LinmoreLED®
ULTRA PERFORMANCE LIGHTING

SPEC SHEET

Commercial High Bay (CH3)

LED HIGH BAY

BUY AMERICAN ACT COMPLIANT

DLC LISTED

TRUSTED NLB NATIONAL LIGHTING BUREAU WARRANTY

Bluetooth Ready

ETL c us LISTED Intertek

IP3X

IK05

up to 20kA

0-10V

Projected L70 up to 142,000 hours

KEY FEATURES

- 10,500 to 43,000 Lumens

- Up to 172 LPW

- Up to 55°C

- Low Voltage and High Voltage Models

- Dimmable 0-10V

- Emergency Battery Backup Available

- Wire Guards Available

10 YEAR PERFORMANCE WARRANTY L70

Guaranteed Performance

Performance of the light fixture is guaranteed for 10 years, including lumen output (L70), color temperature, and LED driver.
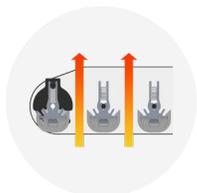
Superior Thermal Design

Vertical extruded aluminum heat sinks with ample separation for maximum heat dissipation and airflow through the fixture.

EZ-Connect™ Receptacle

The simplest and fastest way to add sensors and UltraLink wireless controls at any time in the field. Twist Lock system, no tools or wiring needed.

FEATURES & SPECIFICATIONS

CONSTRUCTION

- **Extruded Aluminum Heat Sinks:** provide optimal thermal management by decreasing LED junction temperature, ensuring longer life and higher efficacy. LED boards attached to the heat sink using a high quality thermally conductive adhesive rather than screws or rivets. This ensures good contact between PCB and heat sinks for excellent thermal conductivity.

- **LED Boards:** FR4 PCB to limit the stress on solder joints by closely matching the coefficient of thermal expansion between LEDs and the PCB.

- **Power Supply Access:** Wireway cover allows easy access and quick wiring. Hole accepting 3/4" stem (not centered). If center stem mount is required, select STEM in mounting options.

- **Wire Guards:** Optional factory-installed wire guards for the fixture.

- **EZ-Connect™ Receptacle:** The simplest and fastest way to add sensors and wireless controls at any time on the field. Twist and Lock system, no tools or wiring needed.

ELECTRICAL

- **Power Input:** 120-277V or 277-480 (50/60Hz) typical.

- **Power Factor:** Greater than 0.9 (0.96-0.99 typical).

- **Total Harmonic Distortion:** <10%.

- **Surge Protection:** Standard is 6kV for drivers. Additional surge protection available as an option. All HV orders will have SRG option automatically added (contact sales for questions).

- **Emergency Battery Backup[6]:** EM16 has 16 watts output and produces ~2,700 lumens for 90 minutes (available for LV only). EM25 has 25 watts output and produces ~4,300 lumens for 90 minutes (available for LV and HV). Factory installation only, not able to be field installed.

OPERATION

- **Environment:** Dry/Damp, for interior applications (IP3X). Dust-resistant LED modules.

- **Ambient Range Operation[5,6,7]:** -40°C up to 55°C (-40°F up to 130°F).

OPTICS

- **CCT:** 3500K, 4000K and 5000K standard. Other CCTs available upon request (extended lead time).

- **CRI:** 80+ standard, 85 typical.

- **Lenses:** Clear, Aisle, Narrow (UV stable polycarbonate) and Frosted (acrylic PMMA). Lenses are field-replaceable.

MOUNTING

- **Mounting:** Fixture is cable ready (CRM). Other options are STEM (comes with a 3/4" opening in the center of the STEM box), HOOK and surface mount (with optional MBR). MBR reduces ambient range by 5°C when mounted flush to junction box.

CONTROLS[1,2,3]

- **Dimming:** 0-10V standard. Dimming range 100% to 10%, then Off.

- **Occupancy Sensors:** PIR and Microwave occupancy sensors, On/Off/Dim. EZ-Connect™ Twist Lock system for field installation.

- **Networked Lighting Controls:** UltraLink Wireless Controls with Bluetooth® NLC Mesh technology. EZ-Connect™ Twist Lock system for field installation.

WARRANTY

- **10 Year Performance Warranty:** Fixture is guaranteed for 10 years, including lumen maintenance (L70), color temperature, and LED driver. "Defective" is considered if ten percent (10%) or more of the LEDs, per product, are non-operating LEDs, total lumen depreciation exceeds 30% (L70), or color temperature has shifted more than 500° Kelvin within the warranty period. See terms and conditions at https://linmoreled.com/warranty

LISTINGS & CERTIFICATIONS

- RoHS compliant.

- BAA/TAA Compliant.

- FCC CFR 47 Part 15.

- DesignLights™ Consortium.

TECHNICAL SPECS

NOMINAL LUMENS	SIZE	WATTS	LUMEN OUTPUT	EFFICACY	PART NUMBER
10K	2MS	64	10,555	165	CH3-A1-10K-2MS-50-80-CL-LV-CRM-EZ10-10V
12K	2MS	74	12,413	168	CH3-A1-12K-2MS-50-80-CL-LV-CRM-EZ10-10V
16K	4MS	96	16,534	172	CH3-A1-16K-4MS-50-80-CL-LV-CRM-EZ10-10V
18K	4MS	110	18,851	171	CH3-A1-18K-4MS-50-80-CL-LV-CRM-EZ10-10V
20K	4MS	122	20,818	171	CH3-A1-20K-4MS-50-80-CL-LV-CRM-EZ10-10V
24K	4MS	142	24,057	169	CH3-A1-24K-4MS-50-80-CL-LV-CRM-EZ10-10V
27K	4MS	161	27,069	168	CH3-A1-27K-4MS-50-80-CL-LV-CRM-EZ10-10V
30K	6MS	180	30,078	167	CH3-A1-30K-6MS-50-80-CL-LV-CRM-EZ10-10V
36K	6MS	220	36,960	168	CH3-A1-36K-6MS-50-80-CL-LV-CRM-EZ10-10V
41K	8MS	250	41,421	165	CH3-A1-41K-8MS-50-80-CL-LV-CRM-EZ10-10V
43K	8MS	256	43,128	169	CH3-A1-43K-8MS-50-80-CL-LV-CRM-EZ10-10V

Typical lumen output (±10%) at 120V (LV), 25°C (77°F) ambient temperature, 5000K, CRI80, and Clear Lens.

Lumen Multipliers

Allows to calculate the actual lumen output for your application. Apply each multiplier to the lumens of the table above.

LUMENS VS AMBIENT TEMP

C°	F°	Multiplier
25	77	1.000
35	95	0.995
45	113	0.995
55	131	0.990

COLOR TEMP

CCT	Multiplier
5000	1.000
4000	1.000
3500	0.965

COLOR RENDERING

CRI	Multiplier
80	1.000
90	0.860

LIGHT DISTRIBUTION

Lens	Multiplier
CL	1.000
FR	0.975
AL	0.945
NW	0.955

Lumen Maintenance

All fixtures come with our 10 Year Performance Warranty, covering **L70 light levels for 10 years**.
That's 87,600 hours of guaranteed life based on a 24/7 operation.

10 YEAR PERFORMANCE **WARRANTY** **L70**

Ambient Temp.		Lumen Maintenance in Hours[1]			Lumen Maintenance Factor[1]			Reported Life (6X)[3]	
C°	F°	L90	L80	L70	50Khrs	75Khrs	100Khrs	Tested Time	Extrapolated
25	77	44K	89K	142K	0.89	0.83	0.78	12,000 hrs	> 72,000 hrs
30	86	41K	85K	135K	0.88	0.82	0.77		
35	95	40K	81K	129K	0.87	0.81	0.76		
40	104	36K	75K	119K	0.86	0.80	0.74	LEDs tested for 12,000 hrs based on LM-80.	
45	113	33K	68K	108K	0.85	0.78	0.72		
50	122	30K	62K	99K	0.84	0.76	0.70	Extrapolating as per TM-21:	
55	131	27K	57K	91K	0.82	0.75	0.67	12,000 hrs x 6 = 72,000 hrs of reported life.	

All values calculated in accordance to IESNA standards, per TM-21.

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ORDERING

SERIES MODEL - COMPLIANCE - LUMENS - SIZE	COLOR TEMP	CRI	OPTIC	VOLTAGE
CH30S-A1-10K-2MS **CH30S-A1-12K-2MS** **CH30S-A1-16K-4MS** **CH30S-A1-18K-4MS** **CH30S-A1-20K-4MS** **CH30S-A1-24K-4MS** **CH30S-A1-27K-4MS** **CH30S-A1-30K-6MS** **CH30S-A1-36K-6MS** **CH30S-A1-41K-8MS** **CH30S-A1-43K-8MS**	**50** 5000K **40** 4000K **35** 3500K Other CCT available upon request	**80** 80+ CRI (standard) **90** 90+ CRI	**CL** Clear lens **FR** Frosted lens **AL** Aisle lens **NW** Narrow lens	**LV** 120-277V **HV**[11] 277-480V

- Leave Blank for No Cord -

MOUNTING	CONTROLS[1,2,3]	CORDS & PLUGS[10]		OPTIONS	DIMMING
CRM Cable-ready (standard) for suspension mounting or 3/4" stem mount **MBR**[7] Factory installed mounting box and bracket for surface mount applications - adds 1 1/2" to fixture height **STEM** Factory installed mounting box and bracket for stem mount applications - adds 1 1/2" to fixture height **HOOK** Field installed mounting kit, includes hook and one leveling Y-cable **Plate** and **Hanger** mount also available, sold and packaged separately, see Accessories, order as CRM. Other mounting options available, contact factory.	**EZ10** EZ-Connect™ Receptacle with Twist Lock system, for use with 0-10V control protocols (standard) **EZ18** EZ-Connect™ Receptacle with Twist Lock system and Zhaga Book 18 interface, for use with 0-10V control protocols Sensors not included, see Controls pages for available EZ10 products	**6' 18AWG cord with the following** **CW** Cord, 15A, 3-wire, no plug **DW** Dimming cord, 15A, 5-wire, no plug **C515** Cord, 15A, straight plug 120V (5–15P) **CL515** Cord, 15A, locking plug 120V (L5–15P) **CL715** Cord, 15A, locking plug 277V (L7–15P) **CL720** Cord, 20A, locking plug 277V (L7–20P) **CL2420** Cord, 20A, locking plug 347V (L24–20P) **CL820** Cord, 20A, locking plug 480V (L8–20P) **WINSTA** 12" 18/3 cord whip with WINSTA MIDI 770-104 female connector. For fixtures with corresponding WINSTA male connector	**10' 18AWG cord with the following** **10CW** Cord, 15A, 3-wire, no plug **15' 18AWG Cord with the following** **15CW** Cord, 15A, 3-wire, no plug **15DW** Dimming cord, 15A, 5-wire, no plug **15C515** Cord, 15A, straight plug 120V (5–15P) **15CL515** Cord, 15A, locking plug 120V (L5–15P) **15CL715** Cord, 15A, locking plug 277V (L7–15P) **15CL720** Cord, 20A, locking plug 277V (L7–20P) **15CL2420** Cord, 20A, locking plug 347V (L24–20P) **15CL820** Cord, 20A, locking plug 480V (L8–20P) Other cord options available, contact factory	**EM16**[6,8] Emergency Battery Backup (16W). For LV fixtures only **EM25**[6] Emergency Battery Backup (25W). For LV and HV fixtures **SRG**[11] Fixture installed 10kA surge protector fails to ON. When HV is selected, SRG needs to be added to the Part Number **SRGOFF**[12] Fixture installed 20kA surge suppression device, fails to OFF **WG** Fixture Wire Guard **QDC** Driver Quick Disconnect **BOX** Individual box packaging available	**10V** 0-10V

Ordering Examples

Standard: CH30S-A1-12K-2MS-40-80-CL-LV-CRM-EZ10-10V

With Options: CH30S-A1-12K-2MS-40-80-CL-LV-CRM-EZ10-**CW-EMB**-10V

DLC: CH30S-A1-12K-2MS-40-80-CL-[LV, HV]-[ALL MOUNTING OPTIONS]-EZ10-[ALL CORDS & PLUGS]-[ALL OPTIONS]-10V

ACCESSORIES

Must be ordered separately. Packaged separately.

FIXTURE ACCESSORIES[6]		
Part Number	**Type**	**Description**
SAFETYCABLE	Safety Kit	Gripple Safety Cable. Includes (one) 10 ft. aircraft cable with single snap hook, L-bracket, screw and nut. For use with HOOK, MBR, PLATE MOUNT or STEM mounting options.
CABLEKIT	Cable Kit	Gripple Cable Kit. Includes (two) 10 ft. aircraft "Y" cables and snap hooks (one pair).
CABLEKIT15	Cable Kit	Gripple Cable Kit. Includes (two) 15 ft. aircraft "Y" cables and snap hooks (one pair).
CABLEKIT20	Cable Kit	Gripple Cable Kit. Includes (two) 20 ft. aircraft "Y" cables and snap hooks (one pair).
HANGER	Hanger Mounting Option	Kit includes (two) wire V hangers. Order fixture with CRM mounting option.
PLATE	Plate Mounting Option	Kit includes hanging plate with mounting hole for 3/4" conduit and (four) each 10 ft. aircraft cables and snap hooks. Order fixture with CRM option.
	Power Supply Replacement	Power supply replacement available upon request. Contact factory for details.

BASIC CONTROLS

Controls are field installed, must be ordered as a new line item and will ship in a separate box.

BASIC SENSORS[1,2]

	Part Number	Description
	PIR-WH-EZ10	PIR Occupancy and Daylight Sensor, White Color, EZ-Connect Twist Lock System, Plug & Play, On/Off/Dim, 40' Max Mounting Height, IP65. Field installed.
	MW-WH-EZ10	Microwave Occupancy and Daylight Sensor, White Color, EZ-Connect Twist Lock System, Plug & Play, On/Off/Dim, 40' Max Mounting Height, IP65. Field installed.
	SEN-PROG	Infrared Remote Programmer for Occupancy Sensors. Required to change default settings, modes of operation, and detection sensitivity for all EZ10 basic sensors.

DEFAULT SETTINGS

For PIR and MW Sensors: Sensitivity=100%, Hold time=5min, Daylight sensor=disabled, Stand-by dim level=30%, Stand-by time=60min.

INFRARED REMOTE PROGRAMMER

Required to change default settings, modes of operation, and sensitivity.

Brightness	Light output during occupancy (70%, 80%, 90%, 100%).			**Daylight harvesting function.** Selects the current surrounding lux value as the daylight threshold.
Sensitivity	Detection area of the sensor (20%, 50%, 75%, 100%).			**Daylight sensor disabled.** All motion detected turns on the light, no matter how bright the natural light is.
Hold Time	Time the sensor waits to turn off or dim the light after the area is vacated.		**Stand-by Dim**	Light output during vacancy (0%, 10%, 30%, 50%).
Daylight Sensor	Daylight sensor status and daylight threshold values in lux.		**Stand-by Time**	Time the sensor keeps the light at stand-by dim level after the hold time has ellapsed.

Scene Modes

The remote comes with four pre-programmed modes. These can be used as is, or adjusted with different parameters and saved over an existing mode.

Scene	Application	Brightness	Sensitivity	Hold Time	Stand-by Dim	Stand-by Time	Daylight Sensor
MODE 1	Indoor	100%	75%	5min	30%	30min	Disabled
MODE 2	Indoor	100%	75%	1min	30%	+∞	Disabled
MODE 3	Indoor	100%	75%	5min	30%	30min	30lux
MODE 4	Outdoor	100%	75%	1min	30%	+∞	30lux/300lux

ULTRALINK BLUETOOTH CONTROLS

Controls are field installed, must be ordered as a new line item and will ship in a separate box.

ULTRALINK CONTROLLERS / SENSORS[1]

	Part Number	Description
	ULTRA-WH-EZ10	UltraLink Bluetooth NLC Wireless Receiver and Fixture Controller, White Color, EZ-Connect Twist Lock System, IP65, Silvair Firmware. Field installed.
	ULTRAHGA-CL-EZ10	UltraLink Bluetooth NLC Wireless Receiver and Fixture Controller with Long Range Antenna, Clear Color, EZ-Connect Twist Lock System, IP65, Silvair Firmware. Field installed.
	ULTRAPIR-WH-EZ10	UltraLink Bluetooth NLC Wireless Fixture Controller with PIR Occupancy and Daylight Sensor, White Color, EZ-Connect Twist Lock System, 40' Max Mounting Height, IP65, Silvair Firmware. Field installed.
	ULTRAMW-WH-EZ10	UltraLink Bluetooth NLC Wireless Fixture Controller with Microwave Occupancy and Daylight Sensor, White Color, EZ-Connect Twist Lock System, 40' Max Mounting Height, IP65, Silvair Firmware. Field installed.
	SEN-PROG	Infrared Remote Programmer for Occupancy Sensors. Only required for EZ10 UltraLink sensors to change detection sensitivity.

ULTRALINK ACCESSORIES

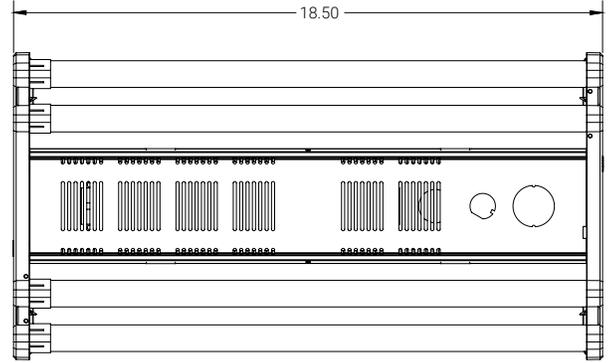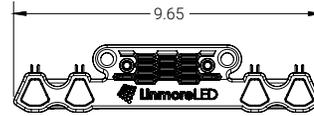|	Part Number	Description
	ULTRAGATEWAY	UltraLink Bluetooth NLC Wireless Gateway, required for Advanced Features and Time-Based Events. One gateway can control up to 200 fixtures, allowing for energy monitoring, people tracking, and scheduling. Interior installation only.
	ULTRAGATEWAY-4G	UltraLink Bluetooth NLC Wireless Gateway, RJ45 Ethernet Connector and SIM Card Slot for 4G Cellular Connectivity, PoE or 120V AC Power Adapter, Long Range Bluetooth Mesh, Hardware Security Module, Encrypted File System, Secure Boot, Interior installation only.
	ULTRAGATEWAY-EXT	UltraLink Bluetooth NLC Wireless Exterior Rated Gateway Box with Long Range Antenna, includes ULTRAGATEWAY. 120-277V Power Supply required.
	ULTRAGATEWAY-EXT-4G	UltraLink Bluetooth NLC Wireless Exterior Rated Gateway Box with Long Range Antenna and 4G Cellular Connectivity. Includes ULTRAGATEWAY-4G in a Vented, Temperature-Controlled NEMA Enclosure, Universal Voltage (120, 208, 240, 277, and 480V), Wall Mount, 24 Hour Battery Backup. Optional pole mount kit. Cellular data plans available.
	ULTRATIME-BAT	UltraLink Bluetooth NLC Time-Keeping Battery Backup includes an Outdoor Rated Enclosure, a Long Range Antenna and a Backup Battery. For use to keep time during a power outage and for in-node scheduling.
	ULTRADASH	UltraLink Dashboards for Energy, Occupancy Heat Mapping, and Energy Heat Mapping. Gateway (ULTRAGATEWAY) required, sold separately.

Bluetooth® NLC
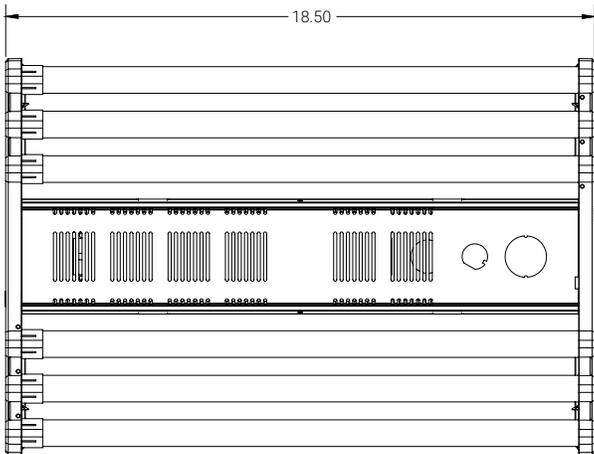
Technology Partner SILVAIR

DIMENSIONS

2MS

6.85

18.50

2.12
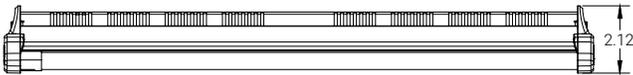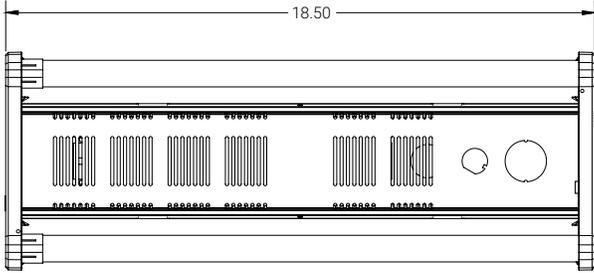
All models are the same height

4MS

9.65

18.50

6MS

12.45

18.50

8MS
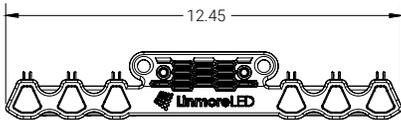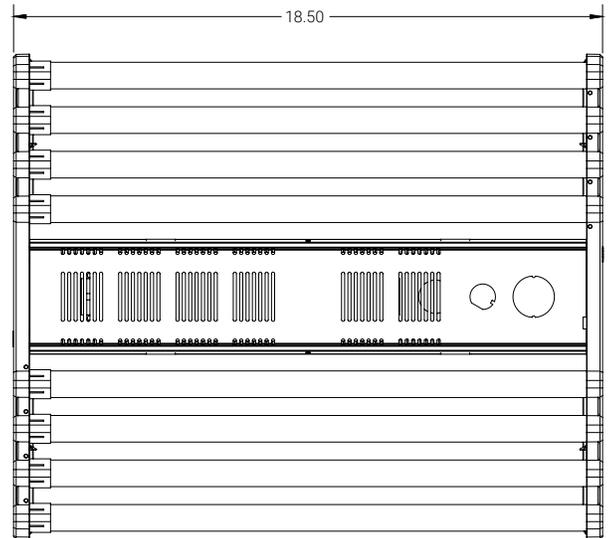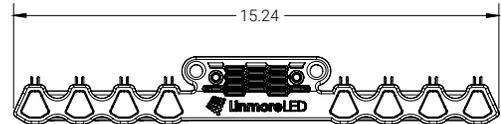
15.24

18.50

Size	Length	Width	Height	Weight
2MS	18.50"	6.85"	2.12"	~4.5lbs
4MS	18.50"	9.65"	2.12"	~6.3lbs
6MS	18.50"	12.45"	2.12"	~7.7lbs
8MS	18.50"	15.24"	2.12"	~9.1lbs

Notes

• MBR, STEM and EMB mounting options add 1 1/2" to fixture height.

• EZ-Connect controls add fixture height, consult control's spec sheet for accurate dimensions.

• Weights are approximate and vary by model, if weight is a concern, please contact factory.

FOOTNOTES

1. The performance of sensors and lenses is influenced by various factors beyond Linmore LED's control, including but not limited to environmental conditions, user settings, and proper maintenance. While we provide detailed specifications and guidelines to help optimize performance, we cannot guarantee or be held liable for the performance of sensors or lenses under any particular circumstance(s). Customers are advised to test the products in their specific application environments to ensure suitability for their intended use and are responsible for all sensor and lens selections.

2. Linmore LED recommends all fixtures equipped with controls and/or sensors should be ordered with SRG or SRGOFF option as controls and sensors are not protected by the internal surge suppression provided by the driver.

3. UltraLink controls require commissioning in the field via iOS app. Optional services available. Priced separately. Contact ultrasupport@linmoreled.com for pre-sale, installation, and activation queries.

4. LM-79, LM 80 tests and reports are performed in accordance to IESNA standards, per TM-21. Lumen maintenance in hours (L70 via TM-21) based on 24/7 operation.

5. Temperatures below -20°C have limited switch cycles, consult factory.

6. Fixtures with EM16 or EM25 have a range of operation from 0°C to 45°C (32°F to 113°F). When mounted to the ceiling, EM15 and EM25 max. ambient temp is 35°C. Factory installation only, not able to be field installed.

7. MBR reduces ambient range by 5°C when mounted flush to junction box.

8. 122-277V only.

9. Not DLC listed.

10. All cords are 18/3 AWG and 600V. DW and 15DW are 18/5 and 600V.

11. SRG is optional for all LV fixtures and mandatory (automatically included) for all HV fixtures. It includes a 10kA surge suppression device in which, when triggered, the fixture will fail in the "On" mode (fixture will illuminate).

12. SRGOFF includes a 20kA surge suppression device in which, when triggered, the fixture will fail in the "Off" mode (fixture will not illuminate).

13. Dimensions listed are for the fixture only. See dimensional drawings for measurements with mounting hardware. Weights are approximate and vary by model, if weight is a concern, please contact factory. Weight changes when battery backup or other options are added.

14. Extended lead time may apply.

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Updated: 2025/11/14