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INSTALLATION INSTRUCTIONS
SERIES AS-24MCC MULTI-CANDELA AUDIBLE STROBE APPLIANCE
(CEILING MOUNT VERSION)

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

GENERAL:

Series Audible Strobe Multi-Candela (AS-24MCC) Appliance is the industry's first 2-wire horn strobe alarm appliance that provides 4 selectable candela settings (15, 30, 75, 95). Additionally, this appliance can function with a continuous or code 3 horn tone and continuous strobe when connected directly to the fire alarm control panel (FACP), or provide a synchronized code 3 horn tone and synchronized strobe when used in conjunction with a Sync Module (SM), Dual Sync Module (DSM) or Wheelock power supplies. The AS-24MCC Appliance is UL Listed under Standard 1971 for Emergency Appliances for the Hearing Impaired and UL Standard 464 for Audible Signal Appliances. The AS-24MCC Appliance with amber, blue, green or red lens is UL Listed under Standard 1638 (Visual Signaling Appliance) for Private Mode Emergency and General Utility Signaling. This appliance is listed for ceiling mounting and indoor use only and is equipped with a universal mounting plate (UMP) that can be mounted to single-gang, double-gang, 4" backbox, 100mm European backbox or SHBB surface backbox (See wiring and mounting information). The AS-24MCC Appliance uses a xenon flashtube with solid state circuitry enclosed in a polycarbonate lens to provide maximum visibility and reliability for effective visible signaling.

The AS-24MCC Appliance can be field set to provide either high (HI) dBA, medium (MED) dBA or low (LO) dBA sound output.

This model is 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 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) is specified by ANSI and NFPA 72 for standard emergency evacuation signaling. The Code 3 Horn should be used only for fire evacuation signaling and not for any other purpose.

NOTE: Final acceptance is subject to authorities having jurisdiction (AHJ).

⚠ 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, CANDELA SETTING, 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.

SPECIFICATIONS:

Model	Regulated Voltage (VDC/VRMS)	Voltage Range Limit Per UL 1971/464 (VDC/VRMS)	Strobe Candela (cd)	Mounting Options
AS-24MCC	24	16.0-33.0	15/30/75/95	A,B,C,D

Description	Volume	Reverberant Per UL 464		
		16.0VDC	24.0VDC	33.0VDC
Continuous Horn	Low	80	83	86
	Medium	85	88	91
	High	88	91	93
Code 3 Horn	Low	75	79	82
	Medium	80	84	86
	High	84	87	90

NOTES:

1. Strobe will produce 1 flash per second over the "Regulated Voltage" range.
2. This strobe/horn model with clear and amber lens meet the required light distribution patterns defined in UL 1971.
3. This model is UL Listed for indoor use with a temperature range of +32°F to +120°F (0°C to +49°C) and maximum humidity of 93% + 2% RH. The effect of shipping and storage temperatures shall not adversely affect the performance of the appliance when it is stored in the original cartons and not subjected to misuse or abuse.
4. Candela ratings listed in Table 1 are for Clear lens. Derate 70% for blue (B), 25% for amber (A), 55% for green (G), and 80% for red (R) lens.

⚠ CAUTION: The AS-24MCC appliance is not designed to be used on coded systems in which the applied voltage is cycled on and off.

⚠ WARNING: THESE APPLIANCES WERE TESTED TO THE REGULATED VOLTAGE LIMITS OF 16.0-33.0 VOLTS FOR 24V MODELS USING FILTERED DC OR UNFILTERED FULL-WAVE-RECTIFIED VOLTAGE. DO NOT APPLY VOLTAGE OUTSIDE OF THIS RANGE.

⚠ 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 STROBES. THE MAXIMUM WIRE IMPEDANCE BETWEEN STROBES SHALL NOT EXCEED 35 OHMS.

When calculating the total current: Use Table 3 to determine the highest value of “RMS Current” for an individual AS Appliance then multiply the value by the total number of AS Appliances. Be sure to add the currents for any other appliances powered by the same source and include any required safety factors.

NOTE: The maximum number of strobes on a single notification appliance circuit shall not exceed 50.

⚠ WARNING: CANDELA SETTING WILL DETERMINE THE CURRENT DRAW OF THE PRODUCT.

Table 3: Current Ratings (AMPS)					
Maximum RMS Current with Hi dBA Setting					
	Voltage	15cd	30cd	75cd	95cd
DC	16.0-33.0VDC	0.095	0.138	0.221	0.285
FWR	16.0-33.0VRMS	0.135	0.190	0.305	0.400
Maximum RMS Current with Med dBA Setting					
	Voltage	15cd	30cd	75cd	95cd
DC	16.0-33.0VDC	0.080	0.122	0.201	0.269
FWR	16.0-33.0VRMS	0.124	0.174	0.294	0.390
Maximum RMS Current with Low dBA Setting					
	Voltage	15cd	30cd	75cd	95cd
DC	16.0-33.0VDC	0.074	0.113	0.198	0.263
FWR	16.0-33.0VRMS	0.115	0.170	0.290	0.385

⚠ CAUTION: These notification appliances are UL Listed as “Regulated”. They are intended to be used with FACP’s whose notification circuits are UL Listed as “Regulated.” These appliances shall not be used on UL Listed “Special Application” notification circuits unless the appliances are identified to be compatible in the installation instructions of the FACP or unless the FACP is identified to be compatible in this instruction manual.

⚠ WARNING: MAKE SURE THAT THE TOTAL RMS CURRENT REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM’S PRIMARY AND SECONDARY POWER SOURCES, APPLIANCE CIRCUITS, SM, DSM SYNC MODULES AND WHEELOCK POWER SUPPLIES DOES 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.

CANDELA AND SOUND OUTPUT SETTINGS:

To set the candela, slide the switch to the desired setting. The setting is indicated by the pointer and label visible on the bottom side of the lens.

Figure 1:

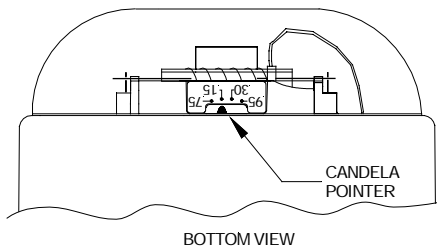
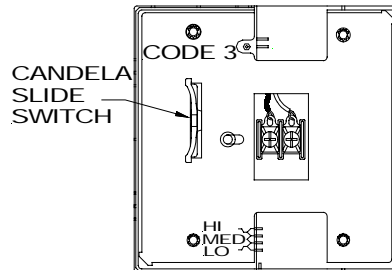


Figure 2: Showing Location of Jumper Plug (Back View)

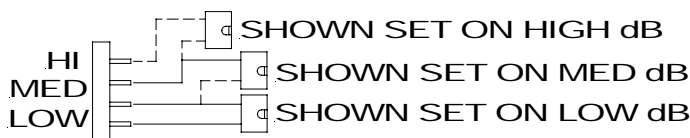


Factory setting is on Medium dB, Code 3 and 15 candela.

⚠ WARNING: THE CANDELA SELECT SWITCH MUST BE FIELD SET TO THE REQUIRED CANDELA INTENSITY BEFORE INSTALLATION. WHEN CHANGING THE SETTING OF THE CANDELA SELECT SWITCH, MAKE CERTAIN THAT IT “CLICKS” IN PLACE. AFTER CHANGING THE CANDELA SETTING, THE APPLIANCE MUST BE RETESTED TO VERIFY PROPER OPERATION. IMPROPER SETTING OF THE CANDELA SELECT SWITCH, MAY RESULT IN OPERATION AT THE WRONG CANDELA, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

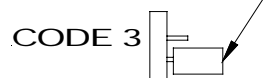
⚠ WARNING: THE AUDIBLE STROBE APPLIANCES MUST BE FIELD SET TO THE DESIRED TONE AND dBA SOUND OUTPUT LEVEL BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING JUMPER PLUGS IN ACCORDANCE WITH THESE INSTRUCTIONS. INCORRECT SETTINGS WILL RESULT IN IMPROPER PERFORMANCE, WHICH COULD RESULT IN PROPERTY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

Figure 3: Jumper plug settings for High, Medium, Low and Code 3



(Use needle nose pliers to pull and properly set the jumper plugs)

Figure 4: Jumper plug setting for Continuous Horn
TURN PLUG 90°



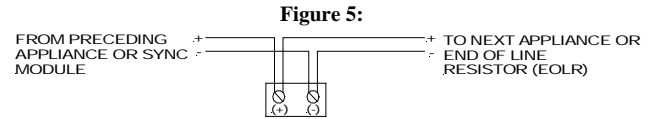
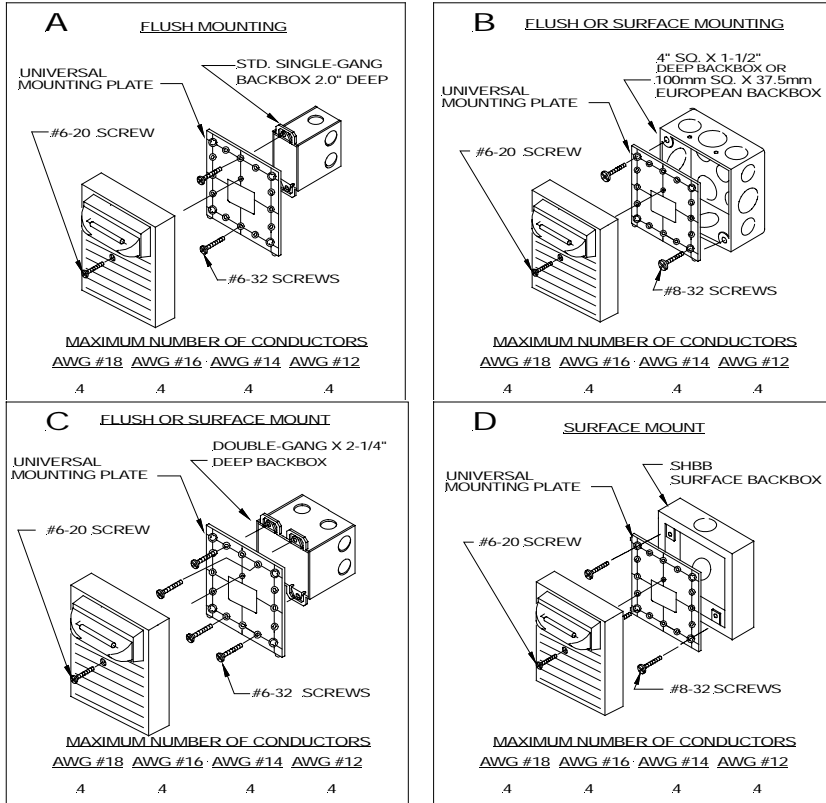
No jumper plug is needed for continuous horn setting. However, it is recommended that the jumper plug be retained in the unit for future use (if needed) as shown in Figure 4.

NOTE: The AS-24MCC must be set for Code 3 when used with a synchronized notification appliance circuit (NAC).

WIRING AND MOUNTING INFORMATION:

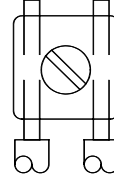
CAUTION: The following figures (A-D) show the maximum number of field wires (conductors) that can enter the backbox used with each mounting option. If these limits are exceeded, there may be insufficient space in the backbox to accommodate the field wires and stresses from the wires could damage the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

Although the limits shown for each mounting option comply with the National Electrical Code (NEC), Cooper Wheelock 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.



When the sync module is used, the audible tone will be the **Code 3 sound only**. Refer to Sync Module installation instruction sheets SM (P83123), DSM (P83177) or Wheelock's Power Supplies for additional information.

Figure 6:



- AS-24MCC Appliance has in-out wiring terminals that accepts two #12 to #18 American Wire Gauge (AWG) wires at each screw terminal. Strip leads 3/8" inches for connection to screw terminals.
- Break all in-out wire runs on supervised circuit supervision as shown in Figure 6. The polarity shown in the wiring diagrams is for the operation of the appliances. The polarity is reversed by the FACP during supervision.

MOUNTING PROCEDURES:

- This model can be flush mounted to a standard single-gang backbox (Figure A), 4" backbox (Figure B) or double-gang backbox (Figure C). They can also be surface mounted to a 4" or 100mm backbox (Figure B), a double-gang backbox (Figure C) or a SHBB surface backbox (Figure D). Mounting hardware for each mounting option is supplied. For proper mounting, be sure to use the mounting screws supplied with the unit.
- The Universal Mounting Plate (UMP) must be oriented correctly when it is mounted to the backbox. Turn the UMP so that the arrow above the words "Horizontal Strobe" points to the top side of the UMP.
- Conduit entrances to the backbox should be selected to provide sufficient wiring clearance for the installed product. 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.
- 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. 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 and wires with thick insulation or sheathing.
- Thread the 4 field wires through the opening of the UMP. Mount the UMP to backbox.
- Connect 4 field wires to the AS-24MCC terminal block (polarity must be observed). Bend the 4 field wires up 90° at the connection to the terminal block.
- Carefully push the 4 field wires into the backbox through the opening of the UMP by hand.
- Hook the 2 slots on the inside wall of the AS-24MCC onto the 2 tabs of the UMP and screw the AS-24MCC to the UMP using the #6-20 screw supplied.

WARNING: WHEN INSTALLING STROBES IN AN OPEN OFFICE OR OTHER AREAS CONTAINING PARTITIONS OR OTHER VIEWING OBSTRUCTIONS, SPECIAL ATTENTION SHOULD BE GIVEN TO THE LOCATION OF THE STROBES SO THAT THEIR OPERATING EFFECT CAN BE SEEN BY ALL INTENDED VIEWERS, WITH THE INTENSITY, NUMBER, AND TYPE OF STROBES BEING SUFFICIENT TO MAKE SURE THAT THE INTENDED VIEWER IS ALERTED BY PROPER ILLUMINATION, REGARDLESS OF THE VIEWER'S ORIENTATION. FAILURE TO DO SO COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

WARNING: THE AS STROBE APPLIANCE IS A "FIRE ALARM DEVICE - DO NOT PAINT."

CAUTION: If audible strobe 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.

NOTE: NFPA 72/ANSI 117.1 conform to ADAAG Equivalent Facilitation Guidelines in using fewer, higher intensity strobes within the same protected area.

⚠ WARNING: A SMALL POSSIBILITY EXISTS THAT THE USE OF MULTIPLE STROBES WITHIN A PERSON'S FIELD OF VIEW, UNDER CERTAIN CIRCUMSTANCES, MIGHT INDUCE A PHOTO-SENSITIVE RESPONSE IN PERSONS WITH EPILEPSY. STROBE REFLECTIONS IN A GLASS OR MIRRORED SURFACE MIGHT ALSO INDUCE SUCH A RESPONSE. TO MINIMIZE THIS POSSIBLE HAZARD, WHEELOCK STRONGLY RECOMMENDS THAT THE STROBES INSTALLED SHOULD NOT PRESENT A COMPOSITE FLASH RATE IN THE FIELD OF VIEW WHICH EXCEEDS FIVE (5) Hz AT THE OPERATING VOLTAGE OF THE STROBES. WHEELOCK ALSO STRONGLY RECOMMENDS THAT THE INTENSITY AND COMPOSITE FLASH RATE OF INSTALLED STROBES COMPLY WITH LEVELS ESTABLISHED BY APPLICABLE LAWS, STANDARDS, REGULATIONS, CODES AND GUIDELINES.

The 15/30/75/95cd settings are Listed for use in sleeping or non-sleeping areas when installed in accordance with appropriate NFPA Standards and the AHJ.

⚠ 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 immunity from electrical noise (e.g. audio crosstalk).

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NOTE: This equipment has been tested and found to comply with the limits for a Class B digital appliance, 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.

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Cooper Wheelock, Inc. products must be used within their published specifications and must be PROPERLY specified, applied, installed, operated, maintained, and operationally tested in accordance with these instructions at the time of installation and at least twice a year or more often in accordance with local, state and federal codes, regulations and laws. Specification, application, installation, operation, maintenance, and testing must be performed by qualified personnel for proper operation in accordance with all of the latest National Fire Protection Association (NFPA), Underwriters' Laboratories (UL), Underwriters' Laboratories of Canada (ULC), National Electrical Code (NEC), Occupational Safety and Health Administration (OSHA), local, state, county, province, district, federal and other applicable building and fire standards, guidelines, regulations, laws and codes including, but not limited to, all appendices and amendments and the requirements of the local authority having jurisdiction (AHJ). Cooper Wheelock, Inc. products when properly specified, applied, installed, operated, maintained, and operationally tested as provided above are warranted against mechanical and electrical defects for a period of three years from date of manufacture (as determined by date code). Correction of defects by Cooper Wheelock, Inc providing repairs or a replacement shall be at Cooper Wheelock, Inc.'s sole discretion and shall constitute fulfillment of all warranty obligations. The foregoing limited warranty shall immediately terminate in the event any part not furnished by Cooper Wheelock, Inc. is installed in the product. The foregoing limited warranty specifically excludes any software required for the operation of or included in a product. **COOPER WHEELOCK, INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY OTHER KIND, EXPRESS, IMPLIED OR STATUTORY WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER MATTER.**

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In no case will Cooper Wheelock, Inc.'s liability exceed the purchase price paid for a product.

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