

Exceder LED3 Low Frequency Sounder Strobes and Sounders



Description

Eaton has developed the Wheelock Exceder LED3 Low Frequency Sounder Strobes (LFHMK3/LFHSH3) and Sounders (LFHMK3) to meet the National Fire Protection Association (NFPA) low frequency sounder requirements for sleeping rooms - NFPA 72 for fire alarm and NFPA 720 for Carbon Monoxide (CO) alarm. In a single device, the Exceder LED Low Frequency Sounders can provide alarm signals for dual applications - T3 (Fire) and T4 (CO) tones. Eaton offers low frequency sounder strobe models for both low and high candela settings, ideal for retrofits and new construction.

The Exceder LED3 Low Frequency Sounder Strobes and Sounders feature multiple 520 Hz modes of operation: T3 (fire), T4 (CO), Continuous, T3/T4 Sync Control.

Like the entire Wheelock Exceder LED3 product line, the Low Frequency Sounder Strobes feature an advanced power saving LED technology in a sleek, modern, single-gang enclosure that will provide high energy efficiency and an aesthetically pleasing low profile design that will blend with the building's interior décor. LFHMK3 strobe models include a 110 candela setting, and LFHSH3 strobe models include a 177 candela setting.



Providing a sleek aesthetic appearance, the Exceder LFHMK3/LFHSH3 and LFHMK3 models feature one of the industry's smallest footprints and a sleek, modern, low-profile design. Installers will benefit from its comprehensive feature list, multiple 520 Hz modes of operation, lowest current draw, no tools needed for setting changes, and convenient mounting options. The LFTP trim plate, which is included in all LFHMK3/LFHMK3/LFHSH3 models, allows for ease of installation for retrofit projects that have single-gang backboxes installed. These products are suitable for indoor wall-mount applications. The Sounder and Sounder Strobe models are for 24V operation.

Eaton's Exceder LED3 strobes meet the 20 millisecond light pulse duration requirements of the 2016 edition of NFPA 72. By meeting this latest requirement, xenon and LED devices can now be in the same field of view. With the Exceder LED3 line, Eaton now offers a full range of products with low and high candela settings ideal for both retrofits and new construction.

The Exceder LED3 Low Frequency Sounders and Sounder Strobes are UL Listed for indoor use under Standard 1971 and 464 and ULC under S525 and S526.

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 RSS strobe-based products including the RSS, CH, E, EH, ET, ST, HS, MT, S8, SA, STH and Z Series. The listing also includes the ability to install the Exceder LED3 strobes in the same notification zone and field of view with any Wheelock RSS strobe models.

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Features

- Meets dual low frequency sounder codes for sleeping rooms in a single device
 - NFPA 72 for fire alarm
 - NFPA 720 for CO alarm
- 4 Settings in 1 device
 - T3 (fire)
 - T4 (CO)
 - Continuous (Coded)
 - T3/T4
- Energy efficient
 - Patented LED technology provides industry's lowest current draw
- Low-profile design
 - Smallest footprint with sleek, modern aesthetics
- 110 or 177 candela setting (dependent on model)
- Easy-to-install
 - Finger slide switches--No tools needed for setting changes
 - Built-in level adjustment feature and snap-on grille cover
 - IN/OUT screw terminals using #12 to #18 AWG wires
 - Mounting Options: Trim plate (LFTP) for single-gang backbox included in all LFHNK3/LFHSK3/LFHSH3 models; Exceder LSPKBB backboxes and 4" square backboxes
- Strobe synchronization components
 - Meet synchronizing standards with Wheelock's DSM Sync Modules or Power Supplies
- Compliance
 - NFPA 72 2016 - 20 ms flash duration requirements
 - UL 1971, UL 464, ULC S525, ULC S526
 - California State Fire Marshal (CSFM)- Pending for LFHSH3
 - ADA/NFPA/ANSI/OSHA
 - RoHS

Note: Please read these specifications and associated installation instructions, before using, specifying, or installing this product. Visit Eaton.com/massnotification for current installation instructions.

General Notes

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range." Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Strobe intensity based on UL 1971.

Settings

The 520 tone is generated within the appliance itself. When the selector switch is set for T3 or T4, the sound pattern is also generated within the appliance. When the selection switch is set to continuous, the product is listed for coded operations. The T3/T4 pattern or other pattern must be generated by the FACP according to the alarm condition sensed by the panel (fire or CO alarm).

When the device is set to T3/T4, the appliance can switch from T3 to T4 based upon the condition sensed by the FACP and passed to the Wheelock DSM module.

Drawings

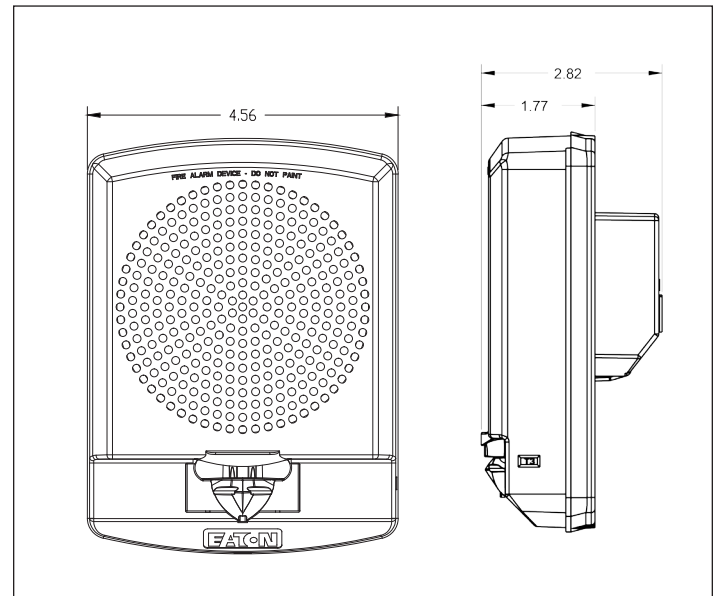


Figure 1. Wall Low Frequency Sounder Strobe

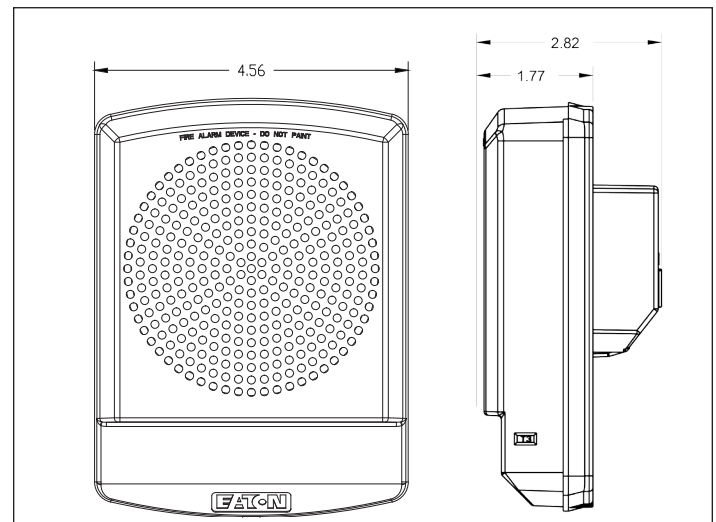


Figure 2. Wall Low Frequency Sounder

Table 1. Horn Strobe Current Draw

| Exceder LED3 Sounder Strobes | | UL/ULC Max Current ^a | |
|------------------------------|---------------|---------------------------------|--------|
| | | 24VDC | |
| Models | Horn Setting | 16-33 Volts 110 cd | 177 cd |
| LFHSK3/ LFHSH3 | Continuous | 0.290 | 0.344 |
| | Code 3 | 0.290 | 0.344 |
| | Code 4 | 0.290 | 0.344 |
| | Code 3/Code 4 | 0.290 | 0.344 |

Table 2. Horn Only Current Draw

| Exceder LED3 Sounders | | UL/ULC Max Current ^a | |
|-----------------------|---------------|---------------------------------|--|
| | | 24VDC | |
| Model | Horn Settings | 16.0-33.0 | |
| LFHNK3 | Continuous | 0.098 | |
| | Code 3 | 0.098 | |
| | Code 4 | 0.098 | |
| | Code 3/Code 4 | 0.098 | |

Table 3. Sound Output (SPL) - UL

| LFHSK3/LFHSH3/LFHNK3 24V Reverberant dBA per UL 464 | | | |
|--|--------------|--------------|--------------|
| Description | 16.0V | 24.0V | 33.0V |
| Continuous | 80 | 80 | 80 |
| Code 3 | 80 | 80 | 80 |
| Code 4 ^b | 80 | 80 | 80 |
| Code 3/Code 4 ^b | 80 | 80 | 80 |

Table 4. Sound Output (SPL) - ULC

| LFHSK3/LFHSH3/LFHNK3 dBA per ULC S525-16^c | | | |
|---|--------------|--------------|--------------|
| Description | 16.0V | 24.0V | 33.0V |
| Continuous | 80 | 80 | 80 |
| Code 3 | 80 | 80 | 80 |
| Code 4 | 80 | 80 | 80 |
| Code 3/Code 4 | 80 | 80 | 80 |

Table 5. Specification & Ordering Information

| Model | Strobe Candela | Red | White | Lettering | Sync w/ DSM or Wheelock Power Supplies |
|------------------------|-----------------------|---------------------|--------------|------------------|---|
| Sounder Strobes | | | | | |
| LFHSKR3 | 110 | X | | FIRE | X |
| LFHSHW3 | 110 | | X | FIRE | X |
| LFHSKR3-AL | 110 | X | | ALERT | X |
| LFHSHW3-AL | 110 | | X | ALERT | X |
| LFHSKR3-CO | 110 | X | | CO | X |
| LFHSHW3-CO | 110 | | X | CO | X |
| LFHSKR3-N | 110 | X | | No Lettering | X |
| LFHSHW3-N | 110 | | X | No Lettering | X |
| LFHSHR3 | 177 | X | | FIRE | X |
| LFHSHW3 | 177 | | X | FIRE | X |
| LFHSHR3-AL | 177 | X | | ALERT | X |
| LFHSHW3-AL | 177 | | X | ALERT | X |
| LFHSHR3-CO | 177 | X | | CO | X |
| LFHSHW3-CO | 177 | | X | CO | X |
| LFHSHR3-N | 177 | X | | No Lettering | X |
| LFHSHW3-N | 177 | | X | No Lettering | X |
| Sounders | | | | | |
| LFHNKR3 | | X | | FIRE | X |
| LFHNKW3 | | | X | FIRE | X |
| LFHNKR3-AL | | X | | ALERT | X |
| LFHNKW3-AL | | | X | ALERT | X |
| LFHNKR3-CO | | X | | CO | X |
| LFHNKW3-CO | | | X | CO | X |
| LFHNKR3-N | | X | | No Lettering | X |
| LFHNKW3-N | | | X | No Lettering | X |
| Accessories | | | | | |
| | | Description | Red | White | |
| LSPKBB-R | 0756 | Exceder LED Backbox | X | | |
| LSPKBB-W | 0757 | Exceder LED Backbox | | X | |

Table 6. Specifications

| | |
|--|---|
| Physical | |
| Material | Red or white textured UV stabilized, colored impregnated engineered plastic. Exceeds 94V-0 UL flammability rating |
| Weight | 1.10 lbs. |
| Lens | Light Emitting Diode (LED) in a rugged Lexan lens |
| Dimensions | 6.23"H x 4.69" W x 1.77" D (with LFTP trim plate) |
| Operating Temperature | Indoor: 32°F to 122°F (0°C to 50°C) and maximum humidity of 93% |
| Mounting & Wire Connections | |
| Mounting (indoor only) | Wall-mount applications for sounder strobe (LFHSK3/LFHSH3); Wall and ceiling-mount applications for the sounder only model (LFHNK3). Trim plate for single-gang backbox included in all LFHNK3/LFHSK3/LFHSH3 models; Exceder LSPKBB backboxes and 4" square backboxes |
| Wire Connections | #12 through #18 AWG |
| Power & General | |
| Operating voltage | 24 VDC: 16 - 33 VDC |
| Strobe Output Rating | UL 1971: 110 candela output (LFHSK3 models)/ 177 candela output (LFHSH3 models) |
| Strobe Flash Rate | Strobes are designed to flash at 1 flash per second |
| Synchronization Models | Strobes can be synchronized with Wheelock's DSM Sync Modules, PS Power Supplies, using Wheelock patented sync protocol |
| Temporal Audible Pattern | Continuous, Code 3, Code 4 or Code 3/Code 4 Sync Control. 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 4 temporal pattern (four cycles of 100 milliseconds ± 10 percent "on" and 100 milliseconds ± 10 percent "off," followed by 5 seconds ± 10 percent "off") is specified by NFPA 720. |

① RMS current ratings are per UL maximum RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33v). For strobes the UL max current is usually at the minimum listed voltage. For audibles the max current is usually at the maximum listed voltage. For unfiltered FWR ratings, see installation instructions.

Architects and Engineers Specifications

The low frequency sounders and sounder strobes appliances shall be Wheelock® Exceder™ LED3 series LFHNK3 Sounder for wall- and ceiling-mount applications and LFHSK3/LFHSH3 Sounder Strobe for wall-mount applications with a low-profile design or approved equals. The sounders shall be UL Listed under UL 464 for Fire Protective Service and ULC S525. Sounders equipped with strobes shall be listed under UL 1971 for Emergency Devices for the Hearing-Impaired and ULC S526. The Series shall be Restriction of Hazardous Substances (RoHS) compliant and contain no mercury or other hazardous substances. In addition, the sounder strobes shall meet the requirements of FCC Part 15 and ICES-003. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP) with the ability to operate from 16 to 33 VDC.

The LFHSK3/LFHSH3 Sounder Strobe shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall incorporate a Light Emitting Diode (LED) as the light source with a rugged Lexan® lens. The strobe shall be of low current design. The LED strobe flash duration shall be 20 ms. The strobe intensity of LFHSK3 models shall have a 110 candela, and the LFHSH3 models shall have a 177 candela.

The audible shall have a minimum of four (4) 520 Hz modes of operation: T3 (fire), T4 (CO), Continuous, T3/T4 Sync Control.

The LFHSK3, LFHSH3 and LFHNK3 shall be designed for indoor surface or flush mounting. Mounting options shall include LED speaker backboxes and to standard 4" square backboxes and single-gang backboxes with LFTP trim plate. The sounder and sounder strobe shall incorporate a mounting plate with a snap-on grille cover and shall mount to standard electrical hardware requiring no additional trimplate or adapter. Removal of an appliance shall result in a supervision fault condition by the Fire Alarm Control Panel (FACP). All notification appliances shall be backwards compatible.

The LFHNK3, LFHSK3, and LFHSH3 wall models, which shall include the LFTP trimplate, shall have a low profile measuring 6.23" H x 4.69" W x 1.77" D. Finish shall be red or white. Special lettering, ALERT, CO and No lettering, shall be available.

When synchronization is required, the appliance shall be compatible with Wheelock's DSM Sync Modules, PS Power Supplies, or other manufacturer's panels with built-in Wheelock Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync protocol fails to operate, the strobe shall revert to a non-synchronized flash-rate and still maintain (1) flash per second over its Regulated Voltage Range. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Wheelock patented sync protocol.

UL 1971, UL 464, ULC S525, ULC S526, CSFM, FCC, RoHS, ICES

Note: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Eaton standard terms and conditions.



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