

Thank you for using our products.

**INSTALLATION INSTRUCTIONS
 SERIES AH-WP INDOOR/OUTDOOR AUDIBLE HORN APPLIANCES**

Use this product according to this instruction manual. Please keep this instruction manual for future reference.


GENERAL:

Cooper Notification's AH-WP Audible Horn Appliances are designed to provide a selectable continuous horn or code 3 tone when connected directly to the Fire Alarm Control Panel (FACP), or provide a synchronized code 3 horn when used in conjunction with a Sync Module (SM), Dual Sync Module (DSM) or Wheelock's Power Supplies. The AH-24WP Appliance is UL Listed under UL Standard 464 for Audible Signal Appliances and ULC Listed under Standard CAN/ULC-S525-07 for Audible Signaling Appliances. They are listed for indoor and outdoor use and can be mounted to a 4" backbox (See Mounting Options).

AH-WP Appliances can be field set to provide High (HI) dBA, Medium (MED) dBA or Low (LO) dBA sound output.

All AH-WP models are designed for use with either filtered DC (VDC) or unfiltered Full-Wave-Rectified (FWR) input voltage. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a FACP.

NOTE: The code 3 horn incorporates the temporal pattern (1/2 second on, 1/2 second off, 1/2 second on, 1/2 second off, 1/2 second on, 1-1/2 off and repeat) specified by ANSI/NFPA for standard emergency evacuation signaling. **The code 3 horn shall be used only for fire evacuation signaling and not for any other purpose.**

NOTE: All **CAUTIONS** and **WARNINGS** are identified by the symbol . All warnings are printed in bold capital letters.

! WARNING: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

! WARNING: THE AH-WP APPLIANCE IS A "FIRE ALARM DEVICE - DO NOT PAINT."

SPECIFICATIONS:

Table 1: UL Listed Models and Ratings

Model	Regulated Voltage (VDC/VRMS)	UL Voltage Range (VDC/VRMS)	Maximum RMS Current (AMPS)					
			DC			FWR		
			Lo	Med	Hi	Lo	Med	Hi
AH-24WP	24	16.0-33.0	0.021	0.043	0.080	0.041	0.051	0.090

Table 1a: ULC Listed Models and Ratings

Model	Regulated Voltage (VDC/VRMS)	ULC Voltage Range (VDC/VRMS)	Maximum RMS Current (AMPS)					
			DC			FWR		
			Lo	Med	Hi	Lo	Med	Hi
AH-24WP	24	16.0-33.0	0.026	0.062	0.115	0.041	0.051	0.120

Table 2: dBA Sound Output for 24VDC Models

Description	Volume	Reverberant dBA Per UL 464 at 10 Feet			Anechoic dBA Per CAN/ULC-S525-07 at 10 Feet		
		16.0VDC	24VDC	33.0VDC	16.0VDC	24VDC	33.0VDC
		Continuous Horn	Low	80	83	86	86
Medium	85		88	91	88	95	97
High	88		91	93	90	97	99
Code 3 Horn	Low	75	79	82	86	90	92
	Medium	80	84	86	88	95	97
	High	84	87	90	90	97	99

All models are UL and ULC Listed for indoor and outdoor use with a temperature range of -40°F to +151°F (-40°C to 66°C) and maximum humidity of 98%RH.

Axis	dBA	Angle
Horizontal	-3dBA	40 degrees left and right
	-6dBA	45 degrees left and right
Vertical	-3dBA	40 degrees up and down
	-6dBA	45 degrees up and down

⚠ WARNING: CHECK THE MINIMUM AND MAXIMUM OUTPUT OF THE POWER SUPPLY AND STANDBY BATTERY AND SUBTRACT THE VOLTAGE DROP FROM THE CIRCUIT WIRING RESISTANCE TO DETERMINE THE APPLIED VOLTAGE TO THE SIGNALING APPLIANCE.

⚠ WARNING: FOR UL/ULC APPLICATIONS THESE APPLIANCES WERE TESTED TO THE OPERATING VOLTAGE LIMITS OF 16.0-33.0 VOLTS FOR 24V MODELS USING FILTERED (DC) OR UNFILTERED FULL-WAVE-RECTIFIED (FWR). DO NOT APPLY 80% AND 110% OF THESE VOLTAGE VALUES FOR SYSTEM OPERATION.

⚠ WARNING: MAKE SURE THAT THE TOTAL RMS CURRENT, TOTAL AVERAGE CURRENT AND TOTAL PEAK CURRENT REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM'S PRIMARY AND SECONDARY POWER SOURCES, NAC CIRCUITS, SM, DSM SYNC MODULES OR WHEELOCK'S POWER SUPPLIES DO NOT EXCEED THE POWER SOURCES' RATED CAPACITY OR THE CURRENT RATINGS OF ANY FUSES ON THE CIRCUITS TO WHICH THESE APPLIANCES ARE WIRED. OVERLOADING POWER SOURCES OR EXCEEDING FUSE RATINGS COULD RESULT IN LOSS OF POWER AND FAILURE TO ALERT OCCUPANTS DURING AN EMERGENCY, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

When calculating the total currents: Use Table 1 or 1a to determine the highest value of "RMS Current" for an individual AH Appliance (across the expected operating voltage range of the AH Appliance), then multiply these values by the total number of AH Appliances; be sure to add the currents for any other appliances, powered by the same source and include any required safety factors.

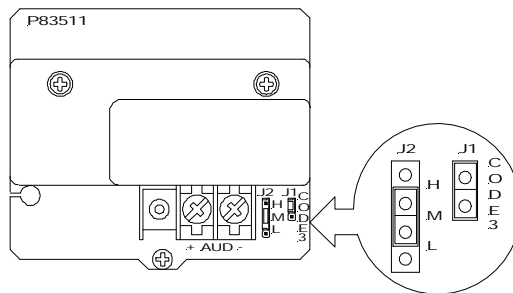
If the peak current exceeds the power supplies' peak capacity, the output voltage provided by the power supplies may drop below the listed voltage range of the appliances connected to the supply and the voltage may not recover in some types of power supplies. For example, an auxiliary power supply that lacks filtering at its output stage (either via lack of capacitance and/or lack of battery backup across the output) may exhibit this characteristic.

⚠ CAUTION: Audible Horn appliances are not designed to be used on coded systems in which the applied voltage is cycled on and off.

⚠ WARNING: THE AUDIBLE HORN APPLIANCES MUST BE FIELD SET TO THE DESIRED TONE AND dBA SOUND OUTPUT LEVEL BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING A JUMPER PLUG IN ACCORDANCE WITH THESE INSTRUCTIONS. INCORRECT SETTINGS WILL RESULT IN IMPROPER PERFORMANCE, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

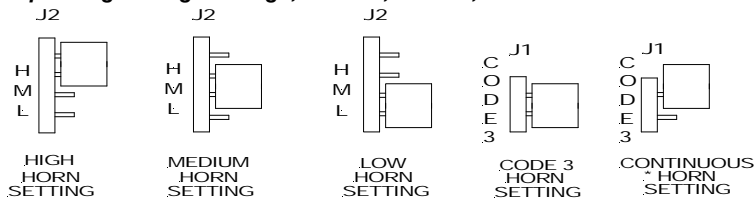
SOUND OUTPUT (SPL) SETTINGS:

Figure 1: Showing Location of Jumper Plug J1.



Factory setting is on Medium dB and Code 3.

Figure 2: Jumper Plug Settings for High, Medium, Low dB, Code 3 Horn and Continuous Horn Setting



(Use needle nose pliers to pull and properly insert the jumper plug.)

No jumper plug is needed for continuous horn setting. However, it is recommended that the jumper plug be retained in the unit for future use (if needed) as shown in Figure 2.

NOTE: The Audible Horn must be set for code 3 when used with the sync module. * Continuous horn operation without sync module.

WIRING INFORMATION:

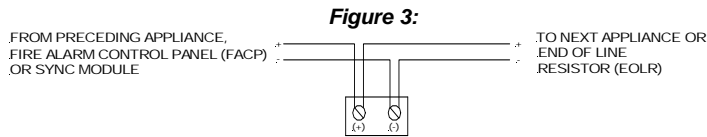
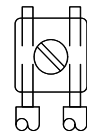


Figure 4:



Refer to Sync Module instruction sheet DSM (P83177) and Wheelock’s Power Supplies for additional information.

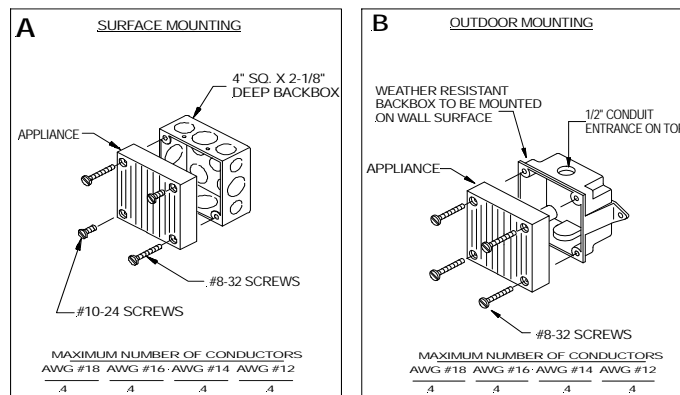
1. AH-WP Appliances have in-out wiring terminals that accept two #12 to #18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8” inches for connection to screw terminals.
2. Break all in-out wire runs on supervised circuit supervision as shown in Figure 4. The polarity shown in the wiring diagrams is for the operation of the appliances. The polarity is reversed by the FACP during supervision.

NOTE: Wiring method shall be in accordance with CSA C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, Section 32.

MOUNTING OPTIONS:

CAUTION: The following figures show the maximum number of field wires (conductors) that can enter the backbox used with each mounting option. If these limits are exceeded, there may be insufficient space in the backbox to accommodate the field wires and stresses from the wires could damage the product.

Although the limits shown for each mounting option comply with the National Electrical Code (NEC), Cooper Notification recommends use of the largest backbox option shown and the use of approved stranded field wires, whenever possible, to provide additional wiring room for easy installation and minimum stress on the product from wiring.



MOUNTING NOTES:

CAUTION: Check that the installed product will have sufficient clearance and wiring room prior to installing backboxes and conduit, especially if sheathed multiconductor cable or 3/4” conduit fittings are used.

1. For weather resistant installation, use outdoor mounting option.
2. All models can be surface mounted to a 4” square by 2-1/8” deep electrical backbox (Figure A) or a WBB weatherproof backbox (Figure B).
3. Mounting hardware for each mounting option is supplied. For proper mounting, be sure to use the mounting screws supplied with the unit.
4. Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product.
5. Use care and proper techniques to position the field wires in the backbox so that they use minimum space and produce minimum stress on the product. This is especially important for stiff heavy gauge wires with thick insulation or sheathing.
6. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the signaling appliance.
7. Do not pass additional wires (used for other than the signaling appliance) through the backbox. Such additional wires could result in insufficient wiring space for the signaling appliance.
8. The knock-out opening on the backbox is sized for a 1/2” conduit and matching connector. Be sure that a proper watertight conduit fitting is used to connect the backbox for outdoor/severe environment applications.

These appliances can produce a distinctive three pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NFPA 72.

CAUTION: If Audible Horn appliances are operated within 15 inches of a person’s ear, they can produce a sound pressure level that exceeds the maximum 120dBA permitted by ADA and OSHA rules. Exposure to such sound levels can result in damage to a person’s hearing.

CAUTION: Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Notification Appliance Circuits (NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure electrical noise immunity (e.g. audio crosstalk).

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses

and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna, 2) Increase the separation between the equipment and receiver, 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, and 4) Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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