
EXCEDER LED LOW FREQUENCY SOUNDER STROBES AND SOUNDERS

- 110 candela setting
- 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 include Exceder LSPKBB backboxes and 4" square backboxes
- Strobe synchronization components
 - Meet synchronizing standards with Wheelock's DSM Sync Modules or PS-6/8 Power Supplies
- Compliance
 - UL 2034, UL 2075, UL 1971, UL 464, ULC S525, ULC S526
 - California State Fire Marshal (CSFM)
 - ADA/NFPA/ANSI/OSHA
 - RoHS

STANDARD 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

DESCRIPTION

Eaton's Cooper Notification business has developed the Wheelock Exceder LED Low Frequency Sounder Strobes and Sounders to meet the new 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. It is the first product in the industry to be listed to the audibility requirements of UL 2034 and UL 2075 for CO applications.

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

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).

Specifications subject to change without notice.

Continued on back.

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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.

Like the entire Wheelock Exceder LED product line, the Low Frequency Sounder Strobes will utilize Light Emitting Diode (LED) as the light source—a breakthrough optical design, resulting in best-in-class efficiency that enables material and system cost savings, allowing for a greater number of appliances on the notification appliance circuit and fewer power supplies. All LLFHS strobe models include a 110 candela setting.

Providing a sleek aesthetic appearance, the Exceder LLFHS and LLFHN 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. These products are suitable for indoor wall-mount applications. The Sounder and Sounder Strobe models are for 24V operation.

Exceder LED Sounder Strobes may be synchronized when used in conjunction with the DSM Sync Modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol. Wheelock synchronized strobes offer an easy way to comply with ADA recommendations concerning photosensitive epilepsy.

The Exceder LED Low Frequency Sounders and Sounder Strobes are UL Listed for indoor use under Standard 1971 and 464 and ULC under S525 and S526. The appliances are Restriction of Hazardous Substances (RoHS) compliant and contain no mercury or other hazardous substances.

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

WARNING

PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. VISIT WWW.COOPERNOTIFICATION.COM OR CONTACT COOPER NOTIFICATION FOR THE CURRENT INSTALLATION INSTRUCTIONS. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS OR 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.

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.

DRAWINGS

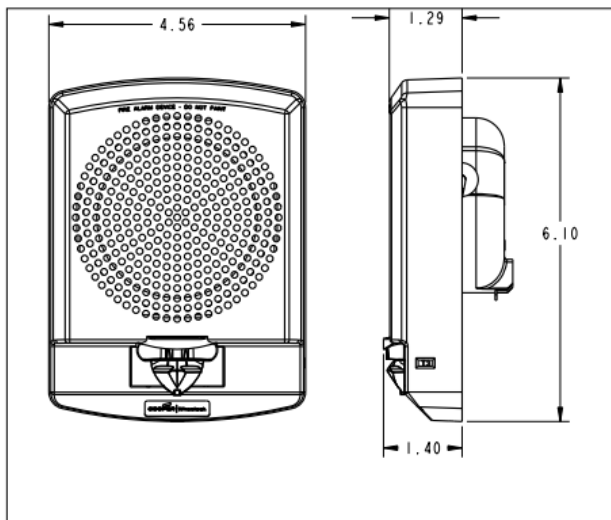


Figure 1. Wall Low Frequency Sounder Strobe

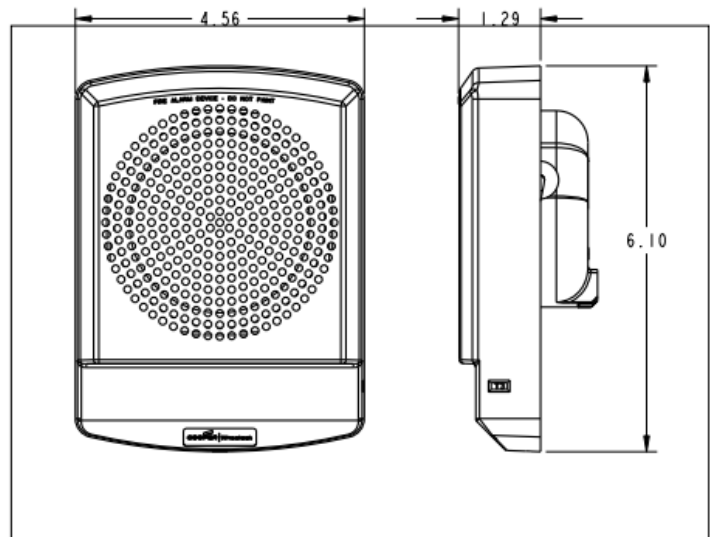


Figure 2. Wall Low Frequency Sounder

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TABLE 1. HORN STROBE CURRENT DRAW

		UL/ULC Max Current ^a
Exceder LED Sounder Strobes		24VDC
Model	Horn Setting	16-33 Volts 110 cd
LLFHS	Continuous	0.292
	Code 3	0.292
	Code 4	0.292
	Code 3 / Code 4	0.292

TABLE 2. HORN ONLY CURRENT DRAW

		UL/ULC Max Current ^a
Exceder LED Sounders		24VDC
Model	Horn Setting	16.0-33.0
LLFHN	Continuous	0.292
	Code 3	0.292
	Code 4	0.292
	Code 3 / Code 4	0.292

TABLE 3. SOUND OUTPUT (SPL) - UL

LLFHS/LLFHN 24V			
Reverberant dBA per	UL 464		
Description	16.0V	24.0V	33.0V
Continuous	80	80	80
Code 3	76	76	76
Code 4 b	85	85	85
Code 3/Code 4	76	76	76

TABLE 4. SOUND OUTPUT (SPL) - ULC

LLFHS/LLFHN			
dBA per ULC	S525-07 ^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					
LLFHSR	110	X		FIRE	X
LLFHSW	110		X	FIRE	X
LLFHSR-AL	110	X		ALERT	X
LLFHSW-AL	110		X	ALERT	X
LLFHSR-CO	110	X		CO	X
LLFHSW-CO	110		X	CO	X
LLFHSR-N	110	X		No Lettering	X
LLFHSW-N	110		X	No Lettering	X
Sounder Strobes					
LLFHNR-AL		X		ALERT	X
LLFHNR-AL			X	ALERT	X
LLFHNR-CO		X		CO	X
LLFHNR-CO			X	CO	X
LLFHNR-N		X		No Lettering	X
LLFHNR-N				No Lettering	X
Accessories		Description	Red	White	
LSPKBB-R	0756	Exceder LED Backbox	X		
LSPKBB-W	0757	Exceder LED Backbox		X	

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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	6.1"H x 4.56" W x 1.4" D
Operating Temperature	Indoor: 33.8°F to 120.2°F (0°C to 49°C) and maximum humidity of 85%

Mounting & Wire Connections

Mounting (indoor only)	Wall-mount applications only. Exceder LSPKBB backboxes or to 4" square backboxes
Wire Connections	#12 through #18 AWG

Power & General

Operating voltage	UL 1971: 110 candela output
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-6/8 Power Supplies, using Wheelock patented sync protocol 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 \pm 10 percent "on" and 100 milliseconds \pm 10 percent "off," followed by 5 seconds \pm 10 percent "off") is specified by NFPA 720.
Temporal Audible Pattern	

ARCHITECTS AND ENGINEERS SPECIFICATIONS

The low frequency sounders and sounder strobes appliances shall be Wheelock® Exceder™ LED Series LLFHN Sounder and LLFHS 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 to the requirements of UL 2034/UL 2075 for CO applications 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. 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 Series LLFHS 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 Series shall be of low current design. The strobe intensity shall have a 110 candela for wall mount applications. The audible shall have a minimum of four (4) 520 Hz modes of operation: T3 (fire), T4 (CO), Continuous, T3/T4 Sync Control. The Series

LLFHS and LLFHN shall be designed for indoor surface or flush mounting. Mounting options shall include LED speaker backboxes and to standard 4" square backboxes. 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 Series LLFHN wall model shall have a low profile measuring 6.1" H x 4.56" W x 1.29" D. The Series LLFHS wall model shall have a low profile measuring 6.1" H x 4.56" W x 1.4" 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 6/8 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

- a 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.
- b Code 4 setting rated per UL 2075, UL 2034.
- c For dwelling use only