Indoor Wall-Mount LED Horn/Strobe

Description

The AUTOPULSE Indoor Wall-Mount LED Horn/Strobe is a wall mounted device that provides audible and visible notifications. It has a mount plate and a capture hinge, making installation fast and efficient.

The appliance includes a pre-wire and pre-test capability, so installers can complete wiring and ground fault testing before the device is installed.

Features

- FIRE or AGENT lettering
- Low-profile, small footprint design
- Field-selectable candela settings: 15, 30, 75, 110, 135, and 185 cd
- Pre-wire and pre-test mounting plate and back box terminals
- Eight signals in one device: Horn, Bell, March time horn, Code 3 horn, Code 3 tone, Slow whoop, Siren, or HI/LO tone
- Code 3 horn and tone incorporate the temporal pattern specified by ANSI/NFPA/ISO for standard emergency evacuation signaling
- LED technology provides low current draw

Approvals, listings, and standards

- UL 1971, UL 1638, UL 464, ULC S525, ULC S526
- California State Fire Marshal (CSFM)
- Factory Mutual (FM)
- ADA/NFPA/ANSI/OSHA
- All candela ratings represent minimum effective strobe intensity based on UL 1638

Note: The converted values provided in this document are for nominal reference only and do not reflect an actual measurement.

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Technical specifications

Table 1: Specifications

Physical	
Material	Red textured UV stabilized, colored impregnated engineered plastic. Exceeds 94V-0 UL flammability rating.
Weight	0.82 lb (370 g)
Lens	Light emitting diode (LED) in a rugged clear Lexan lens
Dimensions (H x W x D)	6.35 in. x 4.56 in. x 1.54 in. (161.3 mm x 115.8 mm x 39.1 mm)
Operating temperature	Indoor use: 32 °F to 122 °F (0 °C to 50 °C) and maximum humidity of 93%
Mounting and wire connections	
Mounting (indoor only)	Mounting plate included, wall-mount only. Mounting options include a surface mount back box (Part No. A16382VBAG) and a 4 in. (102 mm) square, 2 1/8 in. (54 mm) deep steel back box (Part No. A16382VBAH).
Wire connections	12 AWG to 18 AWG (2.5 mm^2 to 0.75 mm^2)
Power and general	
Operating voltage	24 VDC/VFWR
Strobe output rating	UL 1638, ULC S526: selectable 15, 30, 75, 110, 135, and 185 cd output
NAC (notification appliance circuit) characteristics	Maximum line resistance: 35 Ω

Notes:

- The strobe produces 1 flash per second over the regulated voltage range. Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second. ADA Guidelines specify a flash rate of 1 to 3 flashes per second.
- Do not use the strobe on coded systems in which the applied voltage is cycled on and off.
- To determine the maximum number of AUTOPULSE devices for each NAC, divide the maximum current rating of the fire alarm control panel (FACP) NAC by the total current rating of one AUTOPULSE device.
- The maximum number of strobes on a single NAC is 105.

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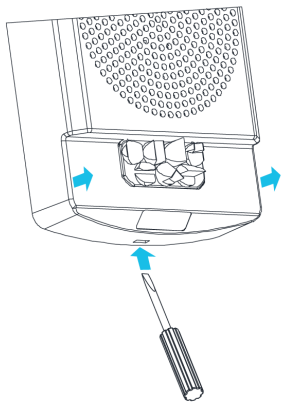
Removing the appliance cover grille

To remove the appliance cover grille, insert a small, flat-bladed screwdriver into the bottom slot and complete the following steps:

1. Push in to release the snap.
2. Pull to remove the cover grille.

Figure 1: Removing the cover grille

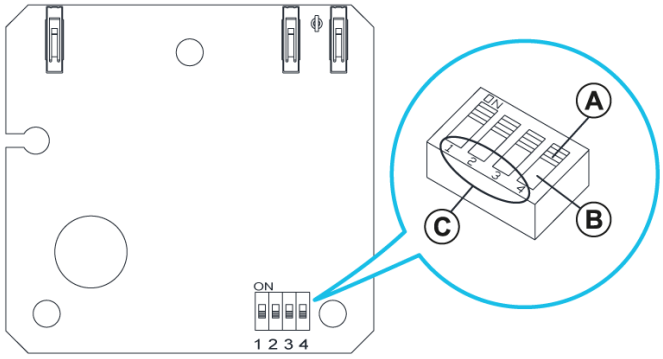


Tone and volume settings

You can field set the appliance to produce any of the eight commonly used alarm tones. The appliance is designed for use with either filtered or unfiltered full wave rectified (FWR) input voltage. You can field set the sound output to either high (HI) or standard (STD) dBA sound output level.

To set the volume and tone, use a finger or a small screwdriver to change the switch SW1 positions. Figure 2 shows the switch SW1 location and positions.

Figure 2: Switch SW1 location and positions



Callout	Description
A	Slide here for 1
B	Slide here for 0
C	Switch positions 1 to 4 (POS 1, POS 2, POS 3, and POS 4)

Refer to Tables 2 and 3 for the sound output level and alarm tone settings.

Table 2: dBA sound output level settings

Sound output level	Switch SW1 setting
High (HI) dBA	POS 1 on 1 (factory setting)
Standard (STD) dBA	POS 1 on 0

Table 3: Alarm tone settings

Tone	Pattern description	Switch SW1		
		POS 2	POS 3	POS 4
Horn	Broadband horn (continuous)	1	1	1
Bell	1560 Hz modulated (0.07 s ON/repeat)	1	0	1
March time	Horn (0.25 s ON/0.25 s OFF/repeat)	0	0	1
Code 3 horn	Horn (ANSI S3.41 temporal pattern)	1	1	0
Code 3 tone	500 Hz (ANSI S3.41 temporal pattern)	0	1	1
Slow whoop	500 Hz to 1200 Hz sweep (4 s ON/0.5 s OFF/repeat)	0	1	0
Siren	600 Hz to 1200 Hz sweep (1.0 s ON/repeat)	1	0	0
HI/LO	1000 Hz/800 Hz (0.25 s ON/alternate)	0	0	0
Note: Factory setting is horn with switch SW1 POS 2, POS 3, and POS 4 set on 1.				

Code 3 horn and code 3 tone incorporate the temporal pattern specified by ANSI/NFPA/ISO for standard emergency evacuation signaling. Use them for fire evacuation signaling, not for any other purpose.

⚠ CAUTION

If operated within 15 in. (38 cm) of a person's ear, the appliance can produce a sound pressure level that exceeds the maximum 120 dBA permitted by ADA and OSHA rules. Exposure to such sound levels can damage hearing.

Table 4: Multitone sound pressure level (SPL) ratings

Tone	Volume	Reverberant dBA at 10 ft (UL 464)			Anechoic dBA at 10 ft (CAN/ULC S525-16)		
		16 V	24 V	33 V	16 V	24 V	33 V
Horn	HI	88	91	93	95	99	100
	STD	82	86	88	89	93	94
Bell	HI	80	83	87	85	89	91
	STD	72	76	80	77	81	84
March time	HI	85	88	90	95	99	100
	STD	79	83	85	89	93	94
Code 3 horn	HI	84	87	89	95	99	100
	STD	78	82	85	89	93	94
Code 3 tone	HI	81	85	86	91	95	96
	STD	76	80	82	86	90	91
Slow whoop	HI	87	90	92	95	99	100
	STD	80	84	87	90	94	95
Siren	HI	86	89	92	94	98	99
	STD	81	84	87	89	93	94
HI/LO	HI	86	88	91	89	93	94
	STD	80	84	86	84	88	89

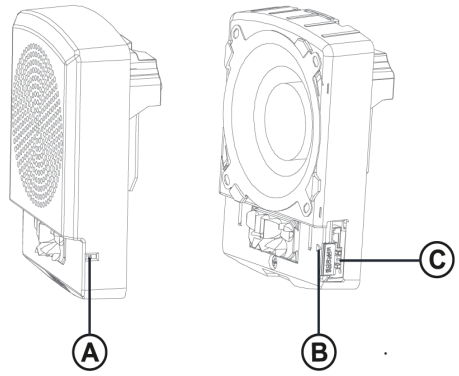
Table 5: ULC directional characteristics

Attenuation	Angle
-3 dB	±35° horizontal, ±35° vertical
-6 dB	±45° horizontal, ±45° vertical

Candela setting

To select the candela output, adjust the selector switch on the side of the product to the required candela setting. To verify the candela setting, look into the small window on the side of the unit. The factory setting is 15 cd.

Figure 3: Candela window, indicator, and selector



Callout	Description
A	Candela window
B	Candela indicator
C	Candela selector

NOTICE

The strobe appliance has only one mounting orientation. Make sure the LED lens points toward the floor as illustrated in Figure 3.

Current ratings

Refer to Tables 6 and 7 for maximum RMS current and maximum strobe current draw information.

Table 6: Maximum RMS current for audibles (amps)

	Maximum RMS current (amps)			
	16 VDC to 33 VDC		16 VFWR to 33 VFWR	
Tone	HI	STD	HI	STD
Horn	0.108	0.044	0.087	0.045
Bell	0.053	0.024	0.067	0.028
March time	0.104	0.087	0.087	0.045
Code 3 horn	0.122	0.035	0.087	0.045
Code 3 tone	0.135	0.035	0.110	0.029
Slow whoop	0.098	0.037	0.092	0.042
Siren	0.104	0.036	0.092	0.040
HI/LO	0.057	0.025	0.063	0.032

Table 7: UL/ULC maximum strobe current draw (amps)

Current draw (amps) at 24 V						
Regulated voltage range VDC	15 cd	30 cd	75 cd	110 cd	135 cd	185 cd
16 to 33	0.017	0.022	0.053	0.079	0.106	0.161

Wiring and mounting plate

The in-out wiring terminals accept two 12 AWG to 18 AWG (2.5 mm^2 to 0.75 mm^2) wires at each screw terminal.

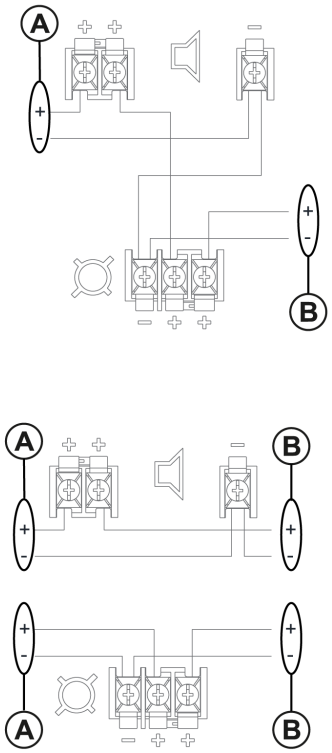
Make wire connections by stripping about 3/8 in. (1 cm) of insulation from the end of the wire. Then slide the bare end of the wire into the appropriate screw terminal and tighten the clamping plate screw.

⚠ CAUTION

Do not overtighten the mounting plate screws, this can cause the mounting plate to flex.

Figure 4 shows the wiring terminals. With one circuit, multitone and strobe activate in unison. With two circuits, multitone can be coded and multitone and strobe operate independently.

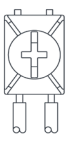
Figure 4: System wiring for one circuit (top) and two circuits (bottom)



Callout	Description
A	Input from prior device, fire alarm control panel (FACP), power supply, or synchronization module
B	Output to next device or end-of-line resistor (EOLR)

Figure 5 shows how to break all in-out wire runs on supervised circuits to assure integrity of circuit supervision. The polarity shown in the wiring diagrams is for appliance operation. The FACP reverses the polarity during supervision.

Figure 5: In-out wire runs



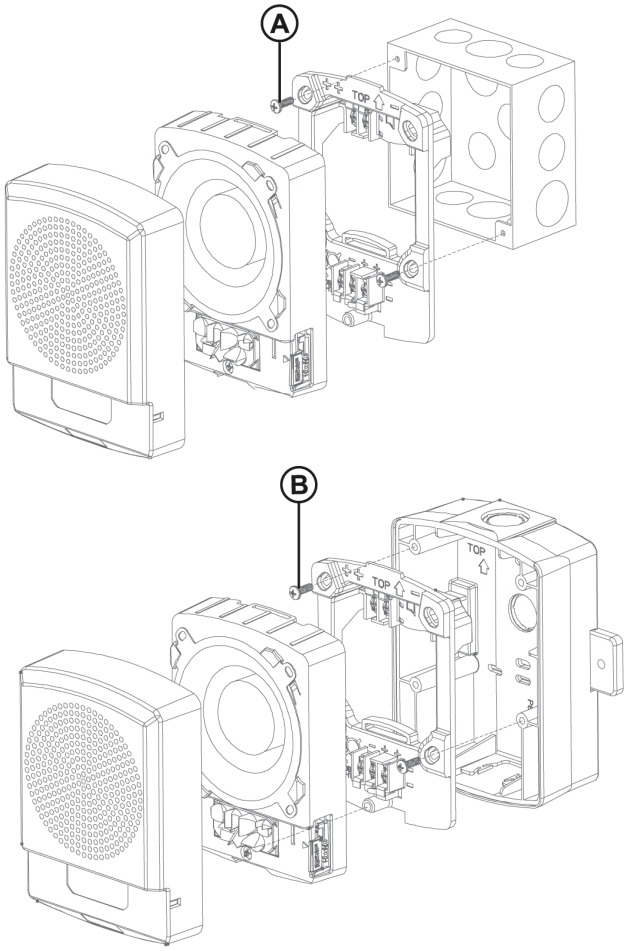
NOTICE

A maximum of eight 12 AWG to 18 AWG (2.5 mm^2 to 0.75 mm^2) field wires (conductors) can enter the back box used with both mounting options. Exceeding this limit can result in insufficient space for the field wires and stresses from the wires can damage the product. Check that the installed product has sufficient clearance and wiring room before you install the back boxes and conduit. This is especially important if you use sheathed multiconductor cable or 3/4 in. conduit fittings.

Mounting on a wall

Figure 6 shows the two mounting options.

Figure 6: Flush mounting (top) and surface mounting (bottom)



Callout	Description	Quantity
A	#8-32 screw	2
B	#6 screw	2

Note: The maximum number of conductors is eight.

⚠ CAUTION

Do not alter the factory finish or paint the product.

Select conduit entrances to the back box with sufficient wiring clearance for the installed product. Do not pass additional wires that are not used by the signaling appliance through the back box. Such additional wires could result in insufficient wiring space for the signaling appliance.

NOTICE

- Do not fully back out the terminal screws.
- Do not overtighten screws or terminals.
- Excessive torque can affect operation.
- When using power tools, ensure the torque is set to the lowest setting available.

The surface mount back box (Part No. A16382VBAG) requires 5 1/8 in. (130 mm) spacing for surface mounting.

To mount the appliance on a wall, complete the following steps:

1. Install the mounting plate on the back box with TOP facing upwards as illustrated in Figure 6.
   - For the surface mount back box (Part No. A16382VBAG), use the two provided #6 hi-lo screws.
   - For the flush mount 4 in. (102 mm) square, 2 1/8 in. (54 mm) deep back box (Part No. A16382VBAH), use the two provided #8-32 hi-lo screws.
2. Connect the field wires to the terminals (see *Wiring and mounting plate*). Position the wires in the back box with care and use correct techniques so that they take minimum space and produce minimum stress on the product. This is especially important for stiff, heavy gauge wires and wires with thick insulation or sheathing. When terminating field wires, do not use more lead length than required. Excess lead length can result in insufficient wiring space for the signaling appliance.
3. Conduct pre-tests. AUTOPULSE provide a shunt between adjacent positive (+) terminals in the back box to facilitate testing before the device is attached.

   Note: The shunt opens permanently when the device is installed.
4. Verify that the appliance settings are correct for your application (see *Tone and volume settings* and *Candela setting*). Factory settings are HIGH dBA, horn, and 15 cd.
5. Place the appliance over the mounting plate. Engage the top hook on the mounting plate, then secure with a screw at the bottom. Use care to prevent damage when driving the screw.
6. Align the cover grille to the appliance with the strobe opening over the LED lens and click in place.

Note: Final acceptance is subject to the Authority Having Jurisdiction (AHJ).

Ordering information

Use the details in Table 8 when ordering products.

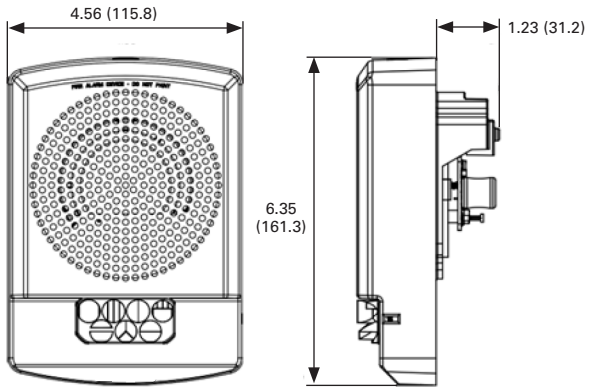
Table 8: Part details

Part No.	Description	Color
A16382VBBO	Indoor horn/strobe with LED and AGENT lettering, wall-mount	Red
433356	Indoor horn/strobe with LED and FIRE lettering, wall-mount	Red
A16382VBAG	Indoor LED horn/strobe back box, wall surface mount	Red
A16382VBAH	Steel back box, 4 in. (102 mm) square, 2 1/8 in. (54 mm) deep, flush mount	Red

Product dimensions

Figure 7 shows the product dimensions.

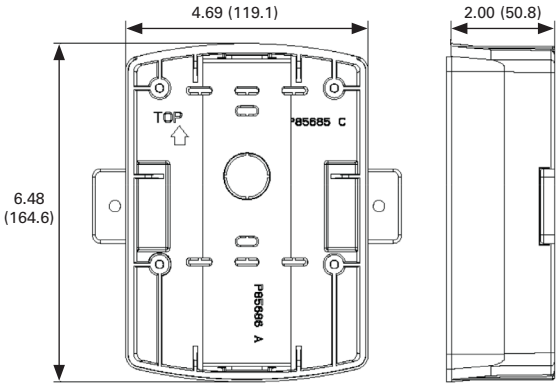
Figure 7: Indoor LED horn/strobe dimensions, in. (mm) (Part No. A16382VBBO and Part No. 433356)



Wall surface mount back box

Figure 8 shows the wall surface mount back box dimensions.

Figure 8: Indoor LED horn/strobe back box dimensions, in. (mm) (Part No. A16382VBAG)

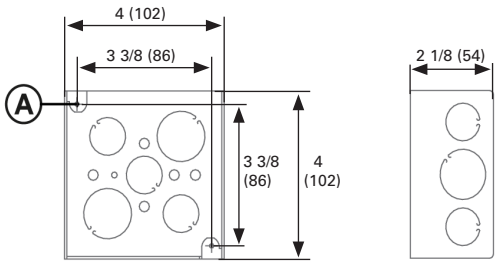


Flush mount back box

AUTOPULSE provide a standard steel back box with knockouts for interior surface mounting, concealed conduit mounting, or semi-flush applications. It is painted to match the appliance.

Figure 9 shows the steel back box dimensions.

Figure 9: Steel back box dimensions, in. (mm) (Part No. A16382VBAH)



Callout	Description	Quantity
A	#8-32 tap holes	2

The back box includes knockouts holes for a 1/2 in. and 3/4 in. conduit adapter.