

**INSTALLATION INSTRUCTIONS  
SERIES VL/VLP SIGNALS**

**GENERAL:**

Wheelock's VL, VL1 and VLP Visible Signals are designed with dual lamps for extra visibility and dependability. They are non-flashing incandescent lamp signals that can be used as a visible signal only or combined with an audible signal. They can be used on a continuous or coded alarm system.

The VLPS, VLPH and VLPM are flashing xenon strobe signals that are designed to be combined with an audible signal or speaker. They are ideal for adding strobe capability to an existing audible signal installation and they offer maximum reliability and efficiency for effective visible signaling in fire and life safety applications. They flash once per second on continuous (non-coded) alarm systems.

**SPECIFICATIONS:**

| MODEL    | SIGNAL TYPE  | INPUT RANGE VOLTAGE | INPUT CURRENT (AMPS) | CANDELA PER UL 1638 | MOUNTING OPTIONS |
|----------|--------------|---------------------|----------------------|---------------------|------------------|
| VL-24    | Incandescent | 24VDC               | 0.100                | 0.84cd              | B                |
| VL1-24   | Incandescent | 24VDC               | 0.100                | 0.84cd              | A                |
| VLP-24   | Incandescent | 24VDC               | 0.100                | 0.84cd              | C,D              |
| VLPS-24  | Strobe       | 18-31VDC            | 0.025                | 1.5cd               | C,D              |
| VLPH-24  | Strobe       | 18-31VDC            | 0.075                | 15.0cd              | C,D              |
| VLPH-115 | Strobe       | 115VAC              | 0.060                | 15.0cd              | C,D              |
| VLPM-24  | Strobe       | 24VDC               | 0.088                | 117.0cd             | E,F              |

**VLP, VLPS, VLPH & VLPM - POSSIBLE COMBINATIONS**

| AUDIBLE SIGNAL OR SPEAKER | WHEELOCK SERIES     |
|---------------------------|---------------------|
| HORNS                     | 31T, 34T, EH-E      |
| BELLS (4", 6", 10")       | 43T, 46T, 42PT, MB  |
| ELECTRONIC SIGNALS        | AES-E *             |
| SPEAKERS                  | ET-1010, 806T, 807T |

\* See Application Note 9.

VL, VL1, VLP, VLPS, VLPH Models

W in the model number indicates white lens; substitute R for red lens. The VLPM is available with a clear lens. NOTE: At 0 degrees C, minimum UL candela ratings apply: 15cd (70,000) models = 13.75cd

**WIRING DIAGRAM:**

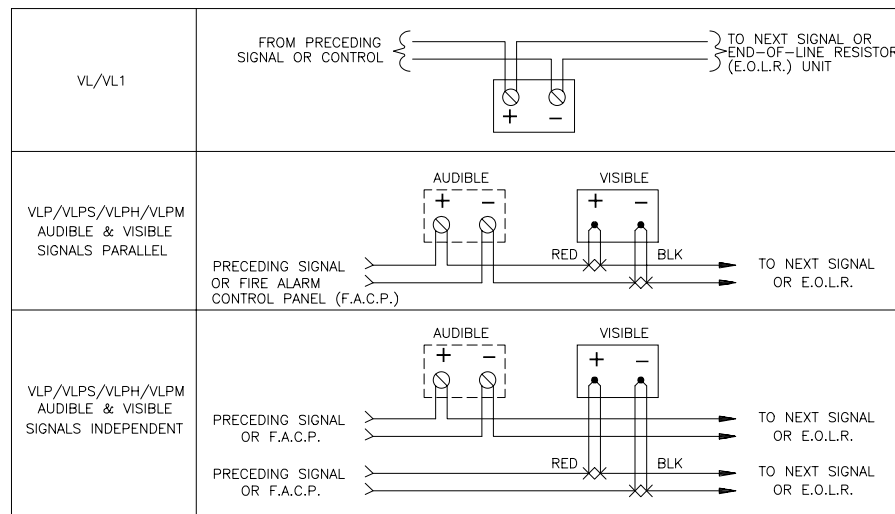


Figure 1.

VL and VL1 models have terminals with wire clamps, (2) wires - 12 AWG max. per position are allowed. Do not pigtail or wrap wires around screw. See Figure 1. VLP, VLPS, VLPH and VLPM models have double leads for in-out wiring (See Application Note 2).

| MODEL VOLTAGE    | RATED CANDELA | CANDELA AT VARIOUS ANGLES PER UL 1638 |      |      |      |      |       |
|------------------|---------------|---------------------------------------|------|------|------|------|-------|
|                  |               | A1                                    | A2   | A3   | A4   | A5   | A6/A7 |
| 18-31VDC (24VDC) | 0.84cd        | 0.84                                  | 0.92 | 0.66 | 0.87 | 0.41 | 0.03  |
| 18-31VDC (24VDC) | 1.5cd         | 1.5                                   | 1.7  | 1.2  | 1.6  | 0.7  | 0.1   |
| 115VAC           | 1.5cd         | 1.5                                   | 1.5  | 1.3  | 1.3  | 0.7  | 0.1   |
| 18-31VDC (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   |
| 18-31VDC (24VDC) | 117.0cd       | 117.0                                 | 15.2 | 16.4 | 6.0  | 7.0  | 1.2   |

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DC STROBE STEADY STATE CURRENT WAVEFORM  
(as percent of rated current—see note 8)

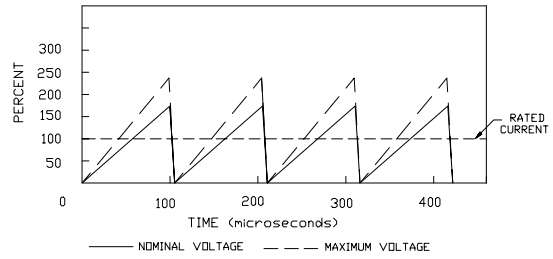


Figure 2.

Figure 3.

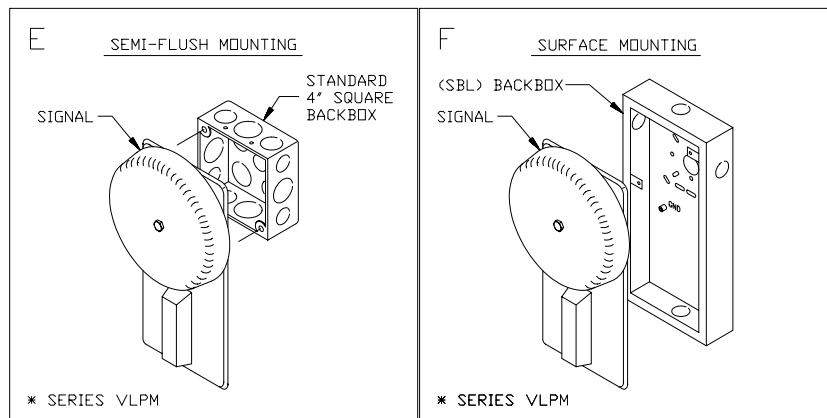
**MOUNTING OPTIONS:**

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



\* Shown With Optional 6" Bell  
(See Table For Other Possible Signal Combinations)

## APPLICATION NOTES:

**WARNING:** A 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 NUMBER OF STROBES INSTALLED WITHIN A SINGLE ROOM, HALLWAY OR OTHER FIELD OF VISION NOT EXCEED THE PARAMETERS PRESCRIBED BY APPLICABLE LAWS, STANDARDS, REGULATIONS AND GUIDELINES. WHEELOCK ALSO STRONGLY RECOMMENDS THAT THE INTENSITY AND FLASH RATES OF SUCH STROBES NOT EXCEED THOSE LEVELS ESTABLISHED BY APPLICABLE LAWS, STANDARDS, REGULATIONS AND GUIDELINES.

**WARNING:** INSTALLATION OF WHEELOCK 117 CANDELA STROBE PRODUCTS IN SLEEPING AREAS SHOULD BE WALL MOUNTED AS FOLLOWS: (1) THE ON-AXIS (DIRECTLY IN FRONT OF LENS) LIGHT OUTPUT SHOULD BE DIRECTED AT THE EYE-LIDS OF THE SLEEPING PERSON, E.G. PILLOW END OF BED, BED HEAD; (2) NO PART OF THE BED SHALL BE MORE THAN SIXTEEN (16) FEET FROM THE STROBE NOTIFICATION APPLIANCE. INSTALLERS MUST ADVISE OWNERS AND OPERATORS OF BUILDINGS WITH SLEEPING OCCUPANTS, E.G. HOTELS AND MOTELS, TO WARN GUESTS, RESIDENTS AND EMPLOYEES TO NOT MOVE THE BED LOCATION TO A POSITION VIOLATING POINTS (1) AND (2) ABOVE OR SERIOUS INJURY AND/OR LOSS OF LIFE MAY OCCUR DURING A FIRE EMERGENCY.

**WARNING:** ALL STANDARD 117 CANDELA STROBES ARE FOR VERTICAL SIDEWALL MOUNTING ONLY WITH THE CLEAR LENS WINDOW AT THE LOWER PART OF THE LENS AND ANY LENS LETTERING PROPERLY READING VERTICALLY.

**WARNING:** 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.

1. VL, VL1 and VLP will operate on full-wave-rectified (unfiltered) DC over a voltage range of -20% to +10% of nominal rated voltage. VLPS, VLPH and VLPM will operate on full-wave-rectified (unfiltered) DC over a voltage range of 18-31VDC (24VDC) per UL 1638. Performance ratings are based on nominal input voltage. Operate only within specified voltage range for rated performance and endurance.
2. All DC Signals are compatible with DC line supervision. They are polarized and have terminals marked with polarity or color coded double leads. Apply positive voltage to (+) terminal or red lead to operate. AC Strobes have integral capacitors that block DC supervision voltage of either polarity.
3. Incandescent models can be used on coded systems in which the applied voltage is cycled on and off. Strobe models are intended for non-coded systems.
4. All strobes are designed to flash as specified with continuous applied voltage. They are not designed to be used on coded systems in which the applied voltage is cycled on and off.
5. All candela ratings represent minimum effective intensity based on UL 1638.
6. All incandescent signals normally have a brief inrush current during initial start-up, approximately 9 times rated current for 0.01 seconds. Inrush current for DC strobe signals is 3 times rated current for 0.01 seconds. Current limitation will not prevent start-up. Power supply rating can be based on the rated (steady state) power consumption of the signals. Make sure the system power supply is compatible with the specified inrush current.
7. Strobe models have a brief inrush current during initial start-up. Refer to Figure 2 for inrush current waveform. Circuit fuses must be rated to handle this inrush. Inrush current limitation will not prevent start-up. Power supply ratings can be based on the rated (steady state) current of the strobes.
8. When wiring VLP, VLPS, VLPH or VLPM in parallel with series AES-E Multitone Electronic Signals, connect the Visible signal to only one of the audible inputs per wiring diagram.
9. Select largest backbox shown in Mounting Options where possible, to provide additional wiring room for easy installation.
10. Conduit entrance to backboxes should be selected to insure sufficient wiring clearance for installed equipment. When extension rings are required, conduit should enter through backbox, not extension ring. Use Steel City #53151/1-1/2" deep or #53171/2-1/8" deep extension rings or equal with same area cut out in back.

**CAUTION:** If sheathed multiconductor cable or 3/4" conduit fittings are used, check that installed product has sufficient clearance and wiring room prior to installing backboxes and conduit.

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