

*Thank you for using our products.*

## INSTALLATION INSTRUCTIONS STROBE APPLIANCES

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

### GENERAL:

The Strobe Appliances are UL Listed under Standard 1638 for outdoor Fire Protective Service. They are listed for outdoor use, wall mount, with the backboxes specified in these instructions (See Mounting Option). The Strobe Appliances use a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective visible signaling. All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP).

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

**⚠ WARNING: READ THESE INSTRUCTIONS CAREFULLY. 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 STROBE APPLIANCES ARE NOT TO BE USED AS AN INDOOR VISUAL EVACUATION SIGNAL OR FOR THE HEARING IMPAIRED.**

### SPECIFICATIONS:

<i>Table 1: UL Listed Models and Ratings</i>					
Outdoor Plate <sup>2</sup>	Rated Input Voltage Range	Nominal Input Voltage	Rated Average Current	Rated Candela <sup>1</sup>	Mounting Options
WHT-12	----	12VDC	.150A	15cd	B
WHT-24	18.0-31.0VDC	24VDC	.075A	15cd	B
WH1T-12	----	12VDC	.150A	15cd	C
WH1T-24	18.0-31.0VDC	24VDC	.075A	15cd	C
WH1T-115	----	115VAC	.060A	15cd	C
WH3T-12	----	12VDC	.150A	15cd	A
WH3T-24	18.0-31.0VDC	24VDC	.075A	15cd	A
WH3T-115	----	115VAC	.060A	15cd	A
WM3T-24	18.0-31.0VDC	24VDC	.088A	117cd	A

<sup>1</sup> At -35° C the following candela ratings apply: 117cd models = 78cd; 15cd models = 7.5cd

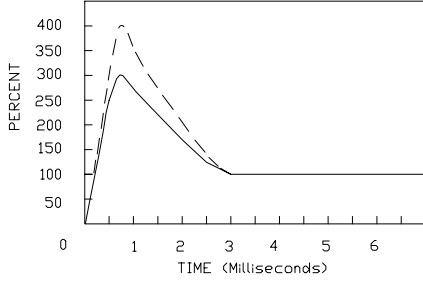
<sup>2</sup> W in models number indicates white or clear lens. Substitute R for optional red lens (does not apply to WM models). Derate intensity by 60% for red lens.

**⚠ WARNING: ALTHOUGH UL TESTING HAS VERIFIED THAT THESE STROBES FUNCTION EVEN AT 80% OF THEIR MINIMUM RATING AND 110% OF THEIR MAXIMUM RATING, WHEELOCK STRONGLY RECOMMENDS THAT THE VOLTAGE APPLIED TO THESE PRODUCTS BE WITHIN THEIR RATED INPUT VOLTAGE RANGE. THE APPLICATION OF IMPROPER VOLTAGE MAY RESULT IN DEGRADED OPERATION OR DAMAGE TO THESE PRODUCTS, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.**

The UL Listed "Rated Input Voltage Range" is 18.0-31.0VDC for WHT-24, WH1T-24, WH3T-24, WM3T-24 and 12VDC for WHT-12, WH1T-12, WH3T-12 using either filtered (DC) or unfiltered full-wave-rectified (FWR) voltage. 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.

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**Figure 1.**  
STROBE INRUSH CURRENT  
(as percent of rated average current)



(For full-wave-rectified input voltage, multiply 1.41 by percent value shown in Figure 1.)

Model	Typical Flashes Per Secod Across Rated Voltage Range						
WM3T-24	18	20	22	24	26	28	31
DC/FWR	0.7	0.8	0.9	1.0	1.1	1.2	1.3

**NOTE:** Typical flash rate for WH models is 1 per second at nominal voltage.

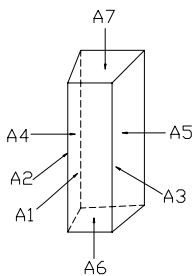
**⚠ WARNING: MAKE SURE THAT THE TOTAL AVERAGE CURRENT REQUIRED BY ALL APPLIANCES THAT ARE CONNECTED TO THE SYSTEM'S PRIMARY AND SECONDARY POWER SOURCES AND APPLIANCE CIRCUITS DO NOT EXCEED THE POWER SOURCES' RATED CAPACITY OR THE CURRENT RATINGS OF ANY FUSES ON THE CIRCUITS TO WHICH THESE APPLIANCES 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 current: use Table 1 to determine the value of "Rated Average Current" for an individual strobe then multiply this value by the total number of strobes; be sure to add the current for any other appliances, including audible signaling appliances, powered by the same source and include any required safety factors.

**⚠ WARNING: MAKE SURE THAT ALL FUSES USED ON SIGNALING CIRCUITS ARE RATED TO HANDLE THE MAXIMUM INRUSH OR PEAK CURRENT FROM ALL APPLIANCES ON THOSE CIRCUITS. FAILURE TO DO THIS MAY RESULT IN LOSS OF POWER TO THE SIGNALING CIRCUIT AND THE FAILURE OF ALL APPLIANCES ON THAT CIRCUIT TO OPERATE, WHICH COULD RESULT IN PROPERTY DAMAGE AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.**

When calculating the maximum inrush or peak current: use Figure 1 to determine the highest value of "Rated Inrush Current" for a strobe (across the expected operating voltage range of the strobe); then multiply that value by the total number of strobes on the circuit; be sure to add the inrush or peak currents from any other appliances, including audible signaling appliances, on that circuit and include any required safety factors. The time duration of the maximum strobe inrush is shown in Figure 1.

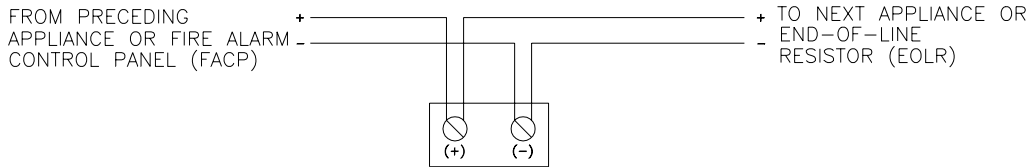
**⚠ CAUTION:** Strobes are not designed to be used on coded systems in which the applied voltage is cycled on and off.



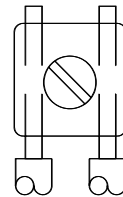
Model Voltage	Rated Candela	Candela at Various Angles Per UL 1638					
		A1	A2	A3	A4	A5	A6/A7
12VDC	15.0cd	15.0	16.8	14.4	14.6	6.9	0.6
18.0-31.0VDC (24VDC)	15.0cd	15.0	18.8	13.7	15.6	7.4	0.9
115VAC	15.0cd	15.0	18.0	14.6	17.7	8.4	0.8
18.0-31.0VDC (24VDC)	117.0cd	117.0	15.2	16.4	6.0	7.0	1.2

**WIRING INFORMATION:**

**Figure 2.**



**Figure 3.**



1. Strobe 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 and connect to screw terminals.
2. Break all in-out wire runs on supervised circuits to assure integrity of circuit supervision shown in Figure 3. The polarity shown in the wiring diagrams is for the operation of the appliances. The polarity is reversed by the FACP during supervision.

**GROUNDING:** Connect ground wire to backbox. Install the lockwasher (provided in hardware bag) under head of each mounting screw and mount strobe appliance to backbox.

**MOUNTING OPTIONS:**

**⚠ CAUTION:** The following figure shows the maximum number of field wires (conductors) that can enter the backbox used with this 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), 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.

A OUTDOOR MOUNTING					B FLUSH MOUNTING					C FLUSH MOUNTING				
WEATHER RESISTANT BACKBOX WITH 1/2" CONDUIT ENTRANCE ON TOP					STD. 4" SQ. X 1.5" DEEP BACKBOX					STD. SINGLE GANG BACKBOX 2.0" DEEP				
MAXIMUM NUMBER OF CONDUCTORS					MAXIMUM NUMBER OF CONDUCTORS					MAXIMUM NUMBER OF CONDUCTORS				
AWG #18	AWG #16	AWG #14	AWG #12		AWG #18	AWG #16	AWG #14	AWG #12		AWG #18	AWG #16	AWG #14	AWG #12	
4	4	4	4		4	4	4	4		4	4	4	4	

NOTE: ADAPTER PLATE SUPPLIED WILL ALSO MOUNT TO SINGLE GANG METAL RACEWAY BOX (WIREMOLD P/N 5747 OR EQUIV.) FOR SURFACE MOUNTING.

## **MOUNTING PROCEDURES:**

**⚠ 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. 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.
3. 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.
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. 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.
6. All models are UL Listed for outdoor use with a temperature range of +31°F to +150°F (-35°C to +66°C) and maximum humidity of 95% RH.

**⚠ 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 (SEE TABLE 2 AND 3). 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).

**ANY MATERIAL EXTRAPOLATED FROM THIS DOCUMENT OR FROM WHEELOCK MANUALS OR OTHER DOCUMENTS DESCRIBING THE PRODUCT FOR USE IN PROMOTIONAL OR ADVERTISING CLAIMS, OR FOR ANY OTHER USE, INCLUDING DESCRIPTION OF THE PRODUCT'S APPLICATION, OPERATION, INSTALLATION AND TESTING IS USED AT THE SOLE RISK OF THE USER AND WHEELOCK WILL NOT HAVE ANY LIABILITY FOR SUCH USE.**

**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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