

# TrueAlert ES Addressable Ceiling Mount Visual Indoor Notification Appliances Installation Instructions

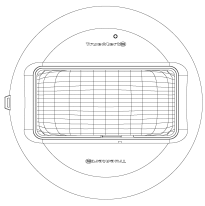
## Cautions, warnings, and regulatory information

**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 panel 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, etc.) 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

Type	Models	Cover colors	Operation
TrueAlert ES Ceiling Mount Visible Only (VO) Appliance  	<b>Components:</b> A49VO-APPLC A49VO-APPLC-BA A49VOH-APPLC A49VOH-APPLC-BA A49VOH-APPLCA A49VOH-APPLCA-BA A49VOH-APPLCB A49VOH-APPLCB-BA  <b>Accessories:</b> 49VO-APCS  <b>Covers:</b> A49VOC-CRALT A49VOC-CRBF A49VOC-CRFEU A49VOC-CRF A49VOC-CRS	A49VOC-CWALT A49VOC-CWBF A49VOC-CWFEU A49VOC-CWF A49VOC-CWS A49VOC-CK A49VOC-CRBAF A49VOC-CRBCF A49VOC-CWBAF A49VOC-CWBFCF A49VOC-CWBAA A49VOC-CWBAA	<ul style="list-style-type: none"> <li>• Red</li> <li>• White</li> <li>• Black</li> </ul> <p>These appliances provide a visible only (VO) 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.</p> <p>VO models '49VOH' have Hi intensity strobes; models '49VO' have standard range strobes.</p>
<b>Kit Contents</b>	Appliance x1, with 8-32 1 in. mounting screws x 2.		
<b>Not Included</b>	Order a cover separately for each appliance. Electrical box, 1.5 in. (3.81 cm) minimum depth required, 4 in. (10.16 cm) square or single gang with an adapter plate. 49VO-APCS adapter plate for use with the single gang electrical box, with 4-40 screws x2, and 6-32 screws x 2.		

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

## Mounting instructions

1. Select the correct location and install the electrical box using screws suitable for the mounting surface.
2. Connect the building wires to the terminal block on the rear of the appliance. See [Wiring instructions](#).
3. Use the hardware provided to secure the appliance to the electrical box. Installing the appliance using a single gang electrical box requires a 49VO-APCS adapter plate. You can mount the adapter plate in two orientations, see [Wiring instructions](#).
4. Set the appliance settings. See [Setting the address DIP switch](#).
5. Attach the cover to the appliance.



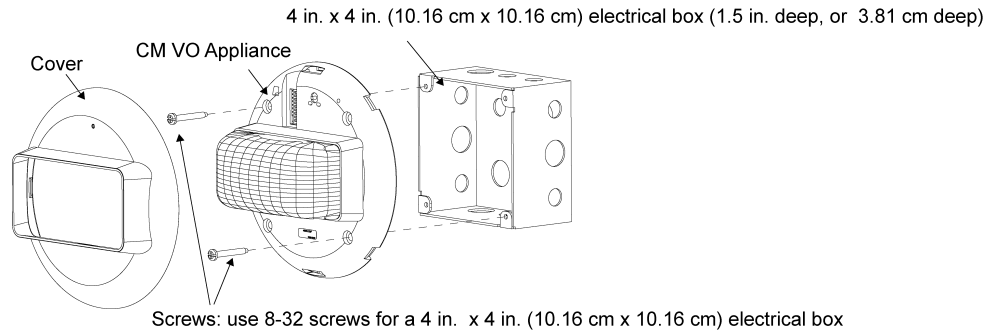


Figure 1: Mounting to the 4 inch square electrical box

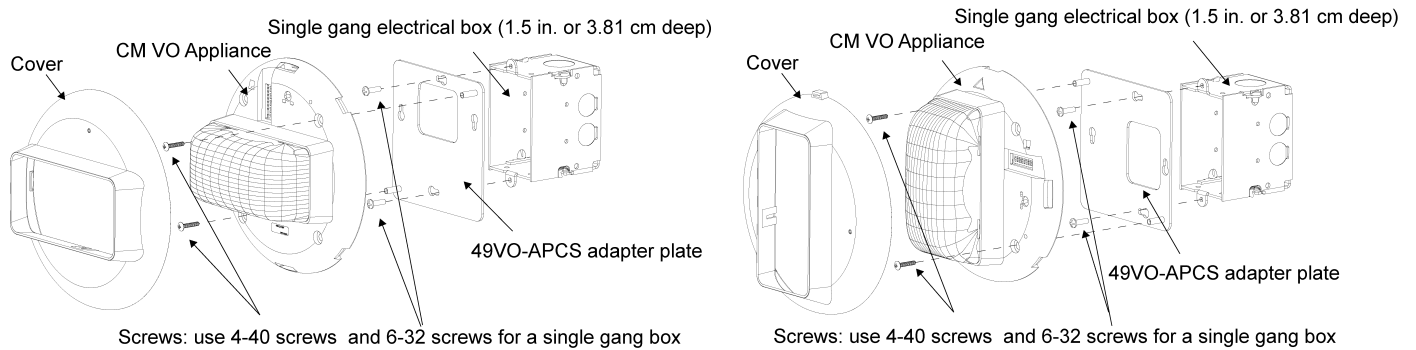


Figure 2: Mounting to the single gang electrical box

## Wiring instructions

**Warning:** Ensure that all power is disconnected before starting the installation

1. At the electrical box, connect the building wiring to the CKT + and CKT - terminals on the assembly.
2. To ensure proper continuity, use a torque wrench to tighten the terminal block screws to 12-15 inch-pounds.
3. Ensure that correct polarity is maintained for each strobe unit.

**Note:** Signal line circuit (SLC) wiring must be twisted pair (TWP). CKT Terminals accept two Wires, 12-18 American wire gauge (AWG) TWP.

**Important:** Do not bring the conduit through the rear of the electrical box. Strip the lead insulation to 7/16 inch maximum.

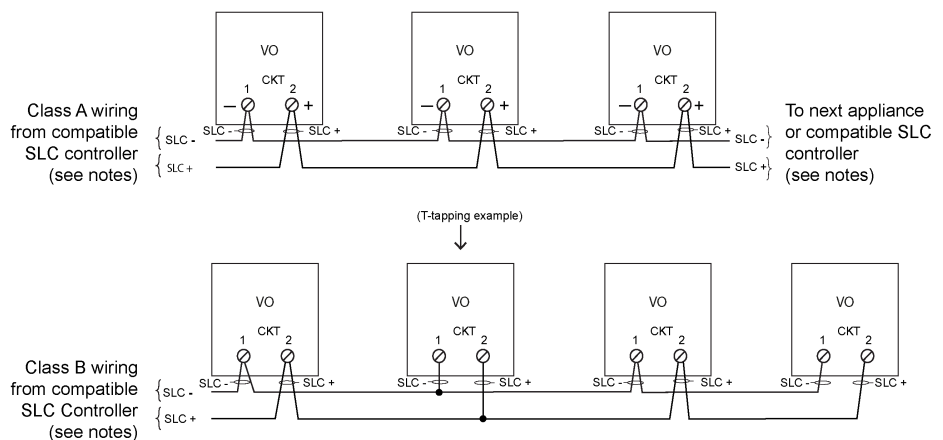
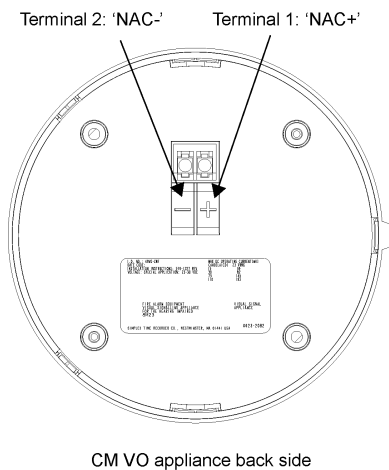


Figure 3: Wiring instructions

### Wiring guidelines:

- Assign a maximum of 127 active appliances to a circuit. Assign a maximum of 51 active strobe appliances to a powered circuit. The maximum wire resistance between appliances is 29 ohms. Refer to the Field Wiring Diagrams of the driving compatible fire alarm control panel for further instructions.
- Notification appliances are rated using an individual module label.

- Maintain the correct polarity on the terminal connections.
- Terminals 1 and 2 accommodate two wires, one wire going in and one wire going out to the next appliance.
- These appliances are rated to the operating voltage limits of 23-30 volts DC (VDC), but 49VOH models are only rated for 23-30 VDC operation, see [Appliance specifications](#). The appliance can fail to operate as intended, and can cause permanent damage to the equipment if it operates outside of these limits.
- Ensure the TrueAlert ES VO Appliance is operated using a compatible power supply.
- Do not use T-tapping for Class A wiring.
- TrueAlert SLC wiring connections are supervised and power-limited.

## Setting the address DIP switch

Each addressable TrueAlert ES IDNAC notification appliance has a unique address that is set using an eight-position DIP switch (ADDR1). Assign up to 127 unique addresses to an SLC, but the total appliance loading available may be less due to appliance current requirements. For legacy fire panel models, Autocall 4009T and 4100/TPS, only addresses 1 to 63 are available.

To set the address, complete the following steps:

1. Insert a slotted screwdriver, or a similar sized object, into the slot at the side of the cover and unlatch it from the appliance. Push the cover to the left to release the remaining two latches and lift the cover off the appliance. See Figure 4.
2. Use a non-metallic stylus, or the equivalent, to set the switches.
3. Record the set address.
4. Confirm the setting for the appliance at this address with the Fire Alarm Control Panel (FACP) system configuration documentation. DIP switch position 8 determines whether this appliance is viewed by the system as an 'ALARM' (OFF) or 'ALERT' (ON) type appliance.

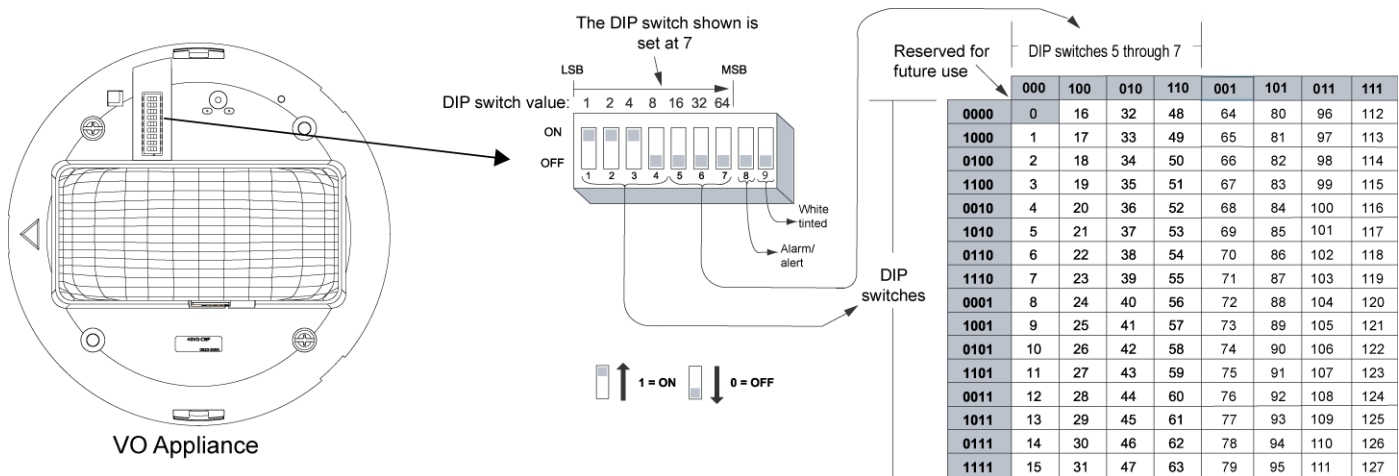
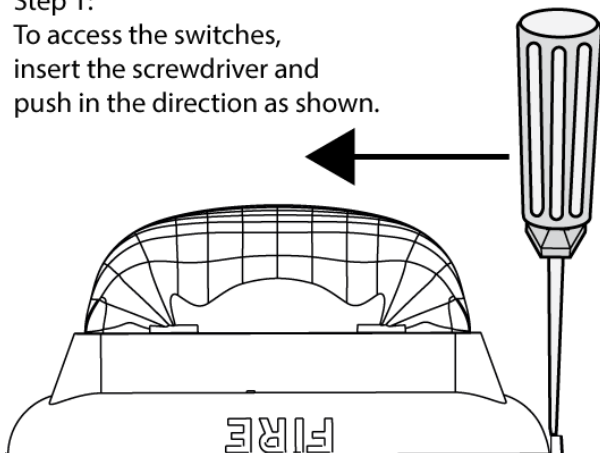


Figure 4: Setting the DIP switch address

### Step 1:

To access the switches, insert the screwdriver and push in the direction as shown.



### Step 2:

Apply pressure with your hand to any location indicated below to release the remaining latches.

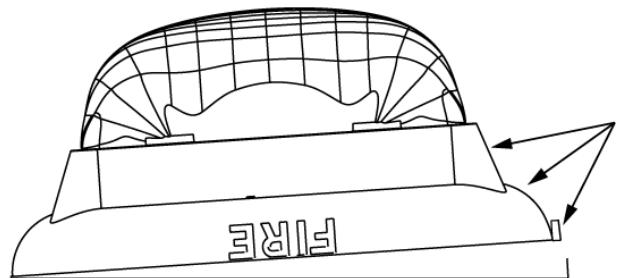


Figure 5: Removing the cover

## Setting the strobe candela setting

1. 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.
2. For manual selection, remove the cover and slide the CD selector to the required setting:
  - FACP or 15/30/75/110 for standard strobes
  - FACP or 185/135/110 for HiCD strobes.
  - FACP or 95/110/135 for amber strobes.
  - FACP or 75/95/110 for blue strobes.
3. When the appliance is mounted, the candela rating is visible through the slot on the side of the appliance.

**Note:** To avoid a programming mismatch trouble, ensure that one of the 4 candela outputs is programmed for each appliance by authorized service personnel. To set the candela using the Programmer set it to FACP. For more information refer to the *4100ES Programmer's Manual* (574-849AC).

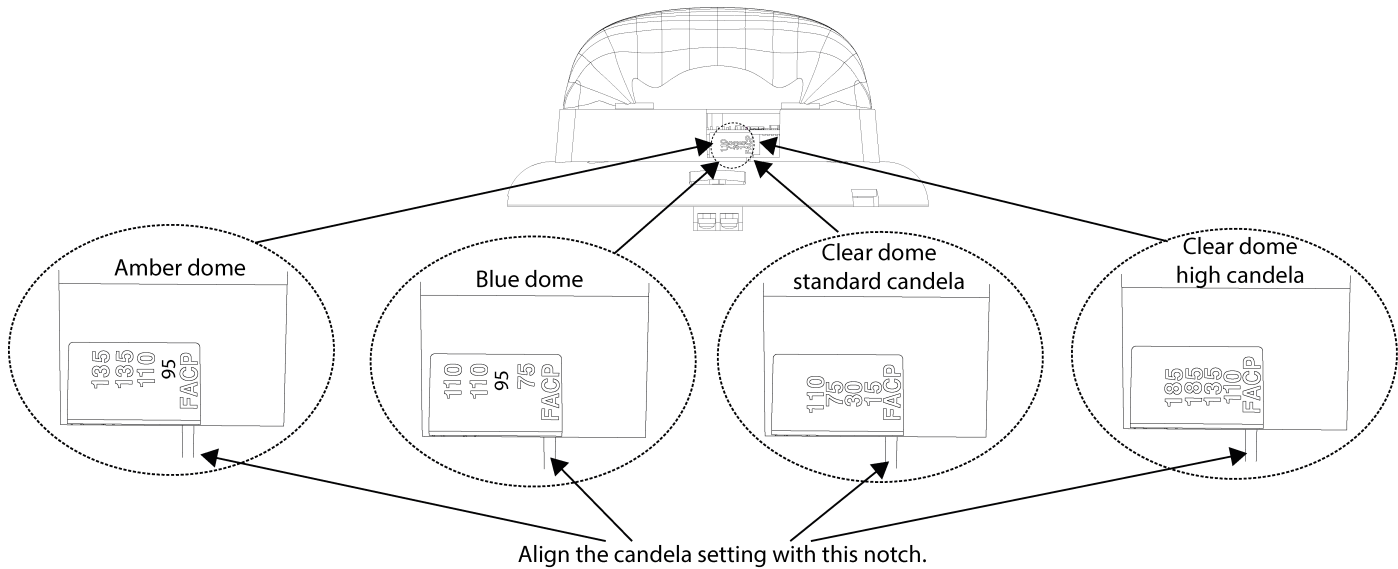


Figure 6: Setting the strobe and appliance configuration

## Appliance specifications

**Table 1: Environmental specifications**

Specifications	Rating
Rated DC Control/Strobe voltage range	All: Special Application 23-30 VDC 49VO: also <sup>1</sup> Special Application 17-31 VDC <sup>1</sup> For connection to legacy fire panel models, Autocall 4009T and 4100/TPS. High candela (49VOH) appliances are not compatible with Autocall 4009T and TPS; see fire panel compatibility charts for more information.
Temperature Range	32 °F to 120 °F (0 °C to 49 °C)
Humidity range	10 % to 93 %, non-condensing at 104 °F (40 °C)
Connections	Terminal for 18 AWG to 12 AWG (0.82 mm <sup>2</sup> to 3.31 mm <sup>2</sup> )

**CAUTION:** The appliances are available in red, white and black. Do not paint or otherwise alter the factory finishes in any way.

**Table 2: Maximum RMS operating current: 17-31 VDC**

Candela	Current
15	73 mA
30	114 mA
75	210 mA
110	269 mA

**Table 3: Maximum RMS operating current 23-30 VDC**

49[VO] Visible		49[VOH] Visible			
Candela	Current	Candela			Current
		CD amber	CD blue	CD clear	
15	55 mA	-	-	-	-
30	83 mA	90	75	110	253 mA
75	153 mA	110	95	135	296 mA
110	199 mA	135	110	185	377 mA

**Table 4: Specifications**

Vertical and horizontal light dispersion ratings (Ceiling to walls and floors)					
Percent of rated light output at any 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	45 %	143 %	±30	45 %	152 %
±35	45 %	155 %	±35	45 %	144 %
±40	45 %	156 %	±40	45 %	139 %
±45	45 %	134 %	±45	45 %	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 %
±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 %

