

Thank you for using our products. INSTALLATION INSTRUCTIONS SERIES HS4-241575W FOUR WIRE APPLIANCES (WALL MOUNT VERSIONS)

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

GENERAL:

Wheelock's Series HS4-241575W Horn Strobe can provide a non-synchronized strobe appliance when connected directly to a fire alarm control panel (FACP), or provide a synchronized strobe appliance when used in conjunction with a Sync Module (SM), Dual Sync Module (DSM) or Wheelock power supplies. The HS4-241575W allows for independent operation of the strobe circuit and the horn circuit. It is the ideal choice for retrofit applications as well as new installations. The HS4-241575W Appliance is UL Listed under Standard 1971 for Signaling Devices for the Hearing Impaired and UL Standard 464 for Audible Signal Appliances. It is listed for *indoor use only* and can be mounted to double-gang, 4" backbox, 100mm European backbox or SHBB surface backbox (See wiring and mounting information). This appliance is listed for *wall mounting only*. The HS4-241575W 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 horn portion of the HS4-241575W Appliance can be field set to provide a continuous horn when connected directly to the FACP, or synchronized code 3 horn when used in conjunction with the Sync Module (SM), Dual Sync Module (DSM) or Wheelock power supplies. The horn can be field set to provide either high (HI) dBA, medium (MED) dBA or low (LO) dBA sound output.

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.*

The HS4-241575W is designed for use with either filtered DC or unfiltered full-wave-rectified (FWR) input voltage. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP).

A 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:

Table 1: UL Listed Models and Ratings							
	Regulated	Voltage Range	Strobe				
Model	Voltage	Limit Per UL 1971	Candela				
	(VDC/VRMS)	(VDC/VRMS)	(cd)				
HS4-241575W	24	16.0-33.0	15				

NOTES:

- 1. The strobe will produce 1 flash per second over the "Regulated Voltage" range.
- 2. This horn/strobe model meets the required light distribution patterns defined in UL 1971. The on-axis light output is 75 candela.
- 3. This model is UL/ULC 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.

Table 2: dBA Sound Output for 24VDC Models									
		Volu	me	Reverberant Per UL 464					
		16.0V		DC	24VDC	33.01	/DC		
Continuous Horn		Low	Low			83	80	86	
		Medium		85		88	91	91	
		High		88		91	93	93	
Code 3 Horn		Low		75		79	82	82	
		Medi	lium 80			84	80	5	
		High		84		87	89	9	
Table 3: Current Ratings (Horn Only)									
Maximum RMS Current (Amps)									
Voltage		Lo			Med		Hi		
DC	16-33	16-33VDC		027	0.068		0.110		
FWR	16-33	16-33VRMS		041	0.050		0.094		
Table 3A: Current Ratings (Strobe Only)									
Maximum RMS Current (Amps)									
Voltage			2415/75W						
DC	16-33VE	DC		0.090					
FWR	16-33VR	MS	0.145						

When calculating the total current: Use Table 3 & 3A to determine the highest value of "RMS Current" for an individual HS4 then multiply the value by the total number of NS Appliances. Be sure to add the currents for any other appliances powered by the same source and to include any required safety factors. **NOTE:** The maximum number of strobes on a single notification appliance circuit shall not exceed 50.

CAUTION: These notification appliances are UL Listed as "Regulated". They are intended to be used with FACPs 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: 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 APPPLIED VOLTAGE TO THE STROBES. THE MAXIMUM WIRE IMPEDANCE BETWEEN STROBES SHALL NOT EXCEED 35 OHMS.

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.

CAUTION: The strobe is not designed to be used on coded systems in which the applied voltage is cycled on and off.

NOTE: The horn circuit is compatible with coded systems only if the unit is wired for independent horn and strobe operation per figure 3.

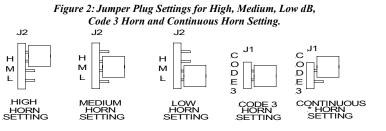
SOUND OUTPUT (SPL) SETTINGS:

A WARNING: THE HS4-241575W 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.

CAUTION: If these 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.

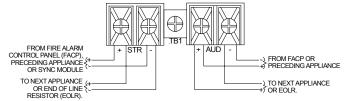
Figure 1: Showing Location of Jumper Plugs

Factory setting is on Medium dB and Code 3.



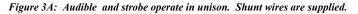
WIRING AND MOUNTING INFORMATION:

Figure 3: Audible signal and strobe operate independently.





- 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 3.
- The HS4 must be set for Code 3 horn when used with the sync module. Refer to instruction sheets for SM (P83123), DSM (P83177) or Wheelock power supplies for additional information. If the HS4 audible is connected to a coded system, the continuous horn setting must be used



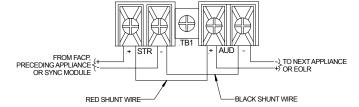


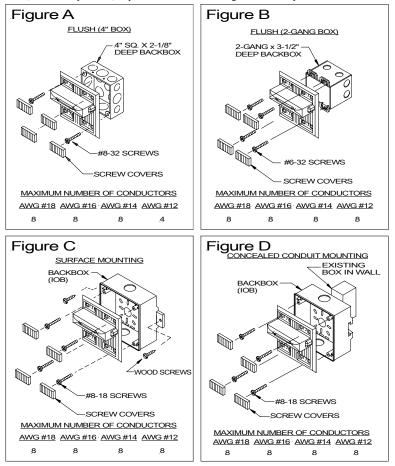
Figure 4:

- HS4-241575W Appliances have 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 4. The polarity shown in the wiring diagrams is for the
 operation of the appliances. The polarity is reversed by the FACP during supervision.

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.

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.

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



MOUNTING PROCEDURES:

- 1. This HS4 model can be flush mounted to a 100mm backbox (Figure A) or double-gang backbox (Figure B). It can also be surface mounted to a indoor/outdoor backbox (Figures C & D). Mounting hardware for each mounting option is supplied.
- 2. 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.
- 3. When terminating field wires, do not use more lead length than required. Excess lead length could result in insufficient wiring space for the appliance.
- 4. 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 and wires with thick insulation or sheathing.
- 5. Connect field wires to the HS4-241575W terminal block (polarity must be observed). Bend the field wires up 90° at the connection to the terminal block.
- 6. Carefully push the field wires into the backbox by hand. Press the HS4-241575W to the backbox, verifying that it is seated and aligned correctly.
- 7. Fasten the HS4-241575W to the backbox using the screws supplied.

A 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 HS4-241575W APPLIANCE IS A "FIRE ALARM DEVICE – DO NOT PAINT."

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.

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

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 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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IMPORTANT: READ SEPARATE "GENERAL INFORMATION" SHEET FOR INFORMATION ON THE PLACEMENT, LIMITATIONS, INSTALLATION, FINAL CHECKOUT, AND PERIODIC TESTING OF NOTIFICATION APPLIANCES.

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