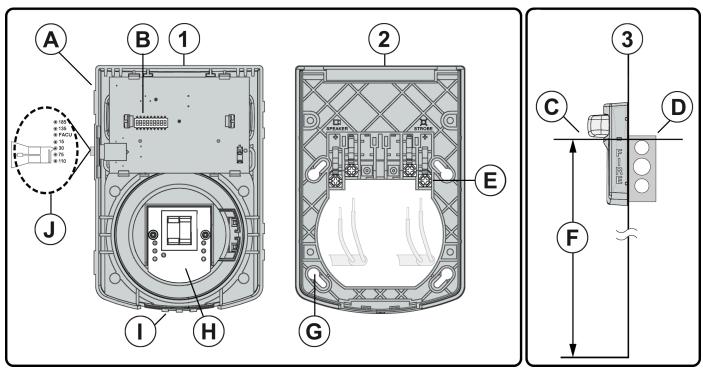| Candela setting	15 cd	30 cd	75 cd	110 cd	135 cd	185 cd
Clear or white lens	47 mA	57 mA	100 mA	132 mA	160 mA	208 mA
Tinted lens	54 mA	78 mA	128 mA	184 mA	211 mA	N/A
Outdoor private mode	69 mA	N/A	240 mA	300 mA	N/A	445 mA
***Measured at 23 VDC on IDNAC addressable SLC						
Note: The speakers are for connection to compatible fire alarm audio circuits. Anechoic ratings are representative of actual installed sound output.						

Wall mount S/V installation reference

Figure 2: Installation reference

Callout	Description	Callout	Description
1	Appliance, rear	2	49MP-SV wall mount back plate
3	Wall mount height reference	—	—
A	Magnet test location	B	Address dip switch Set a unique address for the appliance through an eight-position DIP switch on the rear of the appliance.
C	The bottom of the lens is even with, or slightly higher than, the bottom of compatible boxes.	D	4 in. X 4 in. (101 mm X 101 mm) electrical backbox 2 1/8 in. (54 mm) deep
E	The wiring terminals for speaker and strobe connections. These wiring terminals accept two #12-18 AWG wires.	F	NFPA 72 requires that the entire lens be not less than 80 in. and not greater than 96 in. above the finished floor.
G	Mount to a 4 in. X 4 in. X 2 1/8 in. (101 mm X 101 mm X 54 mm) electrical box using 8-32 screws.	H	Set audio circuit voltage and power tap selection here.
I	You can remove appliance and cover from the backplate using a slotted or philips head screwdriver.	J	Candela setting Set flag to FACU to control candela rating from an FACU providing IDNAC notification. To set candela manually, move flag to the required candela.

Weatherproof product selection

Table 13: Weatherproof wall mount addressable speaker S/V appliances, NEMA 3R

Model	Description	Installation instructions
49SV-APPLW-O 49SV-APPLW-O-BA 49SV-APPLW-CO, Canada only	S/V appliance only. Select cover, mounting plate and surface or WP back box separately.	579-1237

Table 14: S/V covers, required when ordering APPLW-O models, NEMA 3R

Model	Color	Wording
49SVC-WRBA-O	Red	حريق/FIRE
49SVC-WWBA-O	White	
49SVC-WRBC-O	Red	火警/FIRE ALARM
49SVC-WWBC-O	White	
49SVC-WRBF-O	Red	FEU/FIRE
49SVC-WWBF-O	White	
49SVC-WRFEU-O	Red	FEU
49SVC-WWFEU-O	White	
49SVC-WRFIRE-O	Red	FIRE
49SVC-WWFIRE-O	White	
49SVC-WRALT-O	Red	ALERT
49SVC-WWALT-O	White	
49SVC-WRS-O	Red	Simplex logo only
49SVC-WWS-O	White	

Table 15: Surface or WP back boxes (NEMA 3R) when used with weatherproof appliances

Model	Color	Description	Installation instructions
49WPBB-SVWR	Red	Surface or WP back box in red	579-1239
49WPBB-SVWW	White	Surface or WP back box in white	

Table 16: Wire guards and wire guard back boxes

Model	Description
49WGBB-SVWR-O	Wire guard back box, wall, red, WP
49WGBB-SVCR-O	Wire guard back box, ceiling, red, WP
49WG-SVWCR	Wire guard, wall, red

Table 17: S/V wall mount back plate

Model	Description	Installation instructions
49MP-SVWR	Mounting back plate in red	579-1193
49MP-SVWW	Mounting back plate in white	

Weatherproof wall mount S/V specifications

Table 18: Environmental specifications

Specification	Rating
Rated DC control or strobe voltage range	Special application 23 VDC to 30 VDC
UL or ULC temperature rating	Outdoor private: -40°F to 150.8°F or -40°C to 66°C
	Indoor and uncontrolled wet Public Mode: 32°F to 122°F or 0°C to 50°C
FM temperature rating	-40°F to 120°F or -40°C to 49°C
UL or 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 enclosures are available in red and white. Do not paint or otherwise alter the factory finishes in any way.

Table 19: TrueAlert addressable wall mount S/V and SO units - speaker jumper setting and output ratings (25 V or 70 V audio)

Voltage	Jumper J1 to tap	Tap setting in Watts	UL1480 reverberant at 10 ft SV/SO models	ULC-S541 anechoic at 3 m SV/SO models
25 V	E	1/4	78	80
	F	1/2	81	83
	G	1	84	86
	H	2	87	89
70.7 V	A	1/4	76	79
	B	1/2	80	83
	C	1	84	86
	D	2	87	89

Note:

- Reverberant dBA measurements are a minimum UL rating based on sound level measurements made in UL's reverberant test chamber.
- Anechoic dBA measurements are a minimum ULC rating based on sound pressure level measurements made in ULC's anechoic test chamber.
- The sound pressure level decreases by 3 dB at an angular displacement of 25° from the line perpendicular to the speaker's center. The SPL decreases by 6 dB at an angle of 35° from that line.

Table 20: Percent of rated light output at 15 and 75 candela setting (Public Mode - room temperature)

Vertical dispersion			Horizontal dispersion		
Y-plane angle	UL req output	Typical Output	X-plane angle	UL req output	Typical output
0	100%	194%	0	100%	194%
5	90%	192%	±5	90%	203%
10	90%	132%	±10	90%	168%
15	90%	129%	±15	90%	155%
20	90%	145%	±20	90%	166%
25	90%	150%	±25	90%	169%
30	90%	112%	±30	75%	164%
35	65%	124%	±35	75%	151%
40	46%	114%	±40	75%	145%
45	34%	90%	±45	75%	121%
50	27%	91%	±50	55%	97%
55	22%	78%	±55	45%	83%
60	18%	72%	±60	40%	79%
65	16%	68%	±65	35%	70%
70	15%	75%	±70	35%	59%
75	13%	74%	±75	30%	50%
80	12%	68%	±80	30%	51%
85	12%	63%	±85	25%	45%
90	12%	45%	±90	25%	41%

Table 21: Outdoor private mode candela rating for W15/W75/W110/W185

Candela	Straight out from unit	Vertical below unit		Left/right horizontal	
	0°	45°	90°	45°	90°
WP15 Typical CD at 77°F or 25°C	69	25	18	32	12
WP75 Typical CD at 77°F or 25°C	240	100	60	119	47
WP110 Typical CD at 77°F or 25°C	300	118	74	160	58
WP185 Typical CD at 77°F or 25°C	445	169	105	228	75

Table 22: Maximum RMS operating current

Candela selection	Appliance type	23 V, see note
(CD4) 15 cd	S/V	47 mA
(CD3) WP15 cd	S/V	81 mA
(CD2) 75 cd	S/V	100 mA
(CD1) WP75 cd	S/V	187 mA
(CD6) WP110 cd	S/V	230 mA
(CD7) WP185 cd	S/V	298 mA
Speaker Only	SO	15 mA
Note: For connection to IDNAC SLCs.		

Equipment compatibility references

Table 23: Equipment compatibility references

Compatible controllers	Data sheet reference
4100ES with EPS+ or EPS Power Supply	S4100-0100
4009 IDNAC Repeater	S4009-0004
4100ES Flex 35 and 50 Watt Amplifiers	
4100ES 100 Watt Amplifiers	S4100-0034
4100ES Constant Supervision and Audio NACs	