

TrueAlert ES Addressable US/Weather Proof Ceiling Mount Speaker Notification Appliances Installation Instructions

Cautions, warnings, and regulatory information

Important: When the notification appliance emits light or sound, it indicates the possibility of an emergency situation that requires immediate attention of all occupants.



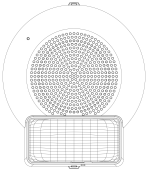

SAFETY: Always install, maintain, and test notification appliances within their specifications. Failure to follow all safety precautions and instructions may result in loss of life and property due to non-functioning notification appliances. Some notification appliances use high voltage. To avoid electrical hazards and avoid damage to appliances, make sure that the electrical power for the Notification Appliance Circuit is disconnected at the control unit before installing, repairing, or internally adjusting any notification appliances. Even with electrical power removed, some notification appliances (such as visible strobes) store a high voltage charge. The high voltage can cause injury resulting in death from electrical shock. **DO NOT TOUCH EXPOSED CIRCUITRY.**



LOCATION REFERENCE: Location and quantity of appliances required must conform to the applicable local standards and guidelines (the National Fire Alarm and Signaling Code (NFPA 72); ULC Standard CAN/ULC-S524, Installation of Fire Alarm Systems; the appropriate model building codes) and specific requirements of the local Authority Having Jurisdiction (AHJ). These notification appliances are not intended for installation within hazardous locations as defined by the National Electrical Code (NEC) or NFPA.

UL listed TrueAlert ES indoor product identification reference

Table 1: Product Identification Reference

Type	Cover colors	Models			Operation	
 <p>Figure 1: Ceiling Mount Speaker/Visible (S/V) with cover</p>	- Red - White	Components: A49SVH-APPLC-O A49SVH-APPLC-O	Covers: A49SVC-CRALT-O A49SVC-CRFIRE-O A49SVC-CRS-O A49SVC-CRBC-O A49SVC-CWBC-O A49SVC-CWFIRE-O A49SVC-CRFEU-O A49SVC-CRBF-O	A49SVC-CK-O A49SVC-CWALT-O A49SVC-CWBA-O A49SVC-CRBA-O A49SVC-CWS-O A49SVC-CWBF-O A49SVC-CWFEU-O	Back boxes: A49WPBB-SVCR A49WPBB-SVCW	These appliances provide an audible (SO) or audible/visible (S/V) warning of an alarm condition when activated from the control panel of a compatible UL/ULC Listed, Autocall Fire Alarm System. Consult Autocall Fire Alarm panel documentation for compatibility information. The speakers can be turned ON/OFF individually under compatible panel control.
 <p>Figure 2: Ceiling Mount Speaker Only (SO) with cover</p>	- Red - White	Components: A49SO-APPLC-O A49SO-APPLC-O-BA	Covers: A49SOC-CW-O A49SOC-CR-O A49SOC-CWALT-O A49SOC-CRALT-O A49SOC-CRFIRE-O	A49SOC-CRS-O A49SOC-CWFIRE-O A49SOC-CWS-O A49SOC-CK-O	Back boxes: A49WPBB-SOCR A49WPBB-SOCW	
Kit contents:	Appliance x 1, with 1.25 in. #8 -16 thread forming screws x 4.					
Not included:	Order a back box to mount the appliance assembly to the ceiling. Order a cover for each appliance.					

Note: For information about TrueAlert ES appliance testing consult *TrueAlert ES Addressable Appliances Troubleshooting* (579-1049AC).

Strobe operation levels

The A49 S/V appliances have multiple strobe intensity levels. Levels W135, W110, and W185 are rated for UL outdoor private mode applications. Level 110 is rated for UL indoor and uncontrolled wet Public Mode applications.



Mounting instructions

1. Select the mounting location and install the back box using screws suitable for the mounting surface.
2. Connect the building wires to the terminals at the back of the appliance, see the wiring section.
3. Secure the appliance to the back box using the provided hardware.
4. Set the appliance settings. See [Setting the address DIP switch](#).
5. Attach the cover to the appliance. For the A49SO, align the cover mounting tab with the tab in the backbox, and carefully place the cover onto the unit. For the A49SVH, align the cover mounting tab with the strobe dome, and carefully place the cover over the unit.
6. Press the cover until it snaps into place.

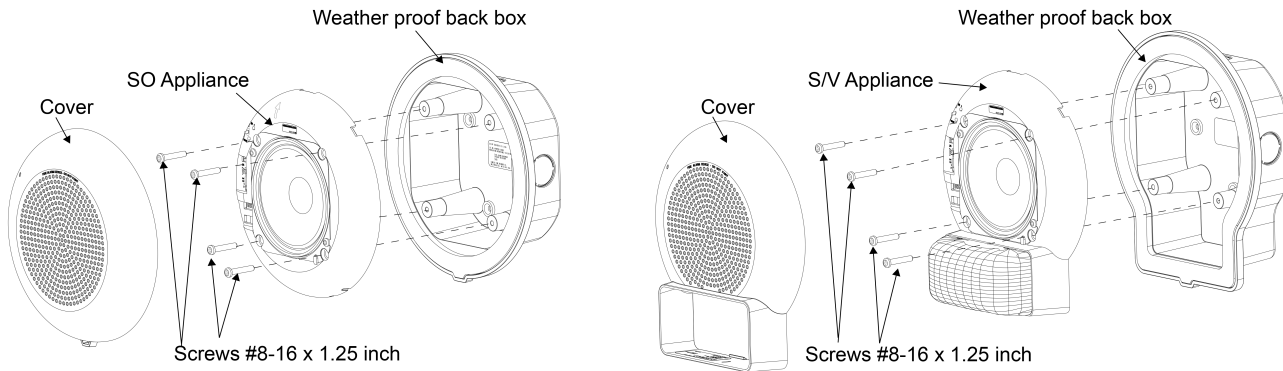


Figure 3: Mounting instructions

Wiring instructions

WARNING: Make sure that all power is disconnected before starting the installation.

1. At the back box, connect the building wiring to the CKT + and CKT - terminals on the appliance.
2. To ensure proper continuity, use a torque wrench to tighten the terminal block screws to 12 to 15 lb-in.
3. Ensure that the correct polarity is maintained for each strobe unit.
4. SLC wiring must be twisted pair (TWP). CKT Terminals accept two wires: 12 to 18 American wire gauge (AWG) TWP .

Important: Strip the lead insulation to 7/16 in. maximum.

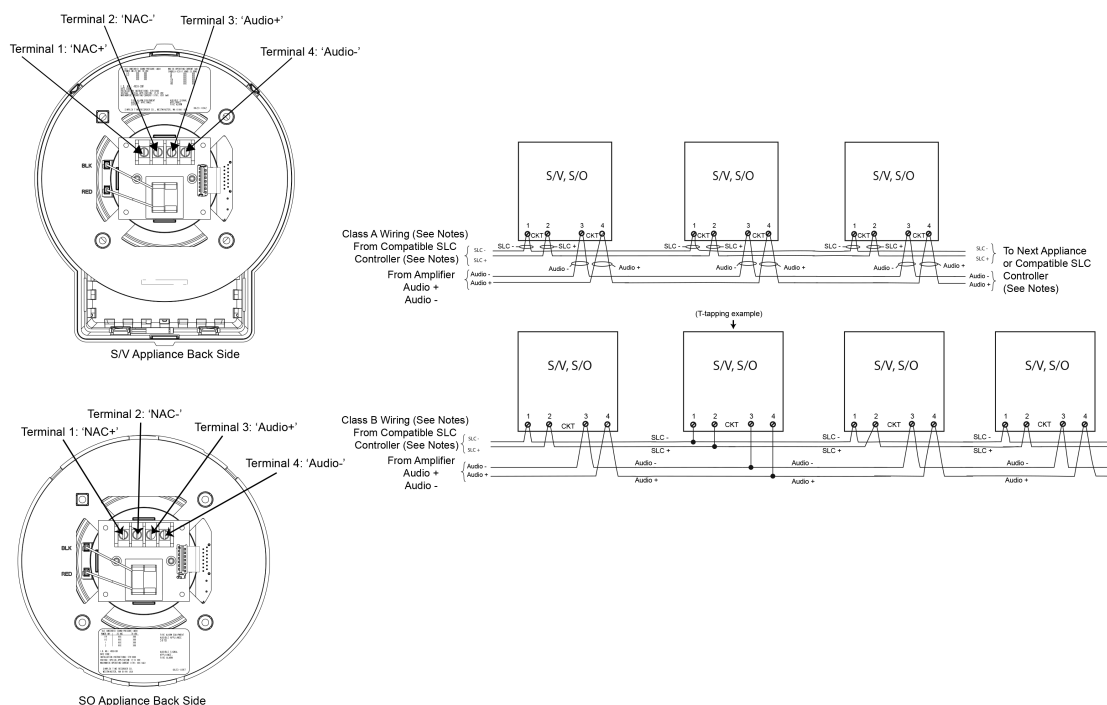


Figure 4: Wiring instructions

Wiring notes:

1. Assign a maximum of 127 active appliances to a circuit. Assign a maximum of 12 active strobe appliances to a powered circuit. The maximum wire resistance between appliances is 25 ohms. Refer to the Field Wiring Diagrams of the driving compatible fire alarm control panel for further instructions.
2. Notification appliances are rated using an individual module label.
3. Maintain the correct polarity on the terminal connections.
4. Terminals 1 through 6 each accommodate two wires, one wire going in and one wire going out to the next appliance.
5. These appliances are rated to the operating voltage limits of 23 VDC to 30 VDC. The appliance can fail to operate as intended, and can cause permanent damage to this equipment if it operates outside of these limits.
6. Only operate the TrueAlert IDNAC S/V and SO using a compatible power supply and amplifier.
7. T-tapping is not permitted for Class A wiring.
8. TrueAlert SLC wiring connections are supervised and power-limited.

Setting the address DIP switch

Each addressable TrueAlert IDNAC notification appliance has a unique address that is set using an eight-position DIP switch (ADDR1).

Assign up to 127 unique addresses an signaling line circuit (SLC), however, the total appliance loading available may be less due to appliance current requirements.

To set the address complete the following steps:

1. Unclip the cover from the appliance by inserting a slotted screwdriver, or a similar sized object into the opening at either end of the cover. See Figure 5.
2. Use a non-metallic stylus, or the equivalent to set the switches.
3. Record the set address.
4. DIP switch position 8 determines whether this appliance is viewed by the system as an 'ALARM' (OFF) or 'ALERT' (ON) type of appliance. Confirm the setting for the appliance at this address with the FACP system configuration documentation.

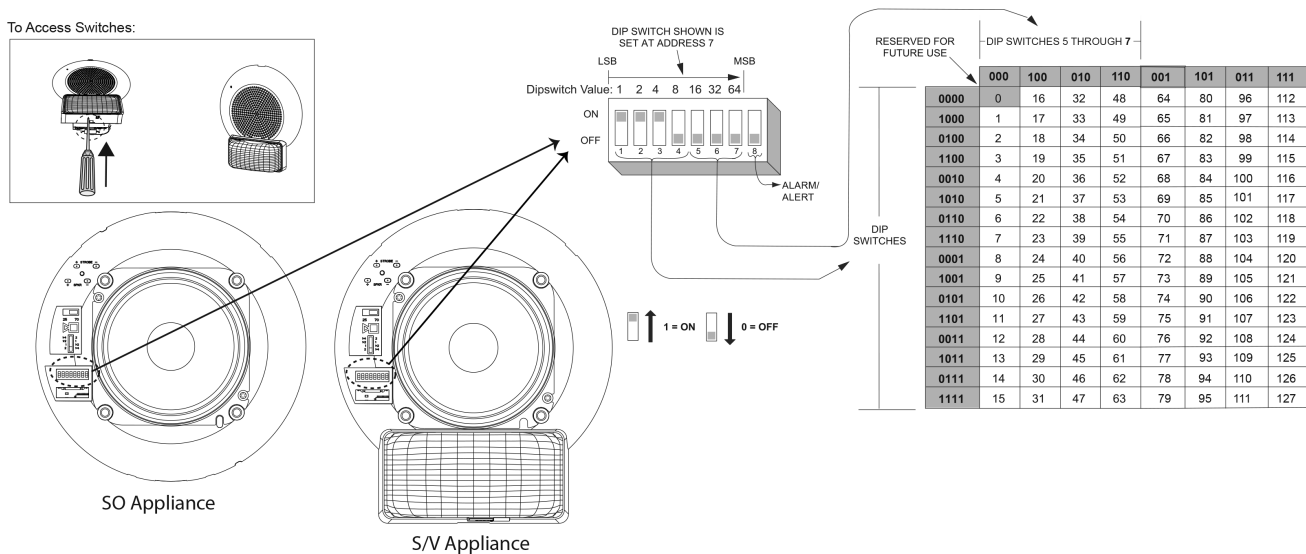


Figure 5: Setting the DIP switch address

Setting the strobe candela setting

- The jumpers are factory set to FACP. Use this setting when programming the candela setting at the 4100ES FACP. The candela setting is visible through the slot on the side of the appliance.
- For manual selection, remove the cover and slide the candela flag to the required setting:
 - W75, W110, W185, 110 candela, or FACP.

The candela setting is visible through the slot on the side of the appliance.

Note: To avoid a programming mismatch trouble, an authorized service personnel must program one of the four candela outputs for each appliance. To set the candela through the Programmer, set it to FACP. For additional information refer to the *4100ES Programmer's Manual* (574-849AC).

Audio circuit configuration for S/V and SO appliances

Move the wire harness position to the correct terminal post for audio circuit voltage and power tap selection. See Figure 6 and Table 4.

The jumper at P2, on the speaker transformer drive board at the rear of the unit, is factory set to 1-2 for a 25V-1/4W output. For a 70V- 2W output, set the jumper to 2-3, see Figure 6. Use the default setting, 1-2, for all other speaker tap settings.

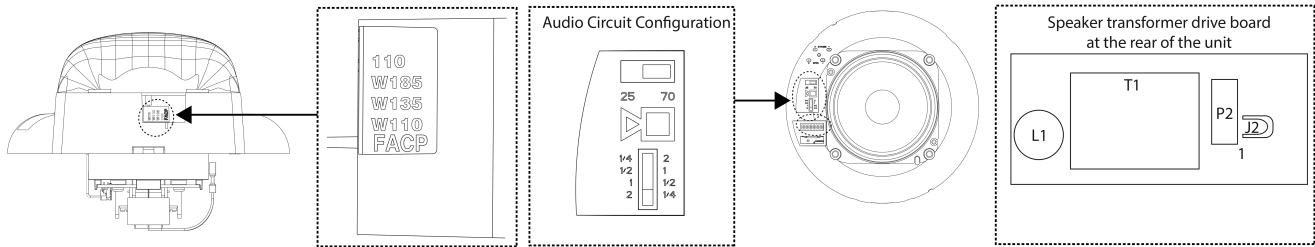


Figure 6: Setting the strobe and appliance configuration

Appliance specifications

Table 2: Environmental specifications

Specifications	Details
Rated DC Control/Strobe Voltage Range	SPECIAL APPLICATION 23 VDC to 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 50°C)
UL/ULC humidity range	95 %, non-condensing at 60°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 3: Maximum RMS operating current

A49SVH-APPLC-O			
Candela	Current	Candela	Current
W110	308 mA	W185	398 mA
W135	335 mA	110	305 mA
Speaker Only		SO	15 mA

Table 4: Speaker Specifications

Specifications	Details
Input voltage	25 VRMS or 70.7 VRMS - Speakers are for connection to compatible fire alarm audio circuits.
Power taps using Jumper J1	1/4 W, 1/2 W, 1 W and 2 W
Frequency response	Fire Alarm 400 Hz to 4000 Hz

Table 5: 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 %	327 %	0	100 %	343 %
±5	90 %	293 %	±5	90 %	160 %
±10	90 %	281 %	±10	90 %	175 %
±15	90 %	197 %	±15	90 %	129 %
±20	90 %	168 %	±20	90 %	145 %
±25	90 %	142 %	±25	90 %	165 %
±30	75 %	143 %	±30	75 %	152 %
±35	75 %	155 %	±35	75 %	144 %
±40	75 %	156 %	±40	75 %	139 %
±45	75 %	134 %	±45	75 %	129 %
±50	55 %	115 %	±50	55 %	129 %
±55	45 %	104 %	±55	45 %	123 %
±60	40 %	103 %	±60	40 %	111 %
±65	35 %	98 %	±65	35 %	120 %

Table 5: 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
±70	35 %	87 %	±70	35 %	103 %
±75	30 %	90 %	±75	30 %	75 %
±80	30 %	96 %	±80	30 %	83 %
±85	25 %	96 %	±85	25 %	70 %
±90	25 %	83 %	±90	25 %	47 %

Table 6: TrueAlert Addressable Ceiling Mount S/V and SO Units- speaker switch setting and output ratings (25 V or 70 V audio)

-	Tap Settings in Watts	UL reverberant at 10 ft	ULC anechoic at 3 m
25 V	1/4	80	82
	1/2	83	85
	1	86	88
	2	88	90
70.7 V	1/4	78	80
	1/2	82	84
	1	85	87
	2	88	90

Note:

- Reverberant dBA measurements are a minimum UL rating based on sound level measurements made in ULs 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 37° from the line perpendicular to the speaker's center. The SPL decreases by 6 dB at an angle of 55° from that line.

Table 7: Private mode Candela (CD) rating for W110 CD/ W135 CD/ W185 CD

Angle	Straight out from unit	Vertical above/below unit		Left/right horizontal	
	0°	45°	90°	45°	90°
W75 CD at 77°F (25°C)	320	110	93	134	57
W110 CD at 77°F (25°C)	360	140	103	145	63
W185 CD at 77°F (25°C)	420	146	126	173	76

