

# Exceder LED3 High Fidelity Speaker Strobes & Speakers



## Description

The Wheelock Exceder LED3 Speaker Strobes and Speakers by Eaton feature high fidelity sound output and an advanced power saving LED technology for indoor ceiling-mount applications. With the widest frequency response range (300 to 8000 Hz) in the industry, the Series LSPKC and LSPSTC3 feature leading intelligibility with crisp, clear voice messages and tone signaling, ideal for emergency communications, mass notification, voice evacuation and fire alarm.

## Compliant and Compatible

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.

## High Efficiency, LED Technology

Eaton's high energy efficient technology leads the industry in lowest current draw for the most popular candela settings, which reduces overall power consumption and costs in fire alarm and emergency communication 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. Speaker strobe models feature a wide range of candela settings (15, 30, 75, 95 cd) on a single appliance.

## Low Profile Design and Feature Set

With the industry's smallest footprint, the Exceder LED3 product line is aesthetically pleasing to building owners as the low profile design does not detract from the interior decor. Installers will benefit from its comprehensive feature list, including low current draw, dual voltage (25/70 VRMS) capability, field selectable taps from 1/8 to 2 watts, and no tools needed for setting changes. The low profile design incorporates a speaker mounting plate for faster and easier installation. Each model has a built-in level adjustment feature and a snap-on grille cover. All inputs employ IN/OUT wiring terminals for fast installation using #12 to #18 AWG wiring.

## Approvals and Synchronization

The Exceder LED3 notification appliances are listed under UL Standards 1971 and 1480 and under CAN/ULC-S526 and CAN/ULC-S541. The appliances are Restriction of Hazardous Substances (RoHS) compliant and contain no mercury or other hazardous substances.

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.

# EATON

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**Features**

- High Fidelity Sound Output
  - High intelligibility at minimum wattage across a frequency range of 300 to 8000 Hz
- Energy Efficient
  - Patented LED technology provides industry’s lowest current draw
  - Fewer power supplies required, smaller wire gauge, reduced wire runs
- Low-Profile Design
  - Smallest footprint with sleek, modern aesthetics
- Special Lettering Available
- 4 Field Selectable Settings in 1 Device
  - Select 15, 30, 75, 95 cd
- Field Selectable Taps
  - 1/8 watt up to 2 watts
  - 25 or 70 VRMS operation
- 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-C backboxes and 4” square, 2 1/8” deep backboxes
- Strobe Synchronization Components
  - Meet synchronizing standards with Wheelock’s DSM Sync Modules, Power Supplies or SAFEPATH products
  - Ability to mix xenon and LED strobes in the same field of view
- Compliance
  - NFPA 72 2016 - 20 ms flash duration requirements
  - UL 1971, UL 1480, ULC-S526, ULC-S541
  - Low frequency requirements of UL 464 (520 Hz) to meet NFPA’s 520 Hz tone requirements for sleeping areas
  - California State Fire Marshal (CSFM)
  - ADA/NFPA/ANSI/OSHA
  - FCC Part 15, ICES
  - RoHS

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

**Drawings**

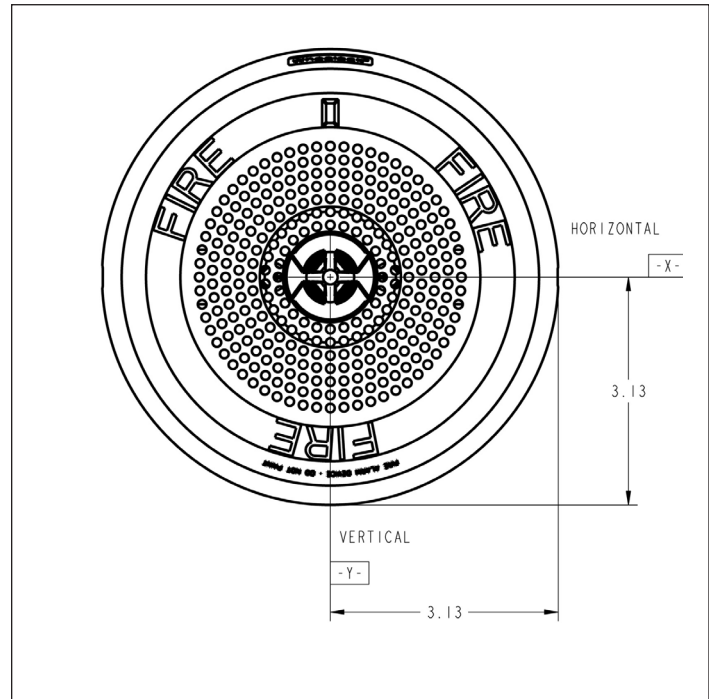


Figure 1. Ceiling Speaker Strobe - Front View

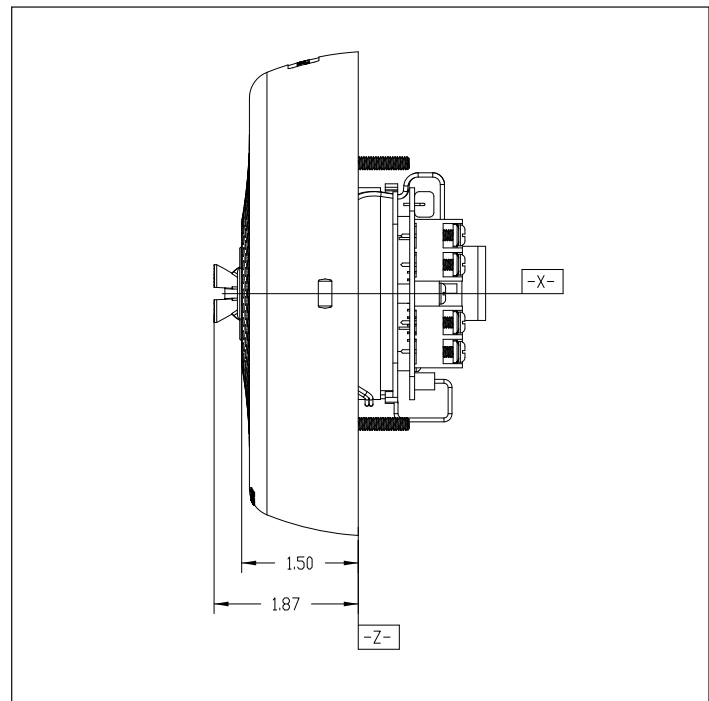


Figure 2. Ceiling Speaker Strobe - Side View

**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.

Table 1. Maximum RMS Current

Exceder LED High Fidelity Series Speaker Strobes	Regulated Voltage Range VDC	UL/ULC Max Current <sup>a</sup> 24VDC			
		15	30	75	95
LSPSTC3	16.0-33.0	0.040	0.053	0.155	0.248

Table 2. UL/ULC Listed Models and Ratings

Model	UL Reverberant dBA at 10 Feet					Anechoic dBA per CAN/ULC-S541-07				
	1/8 watts	1/4 watts	1/2 watts	1 watts	2 watts	1/8 watts	1/4 watts	1/2 watts	1 watts	2 watts
LSPKC Speaker	75	79	82	85	87	75	79	82	85	87
LSPSTC3 Speaker Strobe	75	79	82	85	87	75	79	82	85	87

Table 3. Specification & Ordering Information

Model	Strobe Candela	Red	White	Lettering	Sync w/ DSM or Wheelock Power Supplies
Speaker Strobes					
LSPSTRC3	15/30/75/95	X		FIRE	X
LSPSTWC3	15/30/75/95		X	FIRE	X
LSPSTWC3-AL	15/30/75/95		X	ALERT	X
LSPSTRC3-AL	15/30/75/95	X		ALERT	X
Speaker					
LSPKRC		X		FIRE	
LSPKWC			X	FIRE	
LSPKRC-AL		X		ALERT	
LSPKWC-AL			X	ALERT	
LSPKRC-N		X		No Lettering	
LSPKWC-N			X	No Lettering	
Backboxes					
LSPKBB-CR		X			
LSPKBB-CW			X		

Table 4. Specifications

Physical	
Material	Red or white textured UV stabilized, colored impregnated engineered plastic. Exceeds 94V-0 UL flammability rating
Weight	Speaker Strobe: 1.54 lbs (700g); Speaker Backbox: .44 lb (200g)
Lens	Light Emitting Diode (LED) in a rugged Lexan lens
Dimensions	LSPKC: 6.26 Diameter x 1.5" D; LSPSTC3: 6.26 Diameter x 1.5" D
Operating Temperature	Indoor: 32°F to 122°F (0°C to 50°C) and maximum humidity of 93%
Mounting & Wire Connections	
Mounting (indoor only)	Speaker Strobes are for ceiling-mount applications only. Speakers can be used for both wall and ceiling-mount applications. Exceder LSPKBB-C backboxes and to 4" square, 2 1/8" deep backboxes
Wire Connections	#12 through #18 AWG
Power & General	
Operating voltage	25/70 VRMS
Strobe Output Rating	UL 1971, ULC S526: Selectable 15, 30, 75, 95 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, Power Supplies or SAFEPATH products, using Wheelock patented sync protocol
Frequency Range	300 Hz to 8000 Hz

<sup>a</sup> 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 24v units). For strobes the UL max current is usually at the minimum listed voltage (16v for 24v units). For audibles the max current is usually at the maximum listed voltage (33v for 24v units). For unfiltered FWR ratings, see installation instructions.

## Architects and Engineers Specifications

The LED high fidelity speaker appliances shall be Wheelock® Exceder™ LED3 series LSPKC Speaker and LSPSTC3 Speaker Strobe for ceiling-mount applications with a low-profile design or approved equals. The speakers shall be UL Listed under UL 1480 for Fire Protective Service and speakers equipped with strobes shall be listed under UL 1971 for Emergency Devices for the Hearing-Impaired. The Series shall be Restriction of Hazardous Substances (RoHS) compliant and contain no mercury or other hazardous substances. In addition, the speaker strobes shall meet the requirements of FCC Part 15 and ICES. 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.

All speakers shall be designed for a field selectable input of either 25 or 70 VRMS, with selectable power taps from 1/8 watt to 2 watts. All models shall have listed sound output of up to 87 dB at 10 feet and a listed frequency response of 300 to 8000 Hz. All inputs shall employ terminals that accept #12 to #18 AWG wire sizes. The series LSPST3 Speaker Strobe appliances 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 LED strobe flash duration shall be 20 ms. Where Multi-Candela appliances are specified, the strobe intensity shall have 4 field selectable settings at 15, 30, 75, 95 candela for ceiling mount applications. The selector switch for selecting the candela shall be tamper resistant. Appliances with candela settings shall show the candela selection in a visible location at all times when installed.

The Series LSPKC and LSPSTC3 shall be designed for indoor surface or flush mounting. Mounting options shall include LSPKBB-C backboxes and to 4" square, 2 1/8" deep backboxes. The speaker and speaker strobe shall incorporate a speaker 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 LSPKC and LSPSTC3 ceiling models shall have a low profile measuring 6.26" Diameter with 1.5" D. Finish shall be red or white. Special lettering, including "ALERT," shall be available.

When synchronization is required, the appliance shall be compatible with Wheelock®'s DSM Sync Modules, PS Power Supplies, SAFEPATH products 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 speaker shall be listed to the low frequency requirements of UL 464 (520 Hz) to meet NFPA's 520 Hz tone requirements for sleeping areas.

UL 1971, UL 1480, ULC-S526, ULC-S541, CSFM, FCC, ICES, RoHS

**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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