Simplex

TrueAlert ES Addressable Ceiling Mount Visual Indoor Notification Appliances Installation Instructions

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https://docs.jci.com/simplex/TA-ES-Addr-Ceil-Mnt-Ins

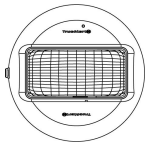
Cautions, warnings, and regulatory information

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 	**Components:**	49VOC-CWALT	• Red • White • Black	These appliances provide a visible only (VO) warning of an alarm condition when activated from the control panel of a compatible UL/ULC Listed, Simplex Fire Alarm System. Consult Simplex Fire Alarm panel documentation for compatibility information. VO models '49VOH' have Hi intensity strobes; models '49VO' have standard range strobes.
	49VO-APPLC	49VOC-CWBF		
	49VO-APPLC-BA	49VOC-CWFEU		
	49VOH-APPLC	49VOC-CWF		
	49VOH-APPLC-BA	49VOC-CWS		
	49VOH-APPLCA	49VOC-CK		
	49VOH-APPLCA-BA	49VOC-CRBAF		
	49VOH-APPLCB	49VOC-CRBCF		
	49VOH-APPLCB-BA	49VOC-CWBAF		
	Accessories:	49VOC-CWBCF		
	49VO-APCS	49VOC-CRBAA		
	Covers:	49VOC-CWBAA		
	49VOC-CRALT	49VOC-CRFBL		
	49VOC-CRBF			
	49VOC-CRFEU			
	49VOC-CRF			
	49VOC-CRS			
Kit Contents	Appliance x1, with 8-32 1 in. mounting screws x 2.			
Not Included	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 (579-1049).*

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

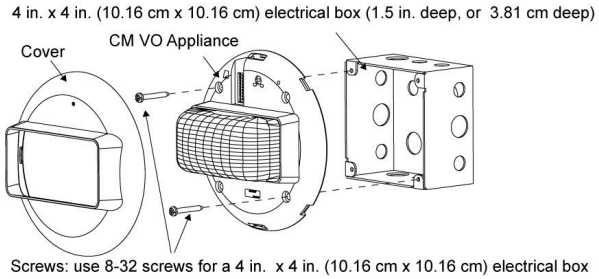
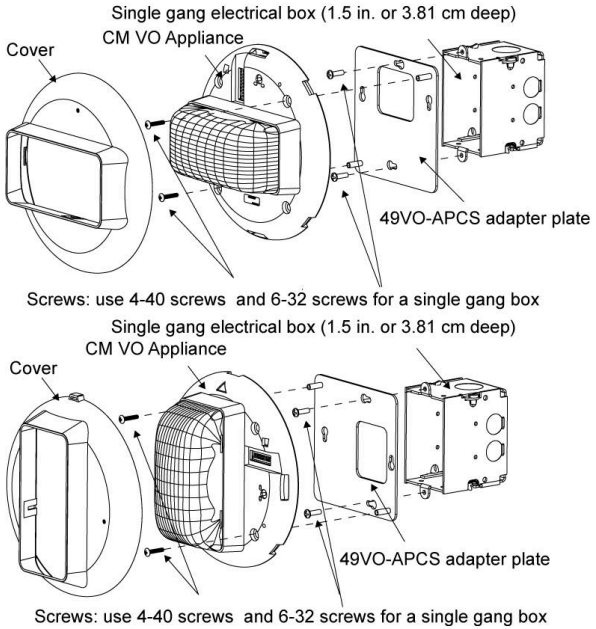


Figure 2: Mounting to the single gang electrical box



Wiring instructions

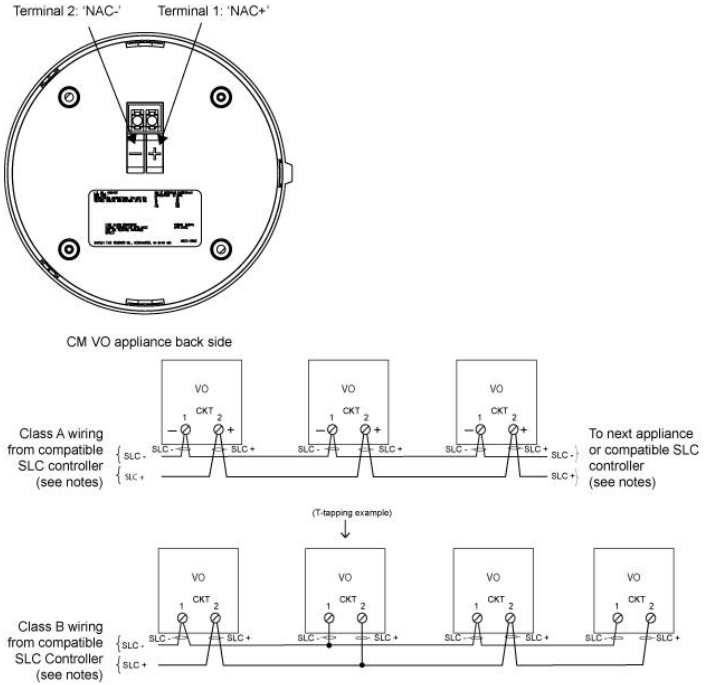
WARNING: Ensure that all power is disconnected before starting the installation

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.

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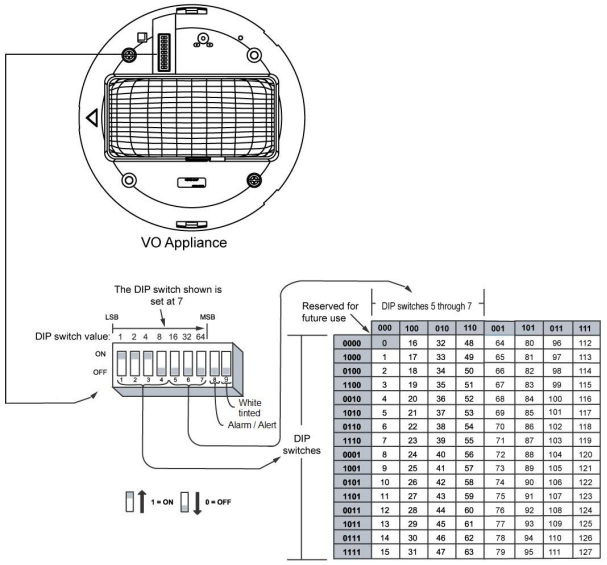
Setting the address DIP switch

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, Simplex 4009T and 4100/TPS, only addresses 1 to 63 are available.

To set the address, complete the following steps:

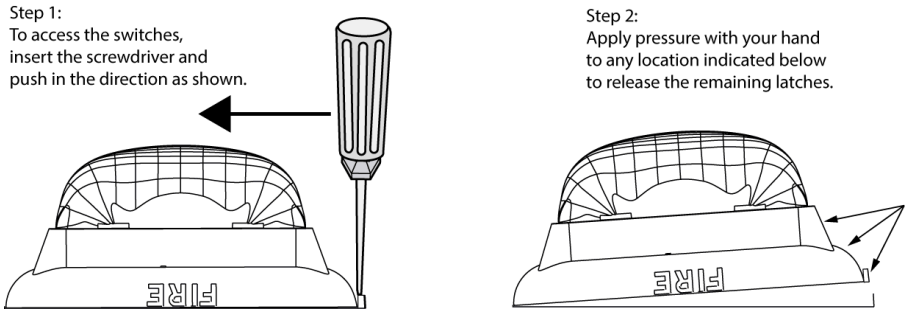
1. Insert a slotted screwdriver, or a similar sized object, into the slot at the side of the cover and unlatch it from the appliance. Push the cover to the left to release the remaining two latches and lift the cover off the appliance. See Figure 4.
2. Use a non-metallic stylus, or the equivalent, to 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



	000	100	010	110	001	101	011	111
0000	0	16	32	48	64	80	96	112
1000	1	17	33	49	65	81	97	113
0100	2	18	34	50	66	82	98	114
1100	3	19	35	51	67	83	99	115
0010	4	20	36	52	68	84	100	116
1010	5	21	37	53	69	85	101	117
0110	6	22	38	54	70	86	102	118
1110	7	23	39	55	71	87	103	119
0001	8	24	40	56	72	88	104	120
1001	9	25	41	57	73	89	105	121
0101	10	26	42	58	74	90	106	122
1101	11	27	43	59	75	91	107	123
0011	12	28	44	60	76	92	108	124
1011	13	29	45	61	77	93	109	125
0111	14	30	46	62	78	94	110	126
1111	15	31	47	63	79	95	111	127

Figure 5: Removing the cover

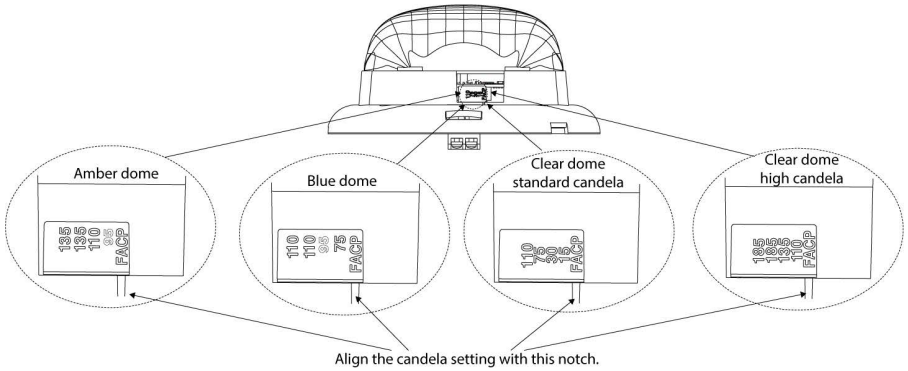


Setting the strobe candela setting

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*** (574-849).

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[1] Special Application17-31 VDC [1] For connection to legacy fire panel models, Simplex 4009T and 4100/TPS. High candela (49VOH) appliances are not compatible with Simplex 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^2 to 3.31 mm^2)

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 %

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