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

GENERAL

The Cooper Wheelock HE NAC LED Series LHN3 horn, LST3 strobe, and LHS3 horn/strobe appliances are designed for easy installation. All models are for 24V operation. The LHN3 horn is also for 12V operation. LST3 and LHS3 are for wall mount only. LHN3 can be wall or ceiling mounted.

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.

The Wheelock Exceder LED3 Series meets NFPA 2016 20 millisecond light pulse duration code requirements. In addition, the Wheelock Exceder LED3 product line has been UL/ULC listed as compatible with all Fire Alarm Control Panels (FACP) and accessories that have been determined to be compatible with Wheelock model RSS Strobe based products including the RSS, CH, E, EH, ET,ST,HS,MT,SA, STH and Z Series. The maximum number of LED3 devices per NAC is determined by dividing the maximum current rating of the FACP NAC divided by the total appropriate current rating for the selected candela output of the LED3 devices, with a maximum of 105 LED3 devices per NAC. Refer to FACP installation instructions for more detail. The Wheelock Exceder LED3 Series strobes may be installed in the same notification zone and field of view with any RSS Strobe based product.

**UL1638 is an on axis rating where the following applies: effective candela rating per UL1971;**

**WARNING:** Amber strobes are not to be used as a visual public mode alarm notification appliance.

STROBE AND HORNS APPLIANCE

Wheelock Exceder LED3 Multi-Candela Strobes 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 an FACP that incorporates the Cooper Wheelock sync protocol, a Dual Sync Module (DSM), or the Wheelock Power Supply.

NOTE: The Code 3 temporal pattern (1/2 second on, 1/2 second off, 1/2 second on, 1/2 second off, 1/2-1/2 off and repeat) is specified by ANSI and NFPA 72 for standard emergency evacuation signaling.

**NOTE:** Candela and Horn Setting will determine the current draw of the product.

When calculating the total currents use Tables 3-6 to determine the highest value of RMS current for an individual appliance, then multiply these values by the total number of appliances. Be sure to add the currents for any other appliances, including audible signaling appliances powered by the same source, and to include any required safety factors.
Table 5: LHN3 Horn Current Draw (Amps)

<table>
<thead>
<tr>
<th>Current</th>
<th>DC 8.0-17.5 Volts</th>
<th>DC 16.0-33.0 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Continuous</td>
<td>0.025</td>
<td>0.037</td>
</tr>
<tr>
<td>High Code 3</td>
<td>0.024</td>
<td>0.038</td>
</tr>
<tr>
<td>Low Continuous</td>
<td>0.020</td>
<td>0.026</td>
</tr>
<tr>
<td>Low Code 3</td>
<td>0.018</td>
<td>0.022</td>
</tr>
<tr>
<td>High Continuous</td>
<td>0.051</td>
<td>0.059</td>
</tr>
<tr>
<td>High Code 3</td>
<td>0.043</td>
<td>0.049</td>
</tr>
<tr>
<td>Low Continuous</td>
<td>0.039</td>
<td>0.050</td>
</tr>
<tr>
<td>Low Code 3</td>
<td>0.037</td>
<td>0.044</td>
</tr>
</tbody>
</table>

NOTE: These notification appliances are UL Listed as “Regulated.” They are intended to be used with Fire Alarm Control Panels (FACPs) whose notification circuits are UL Listed as “Regulated.” Refer to the FACPs instructions or the Wheelock Strobe Compatibility Data Sheet (PN P85328) for special application and strobe synchronization compatibility.

NOTE: These appliances were tested to the regulated voltage limits of 16.0-33.0 Volts for 24 volt models and 8.0-17.5 Volts for 12 volt models using filtered DC for the 12 volt range and either filtered DC or unfiltered DC for the 24 volt range voltage. Do not apply voltage outside of this range.

NOTE: 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.

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

NOTE: Make sure that the total rms current required by all appliances that are connected to the system’s primary and secondary power sources, Notification Appliance Circuit (NAC), sync module, DSM sync modules, or 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.

**WARNING:** 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.

**LIGHT OUTPUT:**

**WIRING, SETTINGS AND MOUNTING**

- All strobe 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 and connect to screw terminals.

- Break all in-out wire runs on supervised circuits to ensure integrity of circuit supervision as shown in Figure 3. The polarity shown in Figure 2, the wiring diagram, 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.

**NOTE:** Do not fully back out terminal screws.

The LHS3 and LHN3 are factory set for the most common application of High dB and Code 3. The LHS3 and LST3 are set to 15 candela. Candela settings are shown in Figure 4.

- Candela settings are shown in Figure 4.

**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-inch conduit fittings are used. Although the limits shown for the mounting option comply with the National Electrical Code (NEC), Cooper Wheelock recommends use of the largest single gang backbox option available 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.

**CAUTION:** Do not overtighten mounting screws. Excessive torque can distort the base and may affect operation.

**CAUTION:** When using power tools to screw down the mounting plate to the electrical backbox, ensure the torque is set to the lowest setting available.

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

**NOTE:** Final acceptance is subject to Authorities Having Jurisdiction.

**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) or 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).

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus meets all requirements of the Canadian interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Any material extrapolated from this document or from Cooper 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 Cooper Notification will not have any liability for such use.

**IN NO CASE WILL SELLER’S LIABILITY EXCEED THE PURCHASE PRICE PAID FOR A PRODUCT.**

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