

# Eluxa low frequency sounders and sounder strobes



## Description

Eaton has developed the Wheelock Eluxa low frequency sounders (ELFHN) and sounder strobes (ELFHS) to meet the National Fire Protection Association (NFPA 72) low frequency sounder requirements for sleeping rooms for both fire alarm and carbon monoxide (CO) signaling. In a single device, the Eluxa low frequency sounders features both low and high candela settings and alarm signals for dual applications- T3 (fire) and T4 (CO) tones.

### High efficiency, LED technology

Eaton's high energy efficient technology leads the industry in lowest current draw across the full candela range, which reduces overall power consumption and costs in fire alarm systems. As the first notification appliances in the industry to utilize LED as the light source, this breakthrough and patented optical design, resulting in best-in-class efficiency, enables material and system cost savings, allowing for a greater number of appliances on the notification appliance circuit and fewer power supplies. All strobe models feature 110 and 177 candela settings for both wall- and ceiling- mount models.

### Low profile design and rich feature set

With the industry's smallest footprint, the Eluxa low frequency sounders and sounder strobes are aesthetically pleasing as the low profile design does not detract from the interior decor. Eluxa is feature rich with low and high candela settings and 3 horn patterns (Continuous, T3, T3/T4) in 1 device, pre-wire/pre-test via mounting plate with hinged feature for ease-of-installation, and no tools needed for setting changes. These products are suitable for indoor wall and ceiling mount applications (model dependent). The ELFHS and ELFHN models are for 24V operation. Special lettering, ALERT, CO, and no lettering, is available.

### Approvals and synchronization

Eaton's Eluxa 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.

The Eluxa notification appliances are listed under UL Standards 1971, 1638, and 464 and under CAN/ULC-S525 and CAN/ULC-S526. The appliances are Restriction of Hazardous Substances (RoHS) compliant and contain no mercury or other hazardous substances.

In addition, the Eluxa 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 Exceder LED3 and 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 Eluxa strobes in the same notification zone and field of view with any Wheelock RSS strobe and Exceder LED3 models.

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### Features

- Meets NFPA 72 fire and CO low frequency sounder codes for sleeping rooms in a single device
- 3 horn patterns
  - Continuous, T3, and T3/T4; Fire and CO signaling in 1 device
- Energy efficient
  - LED technology provides industry’s lowest current draw
- Low-profile design
  - Smallest footprint with sleek, modern aesthetics
- Special lettering available: ALERT, CO, no lettering
- Field selectable candela settings: 110, 177 cd
- Easy-to-install
  - Mounting plate included with all models: Convenient capture hinge allows installers to easily hold the device while fastening the single-mount screw in place.
  - 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: ELSPKBB backboxes, single-gang backboxes and 4” square backboxes for wall models and LSPKBB-C backboxes and 4” square, 2 1/8” deep backboxes for ceiling models.
- 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 1638, UL 464, ULC S525, ULC S526
  - California State Fire Marshal (CSFM)
  - Factory Mutual (FM)
  - ADA/NFPA/ANSI/OSHA
  - RoHS

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

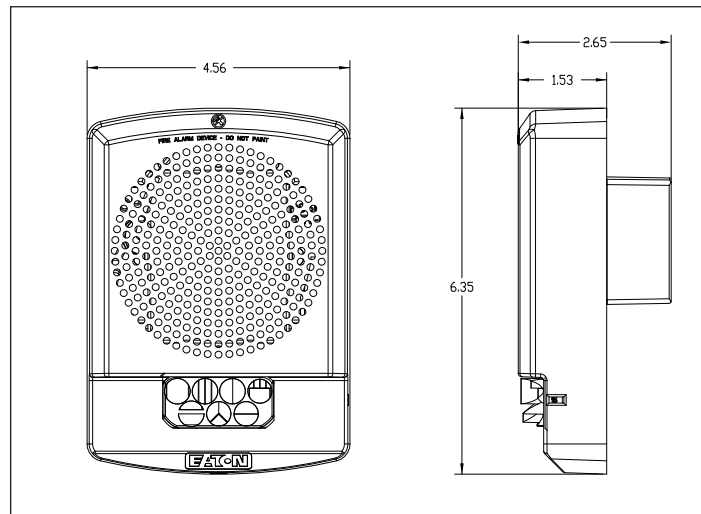


Figure 1. Wall Low Frequency Sounder Strobe

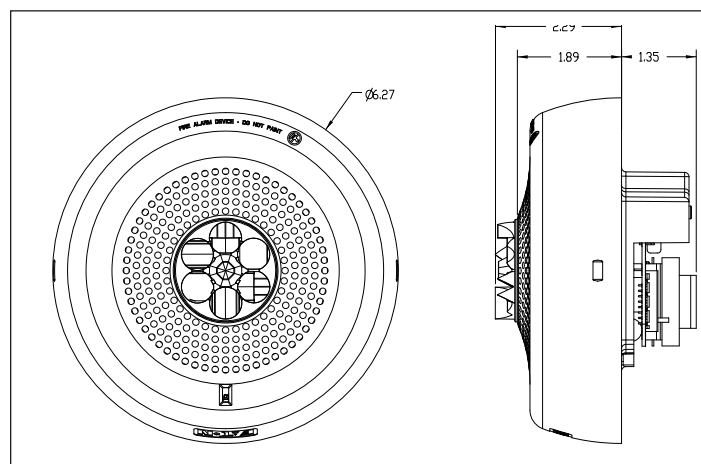


Figure 2. Ceiling Low Frequency Sounder

Table 1. Horn Only Current Draw

		UL/ULC Max Current ①	
Eluxa Sounders		24VDC	
Model	Horn Settings	16.0-33.0	
ELFHN/ELFHNC	Continuous	0.098	
	Code 3	0.098	
	Code 3/Code 4	0.098	

Table 2. Horn Strobe Current Draw

		UL/ULC Max Current ①	
Eluxa Sounder Strobes			
Model	Regulated Voltage Range VDC	110	177
ELFHS	16.0-33.0	0.164	0.256
ELFHSC	16.0-33.0	0.164	0.256

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.

**Table 3. Sound Output (SPL) - UL**

<b>ELFHS/ELFHN 24V Reverberant dBA per UL 464 ①</b>			
<b>Description</b>	<b>16.0V</b>	<b>24.0V</b>	<b>33.0V</b>
Continuous	80	80	80
Code 3	80	80	80
Code 3/Code 4 b	80	80	80

**Table 4. Sound Output (SPL) - ULC**

<b>ELFHS/ELFHN dBA per ULC S525-16 ①</b>			
<b>Description</b>	<b>16.0V</b>	<b>24.0V</b>	<b>33.0V</b>
Continuous	80	80	80
Code 3	80	80	80
Code 3/Code 4	80	80	80

**Table 5. Specification & Ordering Information**

<b>Model</b>	<b>Strobe Candela</b>	<b>Mounting</b>	<b>Red</b>	<b>White</b>	<b>Lettering</b>	<b>Sync w/ DSM or Wheelock Power Supplies</b>
<b>Sounder Strobes</b>						
ELFHSR	110, 177	Wall	X		FIRE	X
ELFHSW	110, 177	Wall		X	FIRE	X
ELFHSR-AL	110, 177	Wall	X		ALERT	X
ELFHSW-AL	110, 177	Wall		X	ALERT	X
ELFHSR-CO	110, 177	Wall	X		CO	X
ELFHSW-CO	110, 177	Wall		X	CO	X
ELFHSR-N	110, 177	Wall	X		No Lettering	X
ELFHSW-N	110, 177	Wall		X	No Lettering	X
ELFHSRC	110, 177	Ceiling	X		FIRE	X
ELFHSWC	110, 177	Ceiling		X	FIRE	X
ELFHSRC-AL	110, 177	Ceiling	X		ALERT	X
ELFHSWC-AL	110, 177	Ceiling		X	ALERT	X
ELFHSRC-CO	110, 177	Ceiling	X		CO	X
ELFHSWC-CO	110, 177	Ceiling		X	CO	X
ELFHSRC-N	110, 177	Ceiling	X		No Lettering	X
ELFHSWC-N	110, 177	Ceiling		X	No Lettering	X
<b>Sounders</b>						
ELFHNR		Wall/Ceiling	X		FIRE	X
ELFHNW		Wall/Ceiling		X	FIRE	X
ELFHNR-AL		Wall/Ceiling	X		ALERT	X
ELFHNW-AL		Wall/Ceiling		X	ALERT	X
ELFHNR-CO		Wall/Ceiling	X		CO	X
ELFHNW-CO		Wall/Ceiling		X	CO	X
ELFHNR-N		Wall/Ceiling	X		No Lettering	X
ELFHNW-N		Wall/Ceiling		X	No Lettering	X
ELFHNR-C		Wall/Ceiling	X		FIRE	X
ELFHNR-C		Wall/Ceiling	X		FIRE	X
ELFHNR-AL		Wall/Ceiling	X		ALERT	X
ELFHNR-AL		Wall/Ceiling	X		ALERT	X
ELFHNR-CO		Wall/Ceiling	X		CO	X
ELFHNR-CO		Wall/Ceiling	X		CO	X
ELFHNR-N		Wall/Ceiling	X		No Lettering	X
ELFHNR-N		Wall/Ceiling	X		No Lettering	X
<b>Accessories</b>						
	<b>Description</b>		<b>Red</b>	<b>White</b>		
ELSPKBB-R	Eluxa Backbox	Wall	X			
ELSPKBB-W	Eluxa Backbox	Wall		X		
LSPKBB-CR	Exceder LED Backbox	Ceiling	X			
LSPKBB-CW	Exceder LED Backbox	Ceiling		X		

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.

**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.

**Table 6. Specifications**

<b>Physical</b>	
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	Wall: ELFHN - 6.35" H x 4.56" W x 1.54" D; ELFHS: 6.35" H x 4.56" W x 1.54" D; ELFHNC: 6.27" Diameter x 1.9" D; ELFHSC: 6.27" Diameter x 2.29" Depth
Operating Temperature	Indoor: 32°F to 122°F (0°C to 50°C) and maximum humidity of 93%
<b>Mounting &amp; Wire Connections</b>	
Mounting (indoor only)	Wall and ceiling-mount applications (model dependent). Mounting Options: ELSPKBB backboxes, single-gang backboxes and 4" square backboxes for wall models and LSPKBB-C backboxes and 4" square, 2 1/8" deep backboxes for ceiling models.
Wire Connections	#12 through #18 AWG
<b>Power &amp; General</b>	
Operating voltage	24 VDC/VFWR: 16 - 33 VDC/VFWR
Strobe Output Rating	UL 1971: Field selectable candela 110, 177 cd
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, 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.

## Architects and Engineers Specifications

The low frequency sounders and sounder strobes appliances shall be Eluxa series ELFHN and ELFHNC sounders for wall and ceiling-mount applications, and ELFHS sounder strobes for wall-mount applications and ELFHSC sounder strobes for ceiling-mount applications 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, UL 1638, 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 ELFHS 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 or less. The strobe intensity of ELFHS models shall have field selectable of 110 and 177 candela. The audible shall have a minimum of 3 modes of operation: T3 (fire), Continuous, and T3/T4 Sync Control.

The ELFHS and ELFHN shall be designed with a low profile design for indoor surface or flush mounting. Mounting options shall include

ELSPKBB backboxes, single-gang backboxes, and 4" square backboxes for wall models and LSPKBB-C backboxes and 4" square, 2 1/8" deep backboxes for ceiling models. 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 ELFHN and ELFHS wall models shall have a low profile measuring 6.35" H x 4.56" W x 1.54" D. ELFHNC and ELFHSC ceiling models shall have a low profile with a diameter measuring 6.27" and depth of 2.29". 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 1638, UL 464, ULC S525, ULC S526, CSFM, FM, FCC, RoHS, ICES



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Publication No. TD450159EN  
August 2022

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