Life safety equipment
Emergency lighting systems

by ABB
Lightalarms® is a life safety solutions provider, delivering state-of-the-art systems and products into the emergency lighting marketplace. Our products and services are designed to provide the most effective protection and safety, in line with customer needs, relevant industry standards and regulations.
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INTRODUCTION

Highly skilled emergency lighting specialists
By partnering with Lightalarms®, you have access to our team of specialists with proven expertise in the emergency lighting industry. Our mechanical, electrical and software engineers and product designers work together under one roof. The team synergy and collaboration at our manufacturing center gives us unparalleled capabilities in design, innovation, quality, final assembly, testing, and service.

Long-term reliability
Lightalarms® products are built to last, with quality, safety, reliability, and ease of installation built into each product from the earliest design stage. We use specialized quality inspection capabilities to perform functional testing on Lightalarms® products. By meeting high internal quality and performance standards at every step from design to production to order fulfillment, we ensure excellence.

We are innovators and builders
As part of Thomas & Betts, a member of the ABB Group, our center of excellence benefits from frequent investment in the latest manufacturing technology. Automation is integrated throughout our manufacturing operations, optimizing efficiency to produce thousands of precision final assemblies each day.

Custom, flexible solutions meet your specialized requirements
• Architectural
• Industrial
• Commercial

We have the design expertise and capacity to create solution-based products that meet your needs. Our experts take great pride in developing products that solve challenging problems.

Fast delivery for express service
We keep ready-to-ship stock in warehouses across the U.S. for express service. As a North American manufacturer, we have complete control over lead time, quality, and service. Our manufacturing team of over 150 people is ready to produce exactly what you need without waiting for a large production run or overseas shipment.

Energy-efficient, innovative solutions
The Lightalarms® product design team is at the forefront of new lighting design applications. We’ve expanded our capabilities to transform your existing lighting into emergency lighting with our newest high-capacity mini inverters. With the low energy requirements of our high-performance LED fixtures you can use fewer units to provide necessary illumination.

We put the power of automation in your hands with our Nexus® emergency lighting management system. From one central location, you can see the status of every unit at a glance.

A partner you can trust
With Lightalarms®, you have
• Proven safety solutions
• A reliable business partner
• Industry experts
• Knowledgeable service
• North American manufacturing
• Peace of mind

To ensure your satisfaction, our knowledgeable North American service team works with you as your emergency lighting partners.
The ABB North American facility is an emergency lighting center of excellence thanks to the commitment, expertise, and creativity of every employee.

The new AOI (automated optical inspection) machine added to the ABB printed circuit board operation in 2012 is one of the first of its kind in use in North America.
**Nexus®**

Emergency lighting management system

Building & Life Safety Codes oblige building owners/managers to ensure the safe evacuation of a building in the event of an emergency.

Are you prepared for a safety inspection?
In the interest of public safety, building owners/managers must meet the outlined requirements for exit signs and emergency lighting equipment, including the following:
- Conduct a discharge test every month.
- Conduct functional tests annually.
- Keep a log book of maintenance information.

Complying with these requirements can be labor intensive and costly, especially in large buildings where testing every emergency light requires many man-hours. Disrupting the power supply during lengthy inspections can also put public safety at risk.

Manage testing with Nexus® to save time and costs
Nexus® is a real-time monitoring system that manages the status of your entire emergency lighting and Exit Sign system from a central control unit. Nexus® runs diagnostics, performs required monthly and annual functional tests, generates maintenance logs and runs compliance reports. Available in wired or wireless (RF) versions, Nexus® installations often pay for themselves in less than two (2) years. In addition to operational savings, Nexus® helps increase system reliability and performance and reduces the risk of failed inspections. One building or a group of properties under the same management can be monitored with Nexus®.

Maximize system availability
By allowing maintenance personnel to easily maintain and monitor the emergency lighting system without having to manually check each unit, Nexus® reduces the hours required to disrupt the power supply for inspections. With Nexus®, monthly tests and reports on the status of all emergency lights and exit signs can be done individually, in groups, or together.

Advantages of the Nexus® system include saving labor; maximizing system availability by testing units in groups and stages rather than setting all units in recovery mode; and the convenience of self-monitoring. Nexus® indicates the location of a faulty unit and reports it instantly without requiring a manual search.
One building or a group of properties under the same management can be monitored with Nexus®.

**Update Status Instantly**
Nexus® passes messages both to and from the emergency units to instruct the units to perform all mandatory testing by communicating between the emergency units and a centrally located controller. Nexus® is a proven system supported by a 5-year warranty, and can contribute to LEED certification and support green building initiatives.

**Small System Example**
In a system of less than 100 units it is most likely that the only hardware required, other than the emergency units themselves, is a controller. All communication would occur wirelessly and installation would not vary greatly from a nonmonitored system. Once the units are in place, the system will establish the mesh network. The building itself could be quite large as each unit only needs to be able to communicate with its close neighbors and does not need to communicate directly with the controller.

**Large System Example**
Nexus® is designed to enable building owners and managers to easily maintain and test emergency lighting, without the need to visually verify performance or disrupt the power supply.

With digital solutions, building owners now can have peace of mind knowing their buildings are safer than ever. All operations can be managed remotely, giving building owners and managers complete control wherever they are, whenever they need it most while preventing any human error in the process.

As with the small system example, site performance will be optimized through the careful selection and placement of Area Controller Routers to form efficient clusters. Building layout and materials will also play some role in determining the best solution to deliver a highly effective means of testing and maintenance requirements.

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For Nexus® compatibility please refer to individual product pages for complete details.
High output MR16 LED
Emergency lighting

**MR16 LED Illumination**
With the remarkable technology development in the last decade, the light-emitting diode (LED) is becoming the preferred solution in lighting applications. The emergency lighting industry is no exception: today virtually every new product introduced to market includes “white light” light LEDs for emergency illumination. Extremely efficient and long-lasting, LED lamps become the natural alternative to incandescent lamps due to three main advantages:

- **Lamp efficacy:** 50 - 100 lumen per watt compared to 15 - 30 lumen per watt for the best halogen lamp. Allowing for smaller batteries and units and/or remote capacity
- **Operational life:** 30,000+ hours, equivalent to a lifetime warranty in emergency lighting.
- **Lower lamp temperature:** (80 - 120°C) is a huge benefit for lighting in hazardous locations.

**MR16 LED Lamp Benefits**
- Reduces total cost of ownership, uses few fixture due to superior illumination, thus reducing installations cost and future maintenance of the entire system.
- UL-recognized components.
- Available for standard battery voltages 6V, 12V and 24V as well as 120V operation.
- Energy-efficient LED MR16 lamp provides equivalent lighting performance to a much higher watt halogen MR16 lamp.
- Reduces required battery capacity by 75%, for battery units and remote heads.
- Small profile, compact white lighting is ideal for architectural applications.
- Typical 30,000 hours of operational life.
- Vibration-resistant LED stands up to industrial environments.
- Ideal for indoor and outdoor use.

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**200-220-Lumen 4W MR16 LED**
Leading the technology trend, Lightalarms® offers a complete series of 4W MR16 LED lamps available for all the standard battery voltages: 6V, 12V, 24V and 120V. With up to 30,000 hours of operational life and a luminous flux of typically 200 to 220 lumens, they are available with most emergency heads designed to hold an MR16 lamp and meet the majority of illumination specifications. For example: one pair of LED emergency heads installed at a height of 7.5ft illuminates a 6ft by 55ft path of egress.

**340-Lumen 5W MR16 LED**
Keeping pace with technology, in 2012 we introduced a 12V-5W MR16 LED lamp. With a typical luminous flux of 340 lumens, this lamp has the same lighting performance as a 20W high-output halogen MR16. A twin emergency head installed at a height of 7.5ft illuminates 70ft path of egress. 6V-5W MR16 has been introduced in January 2020. A twin emergency head installed at a height of 7.5ft illuminates 70ft path of egress 70 ft.

**540-590 Lumen 6W MR16 LED**
A 6W MR16 LED lamp delivers up to 590 lumens for an average spacing in emergency lighting of 106 feet with an efficacy of 98.3 Lm/w, it is over 6 times the efficacy of a MR16 35W halogen with similar light output. This lamp can deliver the highest linear foot of illumination per watt on a path of egress! (spacing in feet / watt) 8.83ft compare to 1.37ft for a MR16 35W.
**High output MR16 LED**

Emergency lighting

**Case Study: Fewer MR16 LED units required**

Emergency lighting units with MR16 LED lamps provide the same illumination at floor level using significantly less units.  
- Reduced Installation Costs, less product needed and labor.  
- Reduced Energy Costs, keeping batteries charged at full capacity to be ready to respond to an emergency situation at any time.

**Compare**

Where the building code requires an average of 1 foot-candle and a minimum of 0.1 foot-candle at floor level along the path of egress on a 150’ x 9’ x 9’ corridor with an egress door at one end, a 150’ x 6’ path of egress, and a 7.5’ unit mounting height.

**Standard wedge-base 9W Incandescent Lamp**

Standard Emergency Lighting Units with 9W wedge-base incandescent lamps requires a total of 10 double-head units or remotes

**4W MR16 LED lamps**

Same Standard Emergency Lighting Units with 4W MR16 LED lamps requires a total of 5 double-head units or remotes.

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement number</th>
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<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>199</td>
<td>580.0097-L</td>
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<td>LD7</td>
<td>12</td>
<td>4</td>
<td>220</td>
<td>580.0093-L</td>
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<td>LD13</td>
<td>24</td>
<td>4</td>
<td>220</td>
<td>580.0098-L</td>
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<td>LD25</td>
<td>120</td>
<td>4</td>
<td>204</td>
<td>580.0095-L</td>
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**5W MR16 LED lamps**

Same Standard Emergency Lighting Units with 5W MR16 LED lamps requires a total of 3 double-head units or remotes

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement number</th>
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<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
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<td>LD9</td>
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<td>5</td>
<td>340</td>
<td>580.0104-L</td>
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**6W MR16 LED lamps**

Same Standard Emergency Lighting Units with 6W MR16 LED lamps requires a total of 2 double-head units or remotes

<table>
<thead>
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<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement number</th>
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<td>LD10</td>
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<tr>
<td>LD14</td>
<td>24</td>
<td>6</td>
<td>590</td>
<td>580.0100-L</td>
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# Circuitry

## Emergency lighting

### Improved Diagnostics Circuitry

**Self-Testing & Monitoring Diagnostic Circuitry**

By incorporating diagnostics features with a high-powered 8-bit microcontroller, our Improved Diagnostics system ensures unsurpassed reliability in one, totally contained system. In the event of a unit malfunction, the Improved Diagnostics system produces an audible warning in the form of an intermittent beep and the LED indicator associated with the fault will illuminate continuously. When the problem is acknowledged by depressing the alarm/silence/test button, the alarm is silenced and the LED indicator changes to a flashing mode until the problem is corrected. Continually monitors system parameters

- Incorporates state-of-the-art microcontroller technology
- D includes audio and visual service alarms
- DNA non-audible version for visual service alarms only
- Self-testing in accordance with NFPA101, Life Safety Code minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.

### pulse type circuitry

**Prolongs the life of a battery through pulse charging**

**Lightalarms** PulseType circuitry utilizes the latest in solid state design to provide a technically advanced charger combined with features and functions that promote long reliable battery life and excellent unit performance.

The design of the PulseType circuit takes into account the long periods of inactivity typical of standby emergency equipment. Batteries are kept at full capacity by a pulse charge that allows the battery to cycle continuously. This greatly reduces the problem of grid corrosion and dramatically increases battery performance.

**Lightalarms** computer-tests all active components on the circuit boards during assembly. Critical functions such as brownout, low voltage disconnect, and charge voltage are individually monitored and adjusted at the factory.

### Features

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<th>Description</th>
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<td>Battery Failure</td>
<td>(Red) Illuminates if the battery is shorted or battery voltage drops below preset value. Will also detect incorrect battery (ie. 6VDC vs. 12VDC)</td>
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<td>Battery Disconnect</td>
<td>(Red) Illuminates if the battery circuit is open.</td>
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<td>Charger Failure</td>
<td>(Red) Illuminates when charger is not functioning properly by monitoring the charger current.</td>
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<tr>
<td>Lamp Failure</td>
<td>(Red) Illuminates when one or more emergency lamps fail. Also monitors remote lamps.</td>
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<td>Service Alarm</td>
<td>(Red) Illuminates when a fault is detected that requires a qualified service technician.</td>
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<td>AC-On</td>
<td>(Green) Lit when line voltage is present.</td>
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<td>Charger On</td>
<td>(Amber) Illuminates when charger is recharging the battery.</td>
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<td>Alarm Silence / Manual Test Switch</td>
<td>Button is used to acknowledge and silence audible alarms. Also functions as a manual test switch to simulate a power failure.</td>
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<tr>
<td>Self Testing</td>
<td>Unit tests itself every thirty days for a minimum 30 seconds, thirty minutes on the sixth month and ninety minutes annually.</td>
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</tbody>
</table>

### To Order for Compatible Unit

Add Suffix: -ID (for audible circuit) to model number
Add Suffix: -IDNA (for non-audible circuit) to model number

Improved diagnostics (ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field (15 min) or it can be preset at the factory by including the suffix ID-TD* or IDNA-TD*

---

**Current Limited Output**

Extends battery life by preventing overheating and battery gassing during recharge.
Popular Options
Emergency lighting

Lightalarms® Emergency Lighting Units and Exit Signs are available with a range of options that can be added to enhance performance, simplify testing or adapt emergency battery units or exit signs for use in specific environments. Please refer to individual product pages to verify availability of individual options on specific equipment.

### Dual Circuit (Exit Signs)
Option provides two AC input circuits to permit 2 separate AC sources to energize the sign.

**Add Suffix:** -2

### Tamper Proof/Vandal Resistant Screws
Tamper proof screws may be used on certain units to avoid unauthorized entry to circuitry or vandalism.

**Add Suffix:** -VR

### Lamp Disconnect Switch
Option will disconnect lamp load when area is not in use during prolonged power failure. The switch may also be used to reactivate emergency power to remote or unit heads.

**Add Suffix:** -DS

### Photocell Test Switch
Allows for testing of an emergency battery unit, a Self-Powered battery back-up exit sign or combination unit by means of illuminating, with a flashlight, a photocell mounted in the bottom of the fixture.

For product compatibility please contact the factory.

**Add Suffix:** -P or -PST depending on series

### Flasher
The flasher option is used within Exit Signs to draw additional attention to the exit discharge area. When there is an emergency situation, the exit legend will illuminate as well as begin to flash thus drawing additional attention to the Exit Sign leading to a exit discharge.

**Add Suffix:** -FL

### Flasher/Buzzer
The flasher/buzzer option is used within Exit Signs to draw additional attention to the exit discharge area. When there is an emergency situation, the exit legend will illuminate as well as begin to flash and admit an audible buzzer thus drawing additional attention to the Exit Sign leading to a exit discharge.

**Add Suffix:** -FB

### Fire Alarm Activated Flasher
Fire Alarm Activated Flasher option is for an Exit Sign that is wired into the Fire Alarm system of a building via 24 volt wire. When the fire alarm is activated, the exit legend will flash and the Exit Sign will buzz to draw additional attention to the exit discharge area. This option will only activate when the fire system is activated.

**Add Suffix:** -FAF

### Fire Alarm activated Flasher/Buzzer
Fire Alarm activated Flasher/Buzzer option is for an Exit Sign that is wired into the Fire Alarm system of a building via 24 volt wire. When the fire alarm is activated, the exit legend will flash and the Exit Sign will buzz to draw additional attention to the exit discharge area. This option will only activate when the fire system is activated.

**Add Suffix:** -FBF

### Time Delay
Option is designed to be used in areas where HID type lamps are used for normal lighting. As these lamps require several minutes to re-strike and to produce their nominal lighting output, it is necessary to also hold the emergency lighting on for this period, even after the AC utility has been restored. A time delay unit can be helpful in areas where it is difficult to directly access an emergency lighting unit’s test switch. The power to the unit can be briefly switched off and on at the breaker panel, and the maintenance person can then return to the unit and observe a timed emergency operation.

**Add Suffix:** -T3 (15 minutes)

### Damp Location
Option for environments that are subject to moderate amounts of moisture (humidity), and a temperature range between 10°C (50°F) and 40°C (104°F). Example: partially protected exterior areas such as canopies, stairwells, etc.

**Add Suffix:** -DL

### Improved Diagnostic Circuitry (for exit signs)
Option is designed to continuously monitor the charger assembly, battery and LED assembly current. If a fault is indicated, the external service required indicator will illuminate. The diagnostic/self test will self test for minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually. Meets NFPA 101 Life Safety Code requirements for periodic testing.

**Improved Diagnostic (Audible) Add Suffix:** -ID, -DA

**Improved Diagnostic (Non-Audible) Add Suffix:** -IDNA, -D

### Improved Diagnostic Circuitry (for battery units)

**Improved Diagnostic (Audible) Add Suffix:** -ID

**Improved Diagnostic (Non-Audible) Add Suffix:** -IDNA

For complete Improved diagnostic circuitry details, refer to page 8.
Exit signs are required in every type of environment. Lightalarms® manufactures exit signs to meet the requirements of most environments and applications.
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**Lightalarms**
About Exit Signs

Unlike battery units, exit signs must be illuminated at all times, 24 hours, 7 days a week, during normal operation. During an emergency operation situation, such as a loss of AC power, the exit sign must be illuminated for a minimum of 90 minutes.

Legend
An exit sign legend is defined as a single word “EXIT” with chevron indicators to direct occupants of a building to the nearest exiting point of that building. Legends are required to meet visibility, brightness, uniformity, and lettering/background contrast maximum to minimum ratios. Legend standards require EXIT lettering dimensions to be a minimum of 6” high with a 3/4” stroke, and chevron indicators that are visible at 50 feet. Exit legends are available in red or green as required by local code requirements.

Illumination
The most popular light source to illuminate an exit sign is Light Emitting Diodes (LED) which all our Exit signs offer. We use red or green long-life, energy-efficient LEDs. LEDs are very energy efficient, limiting the energy each exit sign uses 24 hours a days, 7 days a week. The long life limits the maintenance required to replace lamps. There are two different methods typically used to illuminate an EXIT legend. The most common method is found in back-lit signs, which use an LED light source located behind the legend, illuminating through a red or green diffuser. The edgelit method uses a clear, white or mirrored acrylic face panel on which the legend is etched or silk-screened, and the LED light source is installed in the Exit Sign housing along the top edge of the panel, allowing the light to travel through the acrylic to illuminate the etched or a silk-screened legend. In general, back-lit exit signs are more economical and acrylic edge-lit exit signs are more high-end, elegant fixtures.

Operational types
There are typically 3 types of exit sign designs, AC-Only, AC/DC and Self-powered that ensure that an Exit sign will work under normal operation conditions and in emergency operation mode.

An AC-Only exit sign is illuminated under normal operation conditions by the AC utility power supplied to a building; emergency operation mode power is supplied by an AC inverter or generator.

An AC/DC exit sign is illuminated under normal operation by the AC utility power supplied to a building; emergency operation power is supplied by a DC power source, such as a battery unit with extra battery capacity to ensure that both the exit sign and the battery unit will run for 90 minutes.

A Self-powered or battery back-up exit sign is illuminated under normal operation by the AC utility power supplied to a building; emergency operation power is supplied by a battery contained inside the exit sign housing, providing illumination for a minimum of 90 minutes. A Combination Unit is also self-contained and commonly includes an exit sign and a two-headed battery unit combined into one unit. The exit sign is illuminated under normal operation, while the two heads only illuminate during emergency operation mode.

Environments
For vandal-resistant applications, standard exit signs can be made vandal resistant by using polycarbonate shields and/or tamper resistant screws, or a vandal-resistant exit sign such as the Severe™ Family Exit Series can be used. A damp location is an area that is indirectly subjected to moisture and typically uncontrolled temperatures, for example in a courtyard under an eave. NEMA-4X-rated exit signs are designed for harsh or corrosive environments where oil-, water-, and dust-tight construction is required. There are different NEMA ratings based on the application environment. Hazardous Location-rated equipment must be a type which will NOT itself contribute to the ignition of flammable or explosive substances present in the location of the emergency lighting unit. Hazardous locations include oil refineries, paint shops, dry cleaning plants, textile mills etc. Hazardous location-rated equipment is divided into different Classes and Groups, depending on the specific gases or chemicals present.

Options
Besides offering many different types of exit sign housings for various environments Lightalarms® also provides a wide choice of options to meet specific customer requirements. Self-Diagnostic/ Self-test features are designed to continuously monitor every critical function of the exit sign, battery, charger, LED lamps and lamp heads supplied with a combination Unit to ensure that the unit is working properly and is ready for an emergency situation. The flasher option allows the exit panel to flash to indicate that there is an emergency situation, thus drawing attention to the exit. The flasher/buzzer option allows the exit panel to flash and sound a buzzer to indicate that there is an emergency situation, thus drawing attention to the exit. A Fire Alarm activated flasher/ buzzer is connected to a fire alarm system via a 24V wire and will cause the exit sign panel to flash and sound a buzzer when a fire alarm is activated.

The Dual circuit feature allows input from a utility AC source as well as a secondary utility AC source. The Time Delay feature allows a Combination Unit to stay illuminated after the AC power is restored thus allowing HID lamps that may need re-striking to reach full illumination before returning to normal operation. Damp location operation is for exit signs that will be subjected to slight moisture and typically uncontrolled temperatures. The Cold Weather option allows the batteries inside of an exit sign to maintain an optimal temperature range to work properly to provide emergency back-up operation. Vandal-resistant screws and polycarbonate shields provide extra protection in areas where the exit sign may be subject to vandalism.
# Exit Signs Series

## Quick reference chart

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<td><strong>Available options</strong></td>
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<td><strong>Self-diagnostic</strong></td>
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<td><strong>Flasher/Buzzer</strong></td>
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<td><strong>Fire alarm active flasher</strong></td>
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<tr>
<td><strong>Vandal resistant screws &amp; face plate</strong></td>
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<td><strong>SPECIAL WORDING</strong></td>
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<td><strong>Wire guard - (wall)</strong></td>
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<td><strong>Wire guard - (ceiling)</strong></td>
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<td><strong>Wire guard - (end)</strong></td>
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<td><strong>Vandal resistant shield - (wall)</strong></td>
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<td><strong>Vandal resistant 4X shield - (wall)</strong></td>
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<td><strong>North America</strong></td>
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</tbody>
</table>

**NOTE:** This is a quick reference guide only. Refer to individual product pages for complete details regarding applicable models.
Simplicity™ Premium SLED & SPLED Series
Premium die-cast aluminum and laser-etched acrylic edge-lit exit sign

Construction
- Universal mount housing models use (D) dome and (P) pyramid, trim plate, trim ring and canopy made of die-cast aluminum
- Fully recessed only mount housing with (Z) flat trim plate includes steel back-box and hanger bars
- U-shaped clear acrylic legend panel features laser-etched letters and chevrons
- 6 inch EXIT lettering legend, available in red or green
- 8 inch EXIT lettering legend, available in red
- Choice of finishes: white, black or brushed aluminum, dark bronze, polished brass, polished chrome and painted

Mounting
- (D) Dome and (P) pyramid trim models modular design allows for surface, wall, end or ceiling mount, as well as, recessed wall or ceiling applications
- (D) Dome and (P) pyramid trim models include a canopy for surface wall, end or ceiling mount and for recessed wall or ceiling applications a trim ring and hanger bars for installation into t-bar grid
- (D) Dome and (P) pyramid trim models housing is brushed aluminum with conduit knock-out 1/2", top back and end
- (Z) Flat trim models are for RECESS MOUNTING ONLY and can not be used for surface mount applications
- (Z) Flat trim models include a unfinished steel back-box and hanger bars for installation into ceiling and t-bar grid

Special wording panels
Available. Contact your sales representative with your design requirements

Electronics
- Optional Improved Diagnostics
- Optional Nexus® monitoring system
- 120-277 60Hz

Approvals
- UL 924 listed
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
- ROHS compliant
- E-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit has a Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Housing color
- Brushed aluminum
- White
- Black
- Dark bronze (painted)
- Polished brass
- Polished chrome

Chevrons
- Chevron right (R) single face
- Chevron left (L) single face
- Single face, double chevron (1D) double face, double chevron (2D)

Trim plates
- (D) Dome Trim Plate
- (P) Pyramid Trim Plate
- (Z) Flat Trim

For recess mount applications ONLY (housing is not universal)
**Mounting applications available with dome (D) and pyramid (P) trim plates**

- **Surface wall mount**
- **Recessed ceiling mount**
- **Surface end mount**
- **Recessed mount only**

**When using (D) Dome Trim or (P) pyramid models:**

For Recessed mount, use these components:

- **Canopy**
- **Housing**
- **Trim plate**
- **Dome**
- **Pyramid**

For Surface mount, use these components:

- **Panel**
- **Trim plate**
- **Dome**
- **Pyramid**

**Dimensions (Dimensions are approximate and subject to change):**

<table>
<thead>
<tr>
<th>Mounting application</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface wall mount</td>
<td>12-1/4&quot; (31.3cm)</td>
</tr>
<tr>
<td>Recessed ceiling mount</td>
<td>16-3/4&quot; (42.7cm)</td>
</tr>
<tr>
<td>Surface end mount</td>
<td>10-5/8&quot; (27.1cm)</td>
</tr>
<tr>
<td>Recessed mount only</td>
<td>4&quot; (10cm)</td>
</tr>
</tbody>
</table>

**Power consumption chart**

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120-277VAC, 60Hz (Less than 1.4W)</td>
<td>6 to 24VDC (Less than 1.4W)</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120-277VAC, 60Hz (Less than 1.4W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120-277VAC, 60Hz (Less than 2.3W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
<tr>
<td>Self-powered diagnostic</td>
<td>120-277VAC, 60Hz (Less than 2.3W)</td>
<td></td>
</tr>
</tbody>
</table>

**Accessories (Order as a separate item)**

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PW-*</td>
<td>Pendant, white</td>
</tr>
<tr>
<td>PB-*</td>
<td>Pendant, black</td>
</tr>
<tr>
<td>PA-*</td>
<td>Pendant, gray</td>
</tr>
</tbody>
</table>

* Specify pendant length (12", 24", 36", etc).

**Ordering format**

<table>
<thead>
<tr>
<th>Legend</th>
<th>Series</th>
<th>Housing color</th>
<th>Legend color</th>
<th>Panel background color</th>
<th>Trim plate</th>
<th>Chevron</th>
<th>Charger type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>6&quot;</td>
<td>SLEDN</td>
<td>AL = Brushed aluminum</td>
<td>C = Clear (single face only)</td>
<td>D = Dome²</td>
<td>Blank = No chevon (single face sign)</td>
<td>AC only</td>
<td>-LP = Panel shipped separately</td>
</tr>
<tr>
<td></td>
<td>8 - 8&quot;</td>
<td>SPLEDN</td>
<td>W = White</td>
<td>W = White (single or double face)</td>
<td>P = Pyramid²</td>
<td>Blank = No chevon (double face sign)</td>
<td>-DC = AC/DC model</td>
<td>-FB = Flasher &amp; buzzer (SP only)</td>
</tr>
<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td>B = Black</td>
<td>M = Mirror (single or double face)</td>
<td>Z = Flat trim²</td>
<td>2 = No chevon (double face sign)</td>
<td>-ID = Self-test and diagnostic (SP only)</td>
<td>-NEXRF = Nexus² Wireless¹</td>
</tr>
<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td>DB = Dark bronze (painted)</td>
<td>L = Left chevron (on a single face sign)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
<td>-NEX = Nexus² Wired¹</td>
<td>-Y = Two circuits (AC only)</td>
</tr>
<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td>PB = Polished brass</td>
<td>RL = Left &amp; right chevron (double face sign, one chevon on each side)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
<td>-FAF = Fire alarm flasher (SP only)</td>
<td>-X = Back box shipped separate</td>
</tr>
<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td>CH = Polished chrome</td>
<td>1D = Double chevon (on single face)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
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<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td></td>
<td>2D = Double chevon (double face sign, two chevrons on each side)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
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<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td></td>
<td>UA = Single face with universal stick on chevrons (2 Qty)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
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<tr>
<td></td>
<td>EXIT</td>
<td></td>
<td></td>
<td>2UA = Double face with universal stick on chevrons (4 Qty)</td>
<td>Blank = Blank (double face sign)</td>
<td>Blank = Blank (double face sign)</td>
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</tr>
</tbody>
</table>

**Example:** SLEDNARWDLY

1 Consult your sales representative.
2 Universal housing for Surface or Recessed mount applications
3 Fully Recessed ONLY applications (not to be used for surface mount)
6” Simplicity™ Accessibility Series
Slim profile LED edge-Lit exit accessibility sign

Construction
- Housing made of extruded aluminum, canopy made of die-cast aluminum
- Legend panel features a curved contour for maximum illumination and clarity
- 6 inch EXIT lettering legend available in red with accessibility symbol
- Choice of housing and trim plate finishes, off white or textured aluminum
- Universal field selectable chevrons

Mounting
- Canopy included for wall, end or ceiling mount applications

Special Wording Panels
Available. Contact your sales representative with your design requirements

Approvals
- UL 924 listed
- RoHs compliant
- Connecticut State Fire Safety Code

PARA 1011.1.2
1011.1.2 Accessible exits. Where exit signs are required by Section 1011.1 of this code, accessible exit doors at the level of exit discharge that lead directly to accessible paths of exit discharge shall additionally be marked by the International Symbol of Accessibility. Such symbol shall be not less than 6 inches high and shall be incorporated into the required exit sign or shall be located directly adjacent to it. Such symbol shall meet the requirements of Section 1011.

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Housing color
- Textured aluminum
- Off white
Dimensions (Dimensions are approximate and subject to change):

Panel configuration

Symbol left
Symbol right

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120/277VAC, 50/60Hz (Less than 2W)</td>
<td>–</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120/277VAC, 50/60Hz (Less than 2W)</td>
<td>6 to 24VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120/277VAC, 50/60Hz (Less than 3W)</td>
<td>Ni-Cd battery (Min. 90 minutes)</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Panel configuration</th>
<th>Series</th>
<th>Housing color</th>
<th>Legend color</th>
<th>Face</th>
</tr>
</thead>
<tbody>
<tr>
<td>RISA = Right side, 6” letters &amp; International Symbol of Accessibility¹</td>
<td>SE = AC Only</td>
<td>TA = Textured aluminum</td>
<td>RC = Red on clear²</td>
<td>1 = Single face</td>
</tr>
<tr>
<td>LISA = Left side, 6” letters &amp; International Symbol of Accessibility¹</td>
<td>SES = AC/DC</td>
<td>OW = Off White</td>
<td>RW = Red on white</td>
<td>2 = Double face</td>
</tr>
<tr>
<td>SEN = Self-powered 90 Minutes</td>
<td>SEN = Self-powered 90 Minutes</td>
<td>RM = Red on mirror</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: LISASENTARW2

¹ Red legend / surface mount only
² Single face Only
Simplicity™ Economizer SE, SES & SEN Series
Surface or recessed mount edge-lit exit sign

Construction
- Recessed model steel housing with extruded aluminum trim plate
- Surface mount model extruded aluminum housing
- Panel features a curved contour for maximum illumination and clarity
- 6 inch EXIT lettering legend available in red or green
- 8 inch EXIT lettering legend available in red
- Choice of housing and trim plate finishes, off white or textured aluminum
- Universal field selectable chevrons

Mounting
- Recessed model: Fully recessed ceiling mount
- Recessed model includes hanger bars for lay-in installation in T-bar grid
- Surface mount model includes canopy for ceiling, wall or end mount

Special Wording Panels
Available. Contact your sales representative with your design requirement

Electronics
120/277 60Hz

Approvals
- UL 924 Listed
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
- E-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com
Dimensions (Dimensions are approximate and subject to change):

Surface mount

| 12" (30.48cm) | 12-1/2" (31.75cm) | 12" (30.48cm) |
| 10-1/8" (25.4cm) | 10-3/8" (26.2cm) | 1-5/8" (4.12cm) |
| 11-1/8" (28.25cm) | 11-1/4" (28.25cm) | 11-1/4" (28.25cm) |

Recessed ceiling mount

| 16" (40.6cm) | 4-1/4" (10.8cm) |
| 15-1/8" (38.3cm) | 3-3/8" (8.5cm) |
| 3-3/8" (8.5cm) | 7-1/8" (18.1cm) |
| 7-1/8" (18.1cm) | 11-3/4" (29.7cm) |

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120-277VAC, 50/60Hz (Less than 2W)</td>
<td>–</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120-277VAC, 50/60Hz (Less than 2W)</td>
<td>6 to 24VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120-277VAC, 50/60Hz (Less than 3W)</td>
<td>Ni-Cd (Min. 90 mins)</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>6 inch Series</th>
<th>Trim</th>
<th>Housing color</th>
<th>Legend color</th>
<th>Face</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE = AC-only</td>
<td>Blank</td>
<td>TA = Textured aluminum</td>
<td>RC = Red on clear¹</td>
<td>1 = Single face</td>
</tr>
<tr>
<td>SES = AC/DC</td>
<td>F = Recessed mount only (flat trim)</td>
<td>OW = Off white</td>
<td>RW = Red on white</td>
<td>2 = Double face</td>
</tr>
<tr>
<td>SEN = Self-powered</td>
<td>TA = Textured aluminum</td>
<td>OW = Off white</td>
<td>RM = Red on mirror</td>
<td></td>
</tr>
<tr>
<td>Example: SEFOWRC1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8 inch Series</th>
<th>Trim</th>
<th>Housing color</th>
<th>Legend color</th>
<th>Face</th>
</tr>
</thead>
<tbody>
<tr>
<td>8SE = AC-only</td>
<td>Blank</td>
<td>TA = Textured aluminum</td>
<td>RC = Red on clear¹</td>
<td>1 = Single face</td>
</tr>
<tr>
<td>8SES = AC/DC</td>
<td>TA = Textured aluminum</td>
<td>OW = Off white</td>
<td>RW = Red on white</td>
<td>2 = Double face</td>
</tr>
<tr>
<td>8SEN = Self-powered</td>
<td>TA = Textured aluminum</td>
<td>OW = Off white</td>
<td>RM = Red on mirror</td>
<td></td>
</tr>
</tbody>
</table>

Example: 8SEFOWRC1

¹ Single face only.
² Green on white not available.

1 Single face only. Green not available in 8".
Simplicity™ Universal Edge-Lit Series
Single and double face, surface and recessed* mount edge-lit exit sign

**Construction**
- High grade acrylic panel
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons
- Satin aluminum housing

**Mounting**
- Universal mount model
- Double face acrylic panel with mirror background, field adaptable for single face
- Pivoting panel design allows for recessed, surface, wall or ceiling mount installation
- A ratcheting mechanism allows the panel to be set in place from 0° to 180° for wall or sloped ceiling mounting
- Canopy included for surface wall, end or ceiling mount application
- Trim plate, 27 inch adjustable T-bar hangers and a junction box included for recessed* application

* Not intended for closed ceilings such as plaster and sheetrock.

**Electronics**
Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

**Approvals**
- UL 924 listed
- Damp location 50°F to 104°F (10°C to 40°C)

**Warranty** (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com
Dimensions (Dimensions are approximate and subject to change):

- **Recessed ceiling mount**
  - 14-1/2" (35.56 cm)
  - 11-1/2" (29.21 cm)
  - 7-1/8" (18.09 cm)

- **Recessed wall mount (side view)**
  - 3-1/2" (8.89 cm)
  - 9-3/8" (23.21 cm)

- **Surface wall mount**
  - 1-5/8" (2.54 cm)
  - 8-3/4" (20.32 cm)

- **Surface end mount**
  - 13" (33.02 cm)
  - 9-5/8" (24.13 cm)

- **Surface sloped ceiling mount**
  - 4-3/8" (10.64 cm)
  - 7-1/8" (18.09 cm)

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC-Only</td>
<td>120VAC, 60Hz (2.0-2.6W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>277VAC, 60Hz (2.6-3.1W)</td>
<td>–</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120VAC, 60Hz (2.0-2.6W)</td>
<td>Ni-Cd battery (Min. 90 Minutes)</td>
</tr>
<tr>
<td></td>
<td>277VAC, 60Hz (2.6-3.1W)</td>
<td>Ni-Cd battery (Min. 90 Minutes)</td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC-Only</td>
<td>120VAC, 60Hz (2.8-3.3W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>277VAC, 60Hz (3.5-4W)</td>
<td>–</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120VAC, 60Hz (2.8-3.3W)</td>
<td>Ni-Cd battery (Min. 90 Minutes)</td>
</tr>
<tr>
<td></td>
<td>277VAC, 60Hz (3.5-4W)</td>
<td>Ni-Cd battery (Min. 90 Minutes)</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Legend</th>
<th>Series</th>
<th>Legend color</th>
</tr>
</thead>
<tbody>
<tr>
<td>6= 6” EXIT single and double face with universal chevrons and mounting for surface or recessed</td>
<td>UEA= AC only</td>
<td>RM= Red on mirror</td>
</tr>
<tr>
<td></td>
<td>UEN= Self-powered</td>
<td>GM= Green on mirror</td>
</tr>
</tbody>
</table>

Example: 6UEARM
Simplicity™ Universal Combination Edge-Lit Series

Extruded aluminum edge-lit combo

Construction
- Extruded aluminum housing and trim plate
- Brushed aluminum finish
- Trim plate includes two fully tool-free adjustable, 2.5W LED heads, 400 Lumens each
- Acrylic panel featuring 6 inch silk-screened EXIT legend with field selectable chevrons
- Single face red or green on clear, double face red or green on mirror

Mounting
- Wall and ceiling surface and recessed mount
- Universal mounting on wall or ceiling, for surface or recessed applications
- Adjustable bar hanger included for recessed applications

Electronics
- High temperature long life Nickel Metal Hydride battery provides 90 minutes of emergency operation
- 120/277VAC 60Hz
- Optional: Improved-Diagnostics

Approvals
- UL 924 listed
- Damp location 41°F to 104°F (5°C to 40°C)

Warranty (subject to proper installation and maintenance)
Unit has a three-year limited warranty
Detailed warranty terms located online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Series</th>
<th>Spacing center-to-center (feet)</th>
<th>7.5 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6UEN*6</td>
<td></td>
<td>30°</td>
</tr>
</tbody>
</table>

1 FC average
0.1 FC min.
Dimensions (dimensions are approximate and subject to change):

Surface ceiling mount

Surface recessed wall mount

Recessed ceiling mount

Recessed wall mount

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>AC input</th>
<th>Voltage</th>
<th>Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6UENRM-2HO</td>
<td>120/277VAC, 60Hz</td>
<td>3.6V</td>
<td>NiHM 1800mAh</td>
</tr>
<tr>
<td>C6UENGM-2HO</td>
<td></td>
<td></td>
<td>NiHM 1800mAh</td>
</tr>
<tr>
<td>C6UENRM-2HO-ID</td>
<td></td>
<td></td>
<td>NiHM 2500mAh</td>
</tr>
<tr>
<td>C6UENGM-2HO-ID</td>
<td></td>
<td></td>
<td>NiHM 2500mAh</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Model</th>
<th>Legend</th>
<th>Series</th>
<th>Legend color</th>
<th>Heads</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Combo</td>
<td>UEN</td>
<td>RM = Red</td>
<td>2HO</td>
<td>Blank = Standard</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GM = Green</td>
<td></td>
<td>ID = Improved-Diagnostics</td>
</tr>
</tbody>
</table>

Example: C6UENRM-2HO-ID
Genesis™ ‘Over The Door & Floor Proximity’ Tandem Series
Single and double face, surface and recessed* mount edge-lit exit sign

Construction
• DX, DXN ‘Over the door’ exit faceplate, backplate and canopy are made of die-cast aluminum
• DX, DXN offers 6 inch EXIT lettering legend, available in red or green
• LL “Floor Proximity” exit faceplate is made of die-cast aluminum; backbox is made of steel
• LL offers 6 inch EXIT lettering legend, available in red or green
• Choice of finishes: white, black or brushed aluminum
• Universal field selectable chevrons

Mounting
• GXM, GXEM surface mount only
• Canopy included for ceiling mount applications
• Backplate features universal knockouts for a standard 4 inch junction box, used in wall mount applications
• FPGXLD surface mount or recessed mount
• Single face model only

Special Wording Panel
Not available

Electronics
• Standard Improved Diagnostics on GXEM
• Optional Nexus® monitoring system
• 120-277 60Hz

Approvals
• CSA-US (To UL 924 standards)
• Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>AC-Only 120/277VAC, 60Hz (1.5W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>AC-2 Circuit 120/120VAC &amp; 277/277VAC, 60Hz (2.6W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Self-powered 120/277VAC, 60Hz (3.8W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
<tr>
<td>Green</td>
<td>AC-Only 120/277VAC, 60Hz (0.9W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>AC-2 Circuit 120/120VAC &amp; 277/277VAC, 60Hz (3.3W)</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Self-powered 120/277VAC, 60Hz (5W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard</td>
<td>WG11-L</td>
</tr>
</tbody>
</table>

Frame/Face plate color

- Brushed aluminum
- Black
- White
Dimensions (Dimensions are approximate and subject to change):

**Over the door exits**

![EXIT]

- 13-1/4" (33.65 cm)
- 8-7/8" (22.54 cm)
- 1-5/8" (4.13 cm)

**Floor proximity surface mount exits**

![EXIT]

- 14-1/8" (35.88 cm)
- 1-1/8" (2.86 cm)
- 8-5/8" (21.91 cm)

**Floor proximity recessed mount exits**

![EXIT]

- 15-1/2" (39.37 cm)
- 9-3/4" (24.77 cm)
- 1-1/8" (2.86 cm)

How to order typical applications (Must be ordered as a Tandem, over the door with a floor proximity Exit sign):

- **Self-powered over the door**
  - Example model #: GXEMBRA-N
  - Low voltage wire
  - Floor-proximity surface mount
  - Example model #: BFPGXLDRS

- **AC-only over the door**
  - Example model #: GXMFRS-N
  - Low voltage wire
  - Floor-proximity surface mount
  - Example model #: BFPGXLDRS

**Ordering format** (Must order “Over the Door” GX or GXM Exit sign and a “Floor Proximity” FP-GL exit sign as a tandem)

**Over the door exit sign**

<table>
<thead>
<tr>
<th>Series</th>
<th>Frame color</th>
<th>Legend color</th>
<th>Face plate color</th>
<th>Version</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>GXM = AC-Only or 2 circuit model</td>
<td>A= Brushed Aluminum Body</td>
<td>R= Red</td>
<td>A= Brushed Aluminum</td>
<td>-N</td>
<td>-2= 2 circuit (120/120 or 277/277) (For use with GXM Series)</td>
</tr>
<tr>
<td>GXEM = Self-powered</td>
<td>B= Black Body</td>
<td>G= Green</td>
<td>B= Black</td>
<td>W= White</td>
<td></td>
</tr>
</tbody>
</table>

**Floor proximity exit sign**

<table>
<thead>
<tr>
<th>Frame color</th>
<th>Series</th>
<th>Legend color</th>
<th>Trim</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>A= Brushed aluminum body</td>
<td>FPGXLD= Floor Proximity Exit</td>
<td>R= Red</td>
<td>R= Recessed mount</td>
<td>LVR= Vandal resistant polycarbonate lens and screws</td>
</tr>
<tr>
<td>B= Black body</td>
<td></td>
<td>G= Green</td>
<td>S= Surface mount</td>
<td></td>
</tr>
<tr>
<td>W= White body</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example:** GXEMBRA-N

**Example:** AFPGXLDRR
Genesis™ GX & GXE Series

Die-cast aluminum LED exit sign

**Construction**
- Faceplate, backplate and canopy are made of die-cast aluminum
- 6 inch EXIT lettering legend, available in red or green
- 8 inch EXIT lettering legend, available in red
- Choice of finishes: white, black, brushed aluminum or dark bronze

**Mounting**
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-Box mounting

**Special Wording Panel**
Available. Contact your sales representative with your design requirements

**Electronics**
- Standard Improved Diagnostics on GXE
- Optional Nexus® monitoring system
- 120-277 60Hz
- Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

**Approvals**
- CSA-US (To UL 924 standards)
- Damp location optional 50°F to 104°F (10°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
- E-California Energy Commission Title 20

**Warranty** (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

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**Power consumption chart**

<table>
<thead>
<tr>
<th>Model (6 inch Exit legend)</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-only</td>
<td>120 to 347VAC, 50/60Hz (1.25W)</td>
<td>–</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120 to 347VAC, 50/60Hz (1.25W)</td>
<td>6 to 48VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120 to 347VAC, 50/60Hz (1.6W)</td>
<td>Ni-Cd battery (Minimum of 90 minutes)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model (8 inch Exit legend)</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-only</td>
<td>120 to 347VAC, 50/60Hz (2.5W)</td>
<td>–</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120 to 347VAC, 50/60Hz (2.5W)</td>
<td>6 to 48VDC (Less than 1.6W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120 to 347VAC, 50/60Hz (2.9W)</td>
<td>Ni-Cd battery (Minimum of 90 minutes)</td>
</tr>
</tbody>
</table>

**Frame/Face plate color**

- Brushed aluminum
- Black
- White
- Dark bronze (painted)
Dimensions (Dimensions are approximate and subject to change):

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pendant mount white</td>
<td>GPW-*</td>
</tr>
<tr>
<td>Pendant mount black</td>
<td>GPB-*</td>
</tr>
<tr>
<td>Pendant mount gray</td>
<td>GPA-*</td>
</tr>
<tr>
<td>Wire guard (wall mount) (6 in.)</td>
<td>WG13-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount) (6 in.)</td>
<td>WG14-L</td>
</tr>
<tr>
<td>Wire guard (end mount) (6 in.)</td>
<td>WG15-L</td>
</tr>
<tr>
<td>Vandal shield (wall mount)</td>
<td>VRC</td>
</tr>
<tr>
<td>Vandal shield, NEMA-4X (wall mount)</td>
<td>VRC-4X</td>
</tr>
</tbody>
</table>

* Specify pendant length (12", 24", 36", etc).

Ordering format

<table>
<thead>
<tr>
<th>No. of faces</th>
<th>Series</th>
<th>Housing cabinet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank= 6&quot; single face</td>
<td>GX= AC/DC Only</td>
<td>Letters</td>
</tr>
<tr>
<td>2= 6&quot; double face</td>
<td>GXE= Self-powered</td>
<td>6&quot; (15.24 cm)</td>
</tr>
<tr>
<td>8= 8&quot; single face</td>
<td>8= 8&quot; double face</td>
<td>8&quot; (20.32 cm)</td>
</tr>
</tbody>
</table>

Accessories

- Pendant mount white
- Pendant mount black
- Pendant mount gray
- Wire guard (wall mount) (6 in.)
- Wire guard (ceiling mount) (6 in.)
- Wire guard (end mount) (6 in.)
- Vandal shield (wall mount)
- Vandal shield, NEMA-4X (wall mount)

Example: GXEARA-N

1 Available with Self-Powered GXE exit only
2 NEX is CSA-US approved only
3 Include when ordering 6" models
4 Available on 6" models only
Galaxy™ XD & XDN Series
Die-cast aluminum LED exit sign

Construction
- Die-cast aluminum housing
- 6 inch EXIT lettering legend available in red or green
- Field-selectable chevrons
- Choice of finishes: white, black or brushed aluminum

Mounting
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-Box mounting

Electronics
- Optional Improved Diagnostics
- Optional Nexus® monitoring system
- 120/277 60Hz
- Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Special Wording Panels
Available. Contact your sales representative with your design requirements

Approvals
- UL 924 Listed
- Damp location optional 50°F to 104°F (10°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
- E-California Energy Commission Title 20

Warranty
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Frame/Face plate color
- Black
- White
- Brushed aluminum
Dimensions (Dimensions are approximate and subject to change):

![Exit Sign Dimensions Diagram]

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120/277VAC, 60Hz (Less than 2.5W)</td>
<td></td>
</tr>
<tr>
<td>AC / DC-remote</td>
<td>120/277VAC, 60Hz (Less than 2W)</td>
<td>6 to 48VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120/277VAC, 60Hz (Less than 3.3W)</td>
<td>Nickel-Cadmium battery (Minimum. of 90 minutes)</td>
</tr>
<tr>
<td>Self-powered with diagnostic</td>
<td>120/277VAC, 60Hz (Less than 2.8W)</td>
<td>Nickel-Cadmium battery (Minimum of 90 minutes)</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pendant mount white</td>
<td>XD-P*WT</td>
</tr>
<tr>
<td>Pendant mount black</td>
<td>XD-P*BK</td>
</tr>
<tr>
<td>Pendant mount gray</td>
<td>XD-P*TA</td>
</tr>
<tr>
<td>Wire guard (wall mount 6 inch)</td>
<td>WG11-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount 6 inch)</td>
<td>WG14-L</td>
</tr>
<tr>
<td>Wire guard (end mount 6 inch)</td>
<td>WH15-L</td>
</tr>
<tr>
<td>Vandal shield (wall mount)</td>
<td>VRC</td>
</tr>
<tr>
<td>Vandal shield, NEMA-4X (wall mount)</td>
<td>VRC-4X</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>No. of faces</th>
<th>Series</th>
<th>Backplate/ Frame color</th>
<th>Legend/ Face plate color</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1= Single face</td>
<td>XDA= AC-Only</td>
<td>B= Black</td>
<td>RB= Red/Black</td>
<td>Blank= No option</td>
</tr>
<tr>
<td>2= Double face</td>
<td>XDC= AC/DC</td>
<td>W= White</td>
<td>GB= Green/Black</td>
<td>-DL= Damp location (50°F minimum, 104°F maximum ambient, 10°C minimum, 40°C maximum)</td>
</tr>
<tr>
<td></td>
<td>XD21= Dual AC circuit (2 x 120V)</td>
<td>A= Brushed aluminum</td>
<td>RW= Red/White</td>
<td>-FAF= Fire alarm flasher</td>
</tr>
<tr>
<td></td>
<td>XD22= Dual AC circuit (2 x 277V)</td>
<td></td>
<td>GW= Green/White</td>
<td>(not available with XDN model)</td>
</tr>
<tr>
<td></td>
<td>XDN= Self-powered without Improved Diagnostics</td>
<td></td>
<td>RA= Red/Brushed aluminum</td>
<td>-FB= Flasher buzzer¹</td>
</tr>
<tr>
<td></td>
<td>XDNEX= Self-powered with Improved Diagnostics</td>
<td></td>
<td>GA= Green/Brushed aluminum</td>
<td>-FBB= Fire alarm activated flasher and Flasher buzzer¹</td>
</tr>
<tr>
<td></td>
<td>XDNEXRF= Nexus® Wired (consult your sales representative)</td>
<td></td>
<td></td>
<td>-FL= Flasher¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-LVR= Vandal resistant Polycarbonate lens and screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-VR= Vandal resistant screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Y= Open faceplate and special wording faceplate</td>
</tr>
</tbody>
</table>

Example: 2XDABRB

¹ Available with XDN, XDND, XDNEX and XDNEXRF models only.
Galaxy™ XDPC Series

Die-cast aluminum remote capacity exit sign

**Construction**
- Die-cast aluminum housing
- Panel features a curved contour for maximum illumination and clarity
- 6 inch EXIT lettering legend available in red or green
- Field-selectable chevrons
- Choice of finishes: white, black or brushed aluminum

**Mounting**
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-Box mounting

**Electronics**
- Optional Improved Diagnostics
- 120/277 60Hz

**Choice of battery**
- XDPCL model, (Lead-calcium battery) 6V-9W remote load capacity
- XDPCN model, (Nickel-Metal Hydride battery) 6V-12W remote load capacity
- XDPCX model, (Nickel-Metal Hydride battery) 6V-24W remote load capacity

**Special Wording Panels**
Available. Contact your sales representative with your design requirements

**Approvals**
- UL 924 Listed
- Damp location optional 50°F to 104°F (10°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards

**Warranty** (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

**Face plate color**
- Brushed aluminum
- Black
- White
**Dimensions** (Dimensions are approximate and subject to change):

Ceiling mount

- 12-7/8" (32.70 cm)
- 8-1/8" (20.63 cm)
- 10-7/8" (27.92 cm)
- 8-1/2" (21.59 cm)
- 1-7/8" (4.76 cm)

End mount

- 15-1/4" (38.73 cm)
- 8-1/2" (21.59 cm)
- 6" (15.24 cm)
- 6-1/4" (15.87 cm)
- 1-7/8" (4.76 cm)

Back mount

- 12-7/8" (32.70 cm)
- 1-7/8" (4.76 cm)
- 8-1/8" (20.63 cm)
- 6-1/4" (15.87 cm)
- 4-1/4" (10.8 cm)

**Power consumption chart**

<table>
<thead>
<tr>
<th>Series</th>
<th>AC Input</th>
<th>Maximum Voltage</th>
<th>Battery</th>
<th>1-1/2 hrs.</th>
<th>2 hrs.</th>
<th>3 hrs.</th>
<th>4 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDPCL</td>
<td>120/277VAC, 60Hz</td>
<td>0.13/0.06A (15W)</td>
<td>6V Lead-calcium</td>
<td>9</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>XDPCN</td>
<td>120/277VAC, 60Hz</td>
<td>0.13/0.06A (15W)</td>
<td>6V Nickel-Metal Hydride</td>
<td>12</td>
<td>9</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>XDPCX</td>
<td>120/277VAC, 60Hz</td>
<td>0.13/0.06A (15W)</td>
<td>6V Nickel-Metal Hydride</td>
<td>24</td>
<td>18</td>
<td>12</td>
<td>9</td>
</tr>
</tbody>
</table>

**Accessories** (Order as a separate item)

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard, back mount</td>
<td>WG13-L</td>
</tr>
<tr>
<td>Wire guard, ceiling mount</td>
<td>WG14-L</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>No. of faces</th>
<th>Series</th>
<th>Battery</th>
<th>Back plate/ Frame color</th>
<th>Legend/ Face plate color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Single face</td>
<td>XDPCL= LED exit</td>
<td>Lead-calcium</td>
<td>B= Black</td>
<td>RB= Red/Black</td>
<td>Blank= No options</td>
</tr>
<tr>
<td>2 = Double face</td>
<td></td>
<td>L= 6V-9W remote capacity</td>
<td>W= White</td>
<td>GB= Green/Black</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nickel Metal Hydride</td>
<td>A= Brushed aluminum</td>
<td>RW= Red/White</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>N= 6V-12W remote capacity</td>
<td></td>
<td>GW= Green/White</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X= 6V-24W remote capacity</td>
<td></td>
<td>RA= Red/Brushed aluminum</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GA= Green/Brushed aluminum</td>
<td></td>
</tr>
</tbody>
</table>

Example: 2XDPCLBRAIDNA

¹ Not available with ID and IDNA options
² Comes standard with ID and IDNA options
Galaxy™ Slim TX & TXE Series
Die-cast aluminum slim profile exit sign

Construction
- Die-cast aluminum
- 6 inch EXIT lettering legend, available in red or green
- Choice of finishes: all white, or black with brushed aluminum faceplate
- Field-selectable chevrons

Mounting
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-box mounting

Electronics
Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Dimensions (Dimensions are approximate and subject to change):

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-only</td>
<td>120/277VAC, 60Hz, Typical 1W (Less than 1.5W)</td>
<td></td>
</tr>
<tr>
<td>Self-powered</td>
<td>120/277VAC, 60Hz, Less than 3.3W (Less than 1.5)</td>
<td>Nd-Cd battery (Min. 90 mins)</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard (Wall Mount)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire Guard (Ceiling Mount &amp; End Mount)</td>
<td>WG5-L</td>
</tr>
</tbody>
</table>

Face plate color

- Brushed aluminum
- White

Warranty
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Example: TXEWRW
Galaxy™ XLD & XLED Series
LED die-cast aluminum exit fully recessed mount AC, AC/DC or self-powered exit signs

Dimensions (Dimensions are approximate and subject to change):

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>120VAC, 60Hz (Less than 1.4W)</td>
<td>—</td>
</tr>
<tr>
<td>AC/DC</td>
<td>277VAC, 60Hz (Less than 2W)</td>
<td>6VDC-48VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-Powered</td>
<td>120VAC, 60Hz (Less than 1.7W)</td>
<td>Ni-Cd battery (Min. 90 Minutes)</td>
</tr>
</tbody>
</table>

Face plate color
- Brushed aluminum
- Black
- White

Ordering format

<table>
<thead>
<tr>
<th>Model</th>
<th>Series</th>
<th>Legend/stencil color</th>
<th>Housing color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>R=</td>
<td>-XLD=</td>
<td>R= Red</td>
<td>A= Aluminum face</td>
<td>-DL= Damp location</td>
</tr>
<tr>
<td></td>
<td>-XLED=</td>
<td>G= Green</td>
<td>W= White face</td>
<td>-FB= Flasher buzzer (Self-Powered)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ni-Cd battery</td>
<td>B= Black face</td>
<td>-FAF= Fire alarm activated flasher (AC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-FAF= Fire alarm activated flasher (Self-Powered)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-VR= Vandal resist screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-LVR= Vandal resist shield and screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-2= Dual circuit operation (AC only)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Y= Open face</td>
</tr>
</tbody>
</table>

Example: R-XLEDRW-N
UX4 LED Steel Exit and Combination Series
Steel LED exit signs and combination units

Construction
• Steel housing
• Standard mist-white finish, optional black finish
• Heads available in thermoplastic
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons

Mounting
• Surface mount
• Canopy included for end or ceiling mount applications
• Universal J-Box mounting

Combo units
• UX4E Model, Lead-calcium battery, 6V-30W total battery capacity
• UX4EN Model, Nickel-Cadmium battery, 6V-24W total battery capacity

Exit sign
• UX4 Model, Exit Sign, AC-Only, 120/277VAC, 50/60Hz
• UX4N Model, Nickel-Cadmium battery

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>43'</td>
<td>36'</td>
</tr>
<tr>
<td>LD2</td>
<td>81'</td>
<td>64'</td>
</tr>
</tbody>
</table>

Unit Rating Chart (Combination unit)

<table>
<thead>
<tr>
<th>Battery type</th>
<th>DC Voltage (Volts)</th>
<th>Model</th>
<th>Battery capacity in watts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-1/2 hrs.</td>
</tr>
<tr>
<td>Lead-calcium</td>
<td>6</td>
<td>UX4E</td>
<td>30</td>
</tr>
<tr>
<td>Nickel-Cadmium</td>
<td>6</td>
<td>UX4EN</td>
<td>24</td>
</tr>
</tbody>
</table>

Lamp Head Source
• MR16 LED 6V 4W or 6V 5W

Electronics
• Improved Diagnostics
• Optional Nexus® monitoring system
• 120/277 60Hz

Special Wording Panels
Available. Contact your sales representative with your design requirements

Approvals
• UL 924 listed
• Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards
• E-California Energy Commission Title 20 (Exit sign only)

Warranty (subject to proper installation and maintenance)
Three-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Face plate color
- Brushed aluminum
- Black
- White
Dimensions (Dimensions are approximate and subject to change):

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120-277VAC, 50/60Hz (Less than 1.5W)</td>
<td>–</td>
</tr>
<tr>
<td>AC/DC</td>
<td>120-277VAC, 50/60Hz (Less than 1.5W)</td>
<td>6 to 24VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120-277VAC, 50/60Hz (Less than 3W)</td>
<td>Nd-Cd battery (Min. 90 minutes)</td>
</tr>
<tr>
<td>Combination</td>
<td>120-277VAC, 50/60Hz (Less than 5W)</td>
<td>See unit rating chart</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>White pendant</td>
<td>PW-*</td>
</tr>
<tr>
<td>Black pendant</td>
<td>PB-*</td>
</tr>
<tr>
<td>Wire guard (exit-ceiling or end mount)</td>
<td>WG5-L</td>
</tr>
<tr>
<td>Wire guard (exit-wall mount)</td>
<td>WG12-L</td>
</tr>
<tr>
<td>Wire guard (combination unit-wall mount)</td>
<td>WG6-L</td>
</tr>
</tbody>
</table>

Ordering format – AC-only and Self-powered Models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery type</th>
<th>Back plate/ Frame color</th>
<th>Legend/ Face Plate Color</th>
<th>Legend source</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>UX4</td>
<td>Blank= AC-only</td>
<td>W= White B= Black</td>
<td>RW= Red/White RB= Red/Black RA= Red/Aluminum GW= Green/White GB= Green/Black GA= Green/Aluminum</td>
<td>LED= LED</td>
<td>Blank= No options -ID= Improved Diagnostics -NEX= Nexus® wired¹ (consult your sales representative) -NEXRF= Nexus® wireless¹ (consult your sales representative) -DC= AC/DC 6V-24VDC -VR= Vandal resistant screws &amp; lens</td>
</tr>
</tbody>
</table>

Example: UX4WRWLED

¹ Available in self-powered only

Ordering format – UX4 LED Steel Exit & Combination units

<table>
<thead>
<tr>
<th>Series</th>
<th>Unit type</th>
<th>Back plate/ Frame color</th>
<th>Legend/ Face plate color</th>
<th>Legend source</th>
<th>Lamp head suffix</th>
<th>Lamp options</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>UX4</td>
<td>E= 6V-30W lead-calcium battery EN= 6V-24W Nickel-Cadmium battery</td>
<td>W= White B= Black</td>
<td>RW= Red/White RB= Red/Black RA= Red/Aluminum GW= Green/White GB= Green/Black GA= Green/Aluminum</td>
<td>LED= LED</td>
<td>/0= No heads /1ELF3= (1) ELF3 head /2ELF3= (2) ELF3 heads</td>
<td>LD1= 6V-4W MR16 LED LD2= 6V-5W MR16 LED</td>
<td>Blank= No options -ID= Improved Diagnostics (audible)¹ -NEX= Nexus® wired¹ -NEXRF= Nexus® wireless¹ -T3= Time Delay 15 minutes -VR= Vandal resistant screws</td>
</tr>
</tbody>
</table>

Example: UX4EWRWLED/2ELFLD1

¹ Not available with EN model
Grande™ Exit Series
Specification-grade, LED, thermoplastic, snap together exit sign

Construction
• Mist white or black UV stabilized thermoplastic enclosure
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons

Mounting
• Surface mount
• Canopy included for end or ceiling mount applications
• Universal J-Box mounting

Special Wording Panels
Available. Contact your sales representative with your design requirements

Electronics
• Optional Improved Diagnostics
• Optional Nexus®Pro IoT monitoring system
• Optional Nexus® wired and wireless monitoring system
• 120/277 60Hz
• Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Grande™ Thermoplastic Family
Grande™ Combo series
PG. 38-39
Grande™ Compact Battery series
PG. 88-89
Grande™ Battery series
PG. 90-91
ELF640 & ELF650
Remote series
PG. 136-137

Approvals
• UL 924 Listed
• Damp location 32°F to 104°F (0°C to 40°C)
• Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
• E-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Housing color
Black
White

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# Dimensions

(Dimensions are approximate and subject to change):

![EXIT Signs Diagram](image)

11-7/8" (30.16 cm)
12-7/8" (32.71 cm)
2" (5.08 cm)

---

## Power Consumption Chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120/277VAC, 60Hz (Less than 2.5W)</td>
<td>–</td>
</tr>
<tr>
<td>AC / DC-remote</td>
<td>120/277VAC, 60Hz (Less than 2W)</td>
<td>6 to 48VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-powered</td>
<td>120/277VAC, 60Hz (Less than 3.3W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
<tr>
<td>Self-powered with Diagnostic</td>
<td>120/277VAC, 60Hz (Less than 2.8W)</td>
<td>Nickel-Cadmium battery (Min. 90 minutes)</td>
</tr>
</tbody>
</table>

## Accessories

(Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard, Back mount</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount and end mount)</td>
<td>WG5-L</td>
</tr>
<tr>
<td>Pendant white</td>
<td>GRA-P*-W</td>
</tr>
<tr>
<td>Pendant black</td>
<td>GRA-P*-B</td>
</tr>
</tbody>
</table>

*Specify pendant length (12", 24", 36" etc)*

---

## Ordering Format

<table>
<thead>
<tr>
<th>Series</th>
<th>Unit type</th>
<th>Legend color/ # of face</th>
<th>Housing color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAN</td>
<td>AC= AC-Only (120/277V)</td>
<td>R= Red universal</td>
<td>W= White</td>
<td>BA= Brushed aluminum exit stencil</td>
</tr>
<tr>
<td></td>
<td>DC= 120/277VAC &amp; 6 to 48VDC</td>
<td>G= Green universal</td>
<td>B= Black</td>
<td>-FAF= Fire alarm activated flasher (AC, DC, 21,22 or ND models only)</td>
</tr>
<tr>
<td></td>
<td>21= Dual AC circuit (2x120V)</td>
<td>R1= Red single face³</td>
<td></td>
<td>-FB= Flasher buzzer (ND model only)</td>
</tr>
<tr>
<td></td>
<td>22= Dual AC circuit (2x277V)</td>
<td>R2= Red double face³</td>
<td></td>
<td>-FBF= Flasher Buzzer + Fire alarm activated flasher (ND model only)</td>
</tr>
<tr>
<td></td>
<td>N= Self-powered Nickel-Cadmium</td>
<td>G= Green single face³</td>
<td></td>
<td>-FL= Flasher (ND model only)</td>
</tr>
<tr>
<td></td>
<td>ND= Self-powered with Improved Diagnostics circuitry</td>
<td>G2= Green double face³</td>
<td></td>
<td>-LVR1= Polycarbonate shield with tamper proof screws</td>
</tr>
<tr>
<td></td>
<td>-NEX= Nexus® wired¹</td>
<td>Open face²</td>
<td></td>
<td>-VR= Vandal-resistant screws</td>
</tr>
<tr>
<td></td>
<td>-NEXP= Nexus®ProLoT¹</td>
<td>RW= Red on white universal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-NEXRF= Nexus® wireless¹</td>
<td>GW= Green on white universal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Universal= (2) faceplates, (1) backplate and (1) canopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single face= (1) faceplate, (1) backplate and (1) canopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double face= (2) faceplates and (1) canopy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1 Consult your sales representative
2 Open face required with special wording legends
3 Specify single or double for LVR1 or VR options only

---

**Example:** GRANACRW
Grande™ Combination Series
Specification-grade, LED, thermoplastic, snap-together combination unit

Construction
• Mist white or black UV stabilized thermoplastic enclosure
• Clear polycarbonate lens covers
• Choice of MR16 LED lamp voltages and wattages
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons

Mounting
• Surface mount
• Canopy included for ceiling mount applications
• Universal J-Box mounting

Choice of battery
• 6V or 12V lead-calcium battery
• 6V or 12V Nickel-metal hydride battery

Special Wording Panels
Available, contact your sales representative with your design requirements

Grande™ Thermoplastic Family

Electronics
• Optional Improved Diagnostics
• Optional Nexus®Pro IoT monitoring system
• Optional Nexus® wired and wireless monitoring system
• 120/277 60Hz

Approvals
• UL 924 Standards listed
• Nickel-Metal Hydride battery combination units UL listed for damp location 50°F to 104°F (10°C to 40°C)
• Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards

Warranty
(subject to proper installation and maintenance)
Five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
<td>57'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
<td>60'</td>
</tr>
</tbody>
</table>

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Dimensions (Dimensions are approximate and subject to change):

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (wall mount)</td>
<td>WG2-L</td>
</tr>
<tr>
<td>Pendant white</td>
<td>GRA-P-W</td>
</tr>
<tr>
<td>Pendant black</td>
<td>GRA-P-B</td>
</tr>
</tbody>
</table>

Specify pendant length (12", 24", 36" etc.)

Convert to single face to double face in the field

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red/white</td>
<td>005715-L</td>
</tr>
<tr>
<td>Red/black</td>
<td>005716-L</td>
</tr>
<tr>
<td>Green/white</td>
<td>005717-L</td>
</tr>
<tr>
<td>Green/black</td>
<td>005718-L</td>
</tr>
</tbody>
</table>

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>AC input</th>
<th>Current draw</th>
<th>Voltage</th>
<th>Battery</th>
<th>1-1/2hrs</th>
<th>2 hrs</th>
<th>3 hrs</th>
<th>4 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR612M</td>
<td>120/277VAC, 60Hz</td>
<td>0.11/0.05A</td>
<td>6V</td>
<td>Lead-calcium</td>
<td>12</td>
<td>8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>GR612H</td>
<td></td>
<td>0.11/0.05A</td>
<td>6V</td>
<td>Nickel-Metal Hydride</td>
<td>12</td>
<td>9</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>GR624M</td>
<td>120/277VAC, 60Hz</td>
<td>0.22/0.08A</td>
<td>12V</td>
<td>Lead-calcium</td>
<td>24</td>
<td>16</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>GR1224H</td>
<td></td>
<td>0.22/0.08A</td>
<td>12V</td>
<td>Nickel-Metal Hydride</td>
<td>24</td>
<td>18</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>GR1240H</td>
<td></td>
<td>0.22/0.08A</td>
<td>12V</td>
<td>Nickel-Metal Hydride</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>GR1250H</td>
<td></td>
<td>0.22/0.08A</td>
<td>12V</td>
<td>Nickel-Metal Hydride</td>
<td>50</td>
<td>36</td>
<td>24</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Battery capacity in watts¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR612M</td>
</tr>
<tr>
<td>GR612H</td>
</tr>
<tr>
<td>GR624M</td>
</tr>
<tr>
<td>GR1224H</td>
</tr>
<tr>
<td>GR1240H</td>
</tr>
<tr>
<td>GR1250H</td>
</tr>
</tbody>
</table>

¹National Electrical Code specification. Note: LED Exit AC Illumination draws less than 2W.

Ordering format

<table>
<thead>
<tr>
<th>Series/ battery type/ capacity</th>
<th>Legend color</th>
<th># of face</th>
<th>Housing color</th>
<th># of heads</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead-calcium</td>
<td>R= Red</td>
<td>1= Single face (ceiling or wall mount)</td>
<td>W= White</td>
<td>Blank= No heads</td>
<td>MR16 LED Lamps</td>
<td>Blank= No option</td>
</tr>
<tr>
<td>GR612M= 6V-12W</td>
<td>G= Green</td>
<td>1N= Single face no canopy (wall mount)</td>
<td>B= Black</td>
<td>2= Two heads</td>
<td>LD1= 6V-4W</td>
<td>-ID= Improved Diagnostics (audible)¹</td>
</tr>
<tr>
<td>GR624M= 6V-24W</td>
<td></td>
<td>2= Double face (ceiling mount)</td>
<td></td>
<td></td>
<td>LD2= 6V-8W</td>
<td>-IDNA= Improved Diagnostics (non-audible)¹</td>
</tr>
<tr>
<td>GR1224M= 12V-24W</td>
<td></td>
<td>U= Universal 2 faces, backplate and canopy</td>
<td></td>
<td></td>
<td>LD7= 12V-4W</td>
<td>-NEX= Nexus® wired²</td>
</tr>
<tr>
<td>Nickel Metal Hydride</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LD9= 12V-5W</td>
<td>-NEXP= Nexus® Pro IoT¹</td>
</tr>
<tr>
<td>rated damp location</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LD10= 12V-6W</td>
<td>-NEXRF= Nexus® wireless¹</td>
</tr>
<tr>
<td>GR612H= 6V-12W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-BA= Brushed aluminum exit stencil</td>
</tr>
<tr>
<td>GR1224H= 12V-24W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-FAF= Fire alarm activated flasher</td>
</tr>
<tr>
<td>GR1240H= 12V-40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-FB= Flasher buzzer</td>
</tr>
<tr>
<td>GR1250H= 12V-50W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-FBF= Flasher buzzer + Fire alarm activated flasher</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-FL= Flasher</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-LVR= Vandal resistant Polycarbonate lens and screws²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-T3= Time delay (15 minutes)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-VR= Vandal resistant screws²</td>
</tr>
</tbody>
</table>

Example: GR612MR1W2LD10

¹Not available with GR1250H
²Not available with universal faces
Quick™ QLX & QLXN Series
Economical, thermoplastic LED exit signs

Construction
- UV stabilized thermoplastic body
- 6 inch EXIT lettering legend, available in red or green
- Field selectable chevrons

Mounting
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-Box mounting

Electronics
- Optional Improved Diagnostics
- 120/277 60Hz
- Sealed maintenance free Nickel-Cadmium battery for self-powered models
- Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Power consumption chart
| AC input | 120/277VAC, 60Hz maximum 2.5W |

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (wall mount)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount and end mount)</td>
<td>WG5-L</td>
</tr>
</tbody>
</table>

Finishes
- Mist white

Approvals
- UL 924 listed
- Damp location 50°F to 104°F (10°C to 40°C)
- UL 94, 5VA flame rated

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Dimensions (Dimensions are approximate and subject to change):

| 7-1/4" | 11-13/16" |
| 18.42 cm | 30.01 cm |

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Legend color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLX500= AC-Only</td>
<td>RN= Red</td>
<td>Blank= No option</td>
</tr>
<tr>
<td>QLXN500= Self-powered</td>
<td>GN= Green</td>
<td>-ID= Improved Diagnostics (audible)¹</td>
</tr>
<tr>
<td>Example: QLXN500RN</td>
<td></td>
<td>-RID= Remote capacity 3.6V-3.6W</td>
</tr>
</tbody>
</table>

¹ Available with red legend only
² Remote capacity for (1) LOARDSQLED, (1) ELF612D/LED or (2) ELF612/LED remote heads only
Quick™ QLX & QLXN Series
Economical, thermoplastic LED black exit signs

Construction
- UV stabilized thermoplastic body
- 6 inch EXIT lettering legend, available in red or green
- Field selectable chevrons

Mounting
- Surface mount
- Canopy included for end or ceiling mount applications
- Universal J-Box mounting

Finishes
Black

Electronics
- 120/277 60Hz
- Sealed maintenance free Nickel-Cadmium battery for self-powered models

Approvals
- UL 924 listed
- Damp location 50°F to 104°F (10°C to 40°C)
- UL 94, 5VA flame rated

Warranty (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Power consumption chart

| AC input                     | 120/277VAC, 60Hz maximum 2.5W |

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (wall mount)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount and end mount)</td>
<td>WG5-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Legend color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLX500</td>
<td>RB= Red</td>
<td>Blank= No option</td>
</tr>
<tr>
<td>QLXN500</td>
<td>GB= Green¹</td>
<td></td>
</tr>
</tbody>
</table>

Example: QLXN500RB

¹ Available on AC Exit only
LAXC LED Series
Combination unit with light bar

Construction
- Off-white UV stabilized thermoplastic enclosure
- 6 inch EXIT lettering legend, available in red or green
- Universal single or double face
- Field selectable chevrons
- Light bar consumes 4.5 watts
- Adjustable lens for optimal light output
- 5VA Flame retardant thermoplastic
- Remote capacity for (1) ELF612D/LED or (2) ELF612/LED

Mounting
- Surface and wall mount
- Canopy included for end or ceiling mount application
- Universal J-box mounting

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7.5 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12'</td>
</tr>
</tbody>
</table>

Electronics
- 120/27760 Hz
- 4.8V long life nickel cadmium battery

Approvals
- UL 924 listed
- Damp location 32°F to 122°F (0°C to 50°C)

Warranty
Three-year full warranty
Detailed warranty terms located on page 197 of the catalog or online at: www.lightalarms.com

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (wall mount)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (ceiling or end mount)</td>
<td>WG5-L</td>
</tr>
<tr>
<td>Pendant white</td>
<td>PW*</td>
</tr>
</tbody>
</table>

*(Specify length of pendant (12"), 24", 36" etc.)

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAXC-RLP</td>
<td>120/277VAC, 7.5W</td>
<td>4.8V nickel-cadmium battery (min. 90 minutes)</td>
</tr>
<tr>
<td>LAXC-GLP</td>
<td>120/277VAC, 7.5W</td>
<td>4.8V nickel-cadmium battery (min. 90 minutes)</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Legend color</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAXC</td>
<td>Combination unit with light bar</td>
</tr>
<tr>
<td>LAXC-RLP</td>
<td>RED with light bar</td>
</tr>
<tr>
<td>LAXC-GLP</td>
<td>GREEN with light bar</td>
</tr>
</tbody>
</table>

Example: LAXC-RLP
ELF612D/LED Series
Thermoplastic square LED outdoor remote heads

Housing
- ELF612D/LED remote series
  - is multi-volt 3.6, 6 or 12V, 3W total
- Thermoplastic housing and aluminum canopy
  - with fully adjustable LED heads
- Suitable for outdoor application
- Suitable for wet location applications
- Wall or ceiling mount
- Available only in gray or black, single or double head configuration

Approvals
- UL924 Listed

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Ordering format – ELF612D/LED Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Options</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF612</td>
<td>Single</td>
<td>Blank= Gray</td>
</tr>
<tr>
<td>ELF612D</td>
<td>Double</td>
<td>BK= Black</td>
</tr>
<tr>
<td>/LED= Thermoplastic square LED head</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: ELF612D/LED
Square Head LED LCAC-2SQLED Series
LED Exit and heads thermoplastic combination unit

Construction
- Frame, faceplate, backplate and canopy are made of thermoplastic
- 6 inch exit lettering legend, available in red or green

Mounting
- Surface mount
- Universal model includes (2) faceplates, (1) backplate and (1) canopy
- Canopy included for ceiling mount applications / end mount
- Backplate features universal knockouts for a standard 4 inch junction box used in wall mount applications

Finishes
Finished in mist-white

Chevrons
Faceplate includes two field-selectable, snap-in/out chevron indicators

Exit legend LEDs
Red or green long-life Light Emitting Diodes (LED) illumination

Remote Capacity/comboination units
LCAC-2SQLEDR and LCAC-2SQLEDRID feature a 3.6V Ni-Cd battery with two 1W LED heads attached as well as 3W of remote capacity for ELF612D/LED or LCARDSQLED

Lamp head source
- 3.6V-1W LED head
- Lamp heads are fully adjustable to top or side with no tools required
- Total 200 lumens, LED CCT 6000K

Self-Diagnostics
Combination models available with or without Improved Diagnostics

Approvals
- Listed to UL 924 Standards
- UL listed for Damp location 50°F to 104°F (10°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC

Warranty (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>13'</td>
<td>4'</td>
<td></td>
</tr>
</tbody>
</table>

Power consumption chart

<table>
<thead>
<tr>
<th>Description</th>
<th>AC input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard (heads in any position) wall mount</td>
<td>120/277VAC, 60Hz, 0.048A</td>
</tr>
<tr>
<td>Replacement battery LCAC</td>
<td>022434-L</td>
</tr>
<tr>
<td>Replacement battery LCAC-2SQLERD &amp; LCAC-2SQLERDID</td>
<td>022435-L</td>
</tr>
</tbody>
</table>
Dimensions (Dimensions are approximate and subject to change):

LCAC-SQLED Combination Series Combination Unit Includes (2) heads only, dimension shown for top mount or side mount applications

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Legend color</th>
<th>Head style / lamp</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAC</td>
<td>R = Red</td>
<td>2SQLED = 2 Square 1W each LED heads</td>
<td>Blank= No option, R= Remote capacity¹, RID= Remote capacity and Improved Diagnostics¹</td>
</tr>
</tbody>
</table>

Example: LCACR2SQLEDRID

¹To be used with the LCARDSQLED or ELF612D/LED remote only.

LCARDSQLED Series
Thermoplastic square LED indoor remote heads

Housing
• Thermoplastic dual head remote
• Wall or ceiling mount

Lamp information
• LED 3.6V, 2W total
• 6000K LED color temperature

Approvals
• Damp location listed
• UL924 Listed

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Dimensions

Ordering format – LCARDSQLED Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Head style / Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAR</td>
<td>D= Double</td>
<td>SQLED= Thermoplastic square LED head</td>
</tr>
</tbody>
</table>

Example: LCARDSQLED

ELF612D/LED Series
Thermoplastic square LED outdoor remote heads

Housing
• ELF612D/LED remote series is multi-volt 3.6, 6 or 12V, 3W total
• Thermoplastic housing and aluminum canopy with fully adjustable LED heads
• Suitable for outdoor application
• Suitable for wet location applications
• Wall or ceiling mount
• Available only in gray or black, single or double head configuration

Approvals
• UL924 Listed

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Dimensions

Ordering format – ELF612D/LED Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Options</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF612D/LED</td>
<td>Blank= Gray, Bk= Black</td>
<td></td>
</tr>
</tbody>
</table>

Example: ELF612D/LED
Cluster™ LED Round Head UQLXN500-2LED Series
Thermoplastic LED combination unit

Construction
- UV stabilized thermoplastic body
- Fully adjustable and reversible Cluster™ LED glare-free heads
- 6 inch EXIT lettering legend, available in red or green
- Universal faces (2 faceplates, 1 backplate)
- Field selectable chevrons

Mounting
- Surface mount
- Canopy included for ceiling mount applications
- Universal J-Box mounting finishes

Type of battery
3.6V Nickel-Cadmium battery

Lamp Head Source
White LED 3.6V-4W, with life expectancy 50,000+ hours

Electronics
- Optional Improved Diagnostics
- 120/277 60Hz

Approvals
- UL 924 listed
- Damp location (50F to 104F)
- UL 94, 5VA flame rated

Warranty  (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Current (A) / Power (W)</th>
<th>120VAC, 60Hz</th>
<th>277VAC, 60Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>UQLXN500R-2LEDR</td>
<td>0.044/3.56</td>
<td>0.037/4.06</td>
<td></td>
</tr>
<tr>
<td>UQLXN500G-2LEDR</td>
<td>0.042/3.2</td>
<td>0.036/3.8</td>
<td></td>
</tr>
</tbody>
</table>

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center-to-center spacing</td>
<td>15'</td>
<td>4'</td>
</tr>
</tbody>
</table>

Detailed Photometric Spacing for 1FC average

6 ft.
Dimensions (Dimensions are approximate and subject to change):

Combination unit

Ordering format – UQLXN500-2LED

<table>
<thead>
<tr>
<th>Series</th>
<th>Legend color</th>
<th>Lamp</th>
<th>Capacity</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>UQLXN500</td>
<td>R= Red</td>
<td>-2LED</td>
<td>Blank= No Option</td>
<td>Blank= Mist-white</td>
</tr>
<tr>
<td></td>
<td>G= Green</td>
<td>Cluster™ LED head style</td>
<td>R= Remote capacity¹</td>
<td>B= Black</td>
</tr>
</tbody>
</table>

Example: UQLXN500R-2LEDR

¹ Remote capacity can only be used to power the ELF652D/LED or ELF652D/LED-WP remote fixtures or to extend the battery units emergency run time beyond the standard 90 minutes.

ELF652D/LED Series
Indoor remote head

The Cluster™ LED ELF652D/LED Remote head can ONLY be powered from the UQLXN-2LED combo or LCA 2LED battery units of the same family. Used for internal or external applications, the indoor remote head draws 3.6V-3.6W and Weather-Proof head draws 3.6V-3.8W

Dimensions

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of heads</th>
<th>Lamp</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF652</td>
<td>D= Double head</td>
<td>/LED= Cluster™ LED head style</td>
<td>Blank= Indoor use only</td>
</tr>
<tr>
<td></td>
<td>-WP= Weather-proof</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: ELF652D/LED

ELF652D/LED-WP Series
Outdoor remote head

Photometric performance

Center-to-center spacing

Mounting height

1FC Average Photometric Spacing for 1FC average

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15'</td>
<td>4'</td>
</tr>
</tbody>
</table>

Dimensions

Indoor remote

7-6/16" (18.74 cm)

4-11/16" (11.91 cm)

2-1/16" (5.24 cm)

Outdoor remote

7-6/16" (18.74 cm)

5-10/16" (14.3 cm)

2-1/16" (5.08 cm)
Severe™ XV & XVE Series
NEMA-4X, vandal resistant and harsh environment exit sign

The Severe™ XV Series exit sign is a part of the Severe™ family of NEMA-4X rated emergency lighting products. The Severe™ family offers complete emergency lighting solutions for commercial and industrial environments where protection against humidity, dust, water infiltration and the risk of vandalism are specification criteria. These products deliver state-of-the-art illumination in a visually appealing package.

Construction
• Full gasketed NEMA-4X housing
• Frame: polyvinyl chloride enclosure, fully gasketed around the lens, backplate and canopy to prevent water infiltration
• Faceplate: heavy-duty, vandal-resistant polycarbonate
• Backplate: heavy aluminum
• Comes with both Phillips head and tamper-proof screws
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons
• Choice of finishes: white, black or gray

Mounting
• Surface mount applications
• Ceiling and wall mount are NEMA-4X
• End and pendant mount are not NEMA-4X
• Canopy included for end or ceiling mount applications
• Universal J-box mounting
• ½ inch conduit entry on top and sides

Special Wording Panels
Available. Contact your sales representative with your design requirements

The Severe™ NEMA-4X Rated and NSF Certified Family

Electronics
• Magnetically operated test switch
• Standard Improved Diagnostics (non-audible)
• Optional Nexus®Pro IoT monitoring system
• Optional Nexus® wired and wireless monitoring system
• 120/277 60Hz
• Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Approvals
• UL 924 listed
• UL listed for wet and damp location self-powered (50°F to 104°F), AC and ACDC(-40°F to 104°F)
• Self-powered model UL listed for cold weather option (-4°F to +104°F)
• Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards
• E-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Housing/Face color

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Dimensions (Dimensions are approximate and subject to change):

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-Only</td>
<td>120-277VAC, 50/60Hz (1.2W)</td>
<td></td>
</tr>
<tr>
<td>AC/DC</td>
<td>120-277VAC, 50/60Hz (1.2W)</td>
<td>6 to 24VDC (Less than 1.5W)</td>
</tr>
<tr>
<td>Self-Powered</td>
<td>120-277VAC, 50/60Hz (3.7W)</td>
<td>Ni-Cd battery (Min. 90 minutes)</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert single face to double face, red (in the field)</td>
<td>DFKR-*</td>
</tr>
<tr>
<td>Convert single face to double face, green (in the field)</td>
<td>DFKG-*</td>
</tr>
<tr>
<td>Tamper-Proof Bit (extra)</td>
<td>690.0454-L</td>
</tr>
</tbody>
</table>

Ordering format

Example: BAXVE-1-R-D-4X-CW

1 Available with Self-Powered models only
2 Wall or ceiling mount only
3 Not available with -NEX or -NEXRF, Nexus® option
4 Not required with AC model

*Specify White (WT) or Black (BK) housing
Severe™ XV12E & XV24E Combination Series
NEMA-4X, vandal resistant and harsh environment combination unit

Construction
• Full gasketed NEMA-4X housing
• Faceplate: heavy-duty, vandal-resistant polycarbonate
• Backplate: heavy-duty aluminum
• Heads protected by clear polycarbonate lens
• Comes with both Phillips head and tamper-proof screws
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons
• Choice of finishes: white, black or gray

Lamp type
Choice of MR16 LED lamp voltages and wattages

Mounting
• Surface mount
• Canopy included for end or ceiling mount applications
• Universal J-box mounting
• ½ inch conduit entry on top and sides

Choice of battery
• XV12E model, Nickel-Cadmium battery, 6V-12W total battery capacity
• XV24E model, Nickel-Cadmium battery, 12V-24W total battery capacity

Special Wording Panels
Available. Contact your sales representative with your design requirements

Frame/Face plate color
Black
White
Gray
Aluminum

Electronics
• Magnetically operated test switch
• Standard Improved Diagnostics (non-audible)
• Standard 15 minutes time delay
• Optional Nexus®Pro IoT monitoring system
• Optional Nexus® wired and wireless monitoring system
• 120/277 60Hz

Approvals
• UL 924 listed
• UL listed for wet and damp location 50°F to 104°F (10°C to 40°C)
• UL listed for cold weather option -40°F to +104°F (-40°C to +40°C)
• Meets NFPA101 (Life Safety Code), NFPA 70 NEC, OSHA illumination standards

Warranty
(subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
<td>57'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
<td>80'</td>
</tr>
</tbody>
</table>

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**Dimensions** (Dimensions are approximate and subject to change):

![EXIT Sign Dimensions Diagram]

- **12-5/8”** (32.07 cm)
- **9-3/16”** (23.34 cm)
- **6-1/4”** (15.87 cm)
- **3/4”** (1.90 cm)
- **4-5/8”** (11.75 cm)
- **3”/4”** (7.62 cm)

**Power consumption chart & unit rating**

<table>
<thead>
<tr>
<th>Series</th>
<th>AC Input</th>
<th>Voltage</th>
<th>Battery</th>
<th>1-1/2 Hrs.</th>
<th>2 Hrs.</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>XV12E</td>
<td>120/277VAC, 50/60Hz</td>
<td>6V</td>
<td>Nickel-Cadmium</td>
<td>12</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>XV24E</td>
<td>0.17/0.08A (Less than 19W)</td>
<td>12V</td>
<td></td>
<td>24</td>
<td>18</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Models with CW4 Option</td>
<td>0.24/0.12A (Less than 25W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Accessories** (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamper-Proof Bit (extra)</td>
<td>690.0454-L</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>Housing/ Face color</th>
<th>Series/ Capacity</th>
<th>Faces</th>
<th>Legend color</th>
<th>Diagnostic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank= Black/ Black</td>
<td>XV12E 6V-12W</td>
<td>-1= Single face</td>
<td>R= Red</td>
<td>D= Improved Diagnostics (non-audible, standard)</td>
</tr>
<tr>
<td>BW= Black/White</td>
<td>XV24E 12V-24W</td>
<td>-2= Double face</td>
<td>G= Green</td>
<td>DA= Improved Diagnostics (audible)</td>
</tr>
<tr>
<td>BA= Black/ Aluminum</td>
<td></td>
<td></td>
<td></td>
<td>NEX= Nexus® wired</td>
</tr>
<tr>
<td>WW= White/ White</td>
<td></td>
<td></td>
<td></td>
<td>NEXP= Nexus® Pro IoT</td>
</tr>
<tr>
<td>WB= White/ Black</td>
<td></td>
<td></td>
<td></td>
<td>NEXRF= Nexus® wireless</td>
</tr>
<tr>
<td>WA= White/ Aluminum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GA= Gray/Aluminum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GW= Gray/White</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB= Gray/Black</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing</th>
<th># of heads</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4X= NEMA-4X housing</td>
<td>/0=0 head</td>
<td>MR16 LED</td>
<td>-208V= 208VAC, 60Hz input</td>
</tr>
<tr>
<td></td>
<td>/2= Two heads</td>
<td>LD1= 6V-4W</td>
<td>-240V= 240VAC, 60Hz input</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD2= 6V-5W</td>
<td>-208V/60HZ= 208VAC, 50Hz input</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD7= 12V-4W</td>
<td>-CW4= Cold weather 120/277V (-40°F/-40°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD9=12V-5W</td>
<td>-CM= Canopy Pendant Mount</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD10=12V-6W</td>
<td></td>
</tr>
</tbody>
</table>

* A remote load must be connected
* Single face only
Severe™ XVHZ & XVEHZ Series
Class I Division 2, Groups A, B, C and D, hazardous location exit sign

Construction
- Fully gasketed housing frame
- Faceplate: heavy-duty, vandal-resistant polycarbonate
- Backplate: heavy-duty aluminum
- Stainless steel tamper-proof screws
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons

Mounting
- Surface mount
- Junction box included for wall, end or ceiling mount applications
- 1/2 inch conduit knock-out entry on top and sides.

Special Wording Panels
Available. Contact your sales representative with your design requirements

Electronics
- Magnetic test switch
- Standard Improved Diagnostics (non-audible)
- Optional Nexus® monitoring system
- 120/277 60Hz
- Compatible with Lightalarms Mini Inverters (contact your sales representative for more information)

Approvals
- CSA-US (To UL 924 standards)
- Evaluated to the UL 844 standard for Class I Division 2, Groups A, B, C and D
- NEC, OSHA and NEMA compliant for Class I Division 2, Groups A, B, C and D
- Self-powered model damp and wet location 50°F to 104°F (10°C to 40°C)
- AC/DC model -40°F to 104°F (-40°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards
- E-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com
Dimensions (Dimensions are approximate and subject to change):

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC/DC red</td>
<td>120-277VAC (Less than 2W)</td>
<td>6-24 VDC</td>
</tr>
<tr>
<td>AC/DC green</td>
<td>120-277VAC (Less than 1.5W)</td>
<td>6-24 VDC</td>
</tr>
<tr>
<td>Self-powered red</td>
<td>120-277VAC (Less than 2W)</td>
<td>Nickel-cadmium battery (Min. 90 mins.)</td>
</tr>
<tr>
<td>Self-powered green</td>
<td>120-277VAC (Less than 2.5W)</td>
<td>Nickel-cadmium battery (Min. 90 mins)</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamper-Proof Bit (Extra)</td>
<td>690.0454-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Housing/ Face color</th>
<th>Series</th>
<th>Faces</th>
<th>Legend color</th>
<th>Diagnostic</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>GG= Gray/Gray</td>
<td>XVHZ= AC/DC</td>
<td>1= Single face</td>
<td>R= Red</td>
<td>Improved Diagnostics</td>
<td>CW= Cold weather</td>
</tr>
<tr>
<td>XVEHZ= Self-Powered</td>
<td></td>
<td>2= Double face</td>
<td>G= Green</td>
<td>Blank= AC/DC Models</td>
<td>-4°F to +104°F (-20°C to +40°C)¹</td>
</tr>
</tbody>
</table>

Example: GGXVEHZ2R-DCW

¹ Available with Self-Powered models only
Severe™ XVH & XVH12N Combination Series
Class I Division 2, Groups A, B, C and D hazardous location combination unit

Construction
- Fully gasketed housing frame
- Faceplate: heavy-duty, vandal-resistant polycarbonate
- Backplate: heavy-duty aluminum
- Vandal-resistant UV stabilized polycarbonate lamp cover
- Stainless steel tamper-proof screws
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons

Mounting
- Surface wall mount
- Backplate features universal knockouts for a standard 4 inch junction box, and four mounting eyelets used in wall mount applications
- 1/2 inch conduit entry on top and sides

Lamp type
- Choice of MR16 LED lamp voltages and wattages

Battery type
- XVH Model, Nickel-Cadmium battery, 6V-20W total battery capacity
- XVH12N Model, Nickel-Cadmium battery, 12V-24W total battery capacity

Special Wording Panels
Available. Contact your sales representative with your design requirements

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>LD1</td>
<td>39'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
</tr>
</tbody>
</table>

Severe™ Class I, Division 2 Family

Electronics
- Magnetic test switch
- Standard Improved Diagnostics (non-audible)
- Optional Nexus® monitoring system
- 120/277 60Hz

Approvals
- CSA-US (to UL 924 standards)
- Evaluated to the UL 844 Standard for Class I Division 2, Groups A, B, C and D
- NEC, OSHA and NEMA compliant for Class I Division 2, Groups A, B, C and D
- Damp and wet location 50°F to 104°F (10°C to 40°C)
- Meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards
- Temperature code T4A

Warranty (subject to proper installation and maintenance)
- Five-year limited warranty

Detailed warranty terms located on page 197 or online at: www.lightalarms.com
Dimensions (Dimensions are approximate and subject to change):

![Diagram of an exit sign](image)

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>AC input</th>
<th>Max. Current (Amp)</th>
<th>Max. Power (Watt)</th>
<th>Stand-By Current (Amp)</th>
<th>Stand-By Power (Watt)</th>
<th>Watts to 87.5% of rated battery voltage¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>XVH</td>
<td>120/277VAC, 50/60Hz</td>
<td>0.15 / 0.07</td>
<td>16</td>
<td>0.09 / 0.03</td>
<td>8</td>
<td>20 / 15 / – / –</td>
</tr>
<tr>
<td>XVH12N</td>
<td>120/277VAC, 50/60Hz</td>
<td>0.30 / 0.08</td>
<td>29</td>
<td>0.13 / 0.05</td>
<td>10</td>
<td>24 / 18 / 12 / –</td>
</tr>
</tbody>
</table>

¹ National Electrical Code Specification

Temperature codes

<table>
<thead>
<tr>
<th>Lamp rating</th>
<th>Temperature code</th>
<th>Maximum Temperature</th>
<th>Replacement lamp part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>6V-4W LED</td>
<td>T4A</td>
<td>248°F (120°C)</td>
<td>580.0097</td>
</tr>
<tr>
<td>6V-5W LED</td>
<td>T4A</td>
<td>248°F (120°C)</td>
<td>580.0122</td>
</tr>
<tr>
<td>12V-4W LED</td>
<td>T4A</td>
<td>248°F (120°C)</td>
<td>580.0093</td>
</tr>
<tr>
<td>12V-5W LED</td>
<td>T4A</td>
<td>248°F (120°C)</td>
<td>580.0104</td>
</tr>
<tr>
<td>12V-6W LED</td>
<td>T4A</td>
<td>248°F (120°C)</td>
<td>580.0106</td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamper-Proof Bit (Extra)</td>
<td>690.0454-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Housing/ Face color</th>
<th>Series</th>
<th>Legend color</th>
<th>Diagnostic</th>
<th>No. of heads</th>
<th>Lamp type</th>
</tr>
</thead>
<tbody>
<tr>
<td>GG= Gray/Gray</td>
<td>Nickel-Cadmium battery</td>
<td>R= Red</td>
<td>D= Improved Diagnostics (included standard non audible)</td>
<td>/0= No head¹</td>
<td>LD1= 6V-4W MR16 LED</td>
</tr>
<tr>
<td>XVH= 6V-20W</td>
<td></td>
<td>G= Green</td>
<td>DA= Improved Diagnostics (audible)</td>
<td>/2= 2 heads</td>
<td>LD2= 6V-5W MR16 LED</td>
</tr>
<tr>
<td>XVH12N= 12V-24W</td>
<td></td>
<td></td>
<td>NEX= Nexus® wired (consult your sales representative)</td>
<td></td>
<td>LD7= 12V-4W MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NEXRF= Nexus® wireless (consult your sales representative)</td>
<td></td>
<td>LD9= 12V-5W MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LD10= 12V-6W MR16 LED</td>
</tr>
</tbody>
</table>

Example: GGXVHR-D2LD1

¹ A remote load must be connected
X402 LED AC-ONLY, AC/DC LED Exit Sign
Class I, Division 1 & 2, Groups C and D. Class II, Division 1 & 2, Groups E, F and G, Class III

Construction
- Heavy-duty 20 gauge steel, baked enamel grey finish
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons

Mounting
- Ceiling, wall or pendant
- 3/4 inch conduit entry

Approvals
- CSA-US (to UL 924 standards)
- Class I, Division 1&2, Groups C and D
- Class II, Division 1&2, Groups E, F and G
- Class III
- Complies with NEC, OSHA and NEMA for above classes and groups
- Suitable for wet and damp location
- Temperature code T6

Warranty (subject to proper installation and maintenance)
Five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Transfer panel (to order separately with AC/DC exit signs)
- A transfer panel is only required for AC/DC hazardous location X402 exit signs that are under constant operation as required by code. Transfer panels are not designed to be installed/mounted in a hazardous or explosive area. Transfer panels are to be mounted remotely from these types of areas.
- Transfer panel available for up to 100W
- To order a transfer panel the following information is required:
  1) AC input: 120V or 277V
  2) DC voltage
  3) The total load wattage of all X402 lamp(s) to besupplied by transfer panel

The EXP Family
- EXP6N & EXP12N
  Combination series
  PG. 58-59
- EXP6N & EXP12N
  Battery unit
  PG. 114-115
- EPF401
  Remote head
  PG. 142-143
Dimensions (Dimensions are approximate and subject to change):

AC-Only and AC/DC Exit signs

Ceiling mount

Wall mount

Pendant mount

Power Consumption

120/277VAC, 60 Hz maximum 0.3/0.15A

Ordering format – AC-Only or AC/DC exit sign face

<table>
<thead>
<tr>
<th>Faces</th>
<th>Series</th>
<th>Mounting</th>
<th>Lamp</th>
<th>Legend color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>X402= Exit series</td>
<td>C= Ceiling</td>
<td>LED6= 6V-3W LED¹</td>
<td>R= Red</td>
</tr>
<tr>
<td>2= Double face</td>
<td></td>
<td>P= Pendant</td>
<td>LED12= 12V-3W LED¹</td>
<td>G= Green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W= Wall</td>
<td>LED24= 24V-3W LED¹</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LED120= 120V-5W LED²</td>
<td></td>
</tr>
</tbody>
</table>

Example: AC-Only or AC/DC Exit sign: X402CLED6R

¹ For AC/DC Exit
² For AC only Exit

Ordering format – Transfer panel (Required for the operation of AC/DC exit sign)

<table>
<thead>
<tr>
<th>AC voltage</th>
<th>DC voltage</th>
<th>Series</th>
<th>Watts</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>120= 120V AC</td>
<td>-6= 6V DC¹</td>
<td>-TS</td>
<td>-25= 25W</td>
<td>-LA</td>
</tr>
<tr>
<td>277= 277V AC</td>
<td>-12= 12V DC</td>
<td>-24= 24V DC</td>
<td>-50= 50W</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-75= 75W</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-100= 100W</td>
<td></td>
</tr>
</tbody>
</table>

Example: Transfer Panel (needed for AC/DC operation): 120-12-TS-25

¹ 50W maximum
EXP LED Series
Class I, Division 1 & 2, Groups C and D. Class II, Division 1 & 2, Groups E, F and G, Class III

Housing
• One-piece heavy gauge, corrosion resistant, copper-free cast aluminum
• Consists of a housing with provisions for up to two fixtures
• Spin-off gasketed cover prevents propagation of internally generated arcs
• Stainless steel vent/drain
• Lighting fixtures are heavy cast aluminum with Pyrex® lens
• Exit faceplate: heavy-duty 20 gauge steel, baked enamel grey finish
• 6 inch EXIT lettering legend, available in red or green
• Field-selectable chevrons

Mounting
• Surface wall mount
• 3/4" NPT conduit entry on top and bottom of housing
• Single and double pendant mount heads include elbow swivel, conduit extension pipe (6" increments)

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• 120/277 60Hz

Lamp type
• Heads offer a choice of MR16 LED lamp wattages
• Exit sign uses a 3 watt LED lamp

Battery type
• 6V or 12V, Nickel-Cadmium battery

Approvals
• CSA-US (To UL 924 standards)
• Manufactured in accordance with UL844, UL1203
• Class I, Division 1 & 2, Groups C and D
• Class II, Division 1 & 2, Groups E, F and G
• Class III
• NEC, OSHA and NEMA compliant for above Classes and Groups
• Temperature Code T6

Warranty (subject to proper installation and maintenance)
• Unit has a five-year warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance for lighting head

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 X LD1</td>
<td>43'</td>
<td>29'</td>
</tr>
<tr>
<td>2 X LD2</td>
<td>70'</td>
<td>39'</td>
</tr>
<tr>
<td>2 X LD7</td>
<td>55'</td>
<td>36'</td>
</tr>
<tr>
<td>2 X LD9</td>
<td>67'</td>
<td>41'</td>
</tr>
<tr>
<td>2 X LD10</td>
<td>87'</td>
<td>62'</td>
</tr>
</tbody>
</table>

Dimensions (Dimensions are approximate and subject to change)
Housing: 12" X 12" X 9-1/2"
Mounting Lug: 10" and 13-1/2" on center
Overall dimensions (including fixtures): 38" X 38" X 10"
Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP618</td>
<td>6V Nickel-Cadmium</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>EXP630</td>
<td>6V Nickel-Cadmium</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>EXP1224</td>
<td>12V Nickel-Cadmium</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>EXP1240</td>
<td>12V Nickel-Cadmium</td>
<td>40</td>
<td>30</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Standard configurations for EXP6N and EXP12N Series

<table>
<thead>
<tr>
<th>Unit</th>
<th>Catalog number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote capability</td>
<td>EXP618</td>
<td>6 Volt self contained hazardous location emergency battery unit</td>
</tr>
<tr>
<td></td>
<td>EXP618-TS</td>
<td>6 Volt self contained hazardous location emergency battery unit (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Single head</td>
<td>EXP1240E1LD9</td>
<td>12 Volt self contained hazardous location emergency battery unit containing 2 X 12V 5W MR16 LED lamps, 30 watts of remote capacity</td>
</tr>
<tr>
<td>emergency unit</td>
<td>EXP1240E1LD9-TS</td>
<td>12 Volt self contained hazardous location emergency battery unit containing 2 X 12V 5W MR16 LED lamps, 30 watts of remote capacity. Transfer switch included for use with remote Exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Double head</td>
<td>EXP630E2LD1</td>
<td>6 Volt self contained hazardous location emergency battery unit with two heads, each containing 2 X 6V 4W MR16 LED lamps, 14 watts of remote capacity</td>
</tr>
<tr>
<td>emergency unit</td>
<td>EXP630E2LD1-TS</td>
<td>6 Volt self contained hazardous location emergency battery unit with two heads, each containing 2 X 6V 4W MR16 LED lamps, 14 watts of remote capacity. Transfer switch included for use with remote Exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Self-powered exit</td>
<td>EXP618-TSX1-LR</td>
<td>15 watts of remote capacity. Transfer switch included for use with integral exit sign and additional remote exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Combination unit</td>
<td>EXP1240-E1LD10-TSX1-LR</td>
<td>12 volt self contained combination unit with 25 watts of remote capacity. Transfer switch included for use with integral exit sign and additional remote exit signs (maximum 5 Exit signs per TS)</td>
</tr>
</tbody>
</table>

Relector/Guards

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>145.0016-L</td>
<td>Dome reflector</td>
</tr>
<tr>
<td>145.0017-L</td>
<td>Angle reflector</td>
</tr>
<tr>
<td>330.0125-L</td>
<td>Aluminum guard</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Voltage</th>
<th>Capacity</th>
<th>No. of heads and lamps</th>
<th>Lamp wattage/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP</td>
<td>6 = 6VDC</td>
<td>18 = 18W (6V only)</td>
<td>Blank = No emergency head</td>
<td>LD1 = 6V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td>12 = 12VDC</td>
<td>30 = 30W (6V only)</td>
<td>-E1 = Single head, two lamps</td>
<td>LD2 = 6V-5W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 = 24W (12V only)</td>
<td>-E2 = Two heads, two lamps each</td>
<td>LD7 = 12V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 = 40W (12V only)</td>
<td>Blank = No exit sign</td>
<td>LD9 = 12V-5W, MR16 LED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Battery options</th>
<th>EXIT sign # of faces</th>
<th>EXIT sign lamp</th>
<th>EXIT sign letter color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>X1= Single-face exit</td>
<td>Blank = No exit sign</td>
<td>Blank = Red</td>
</tr>
<tr>
<td>-TS= transfer panel</td>
<td>Blank = No exit sign</td>
<td>-L= LED exit sign</td>
<td>R = Red</td>
</tr>
<tr>
<td>(Required to supply remote exit sign only)</td>
<td></td>
<td></td>
<td>G = Green</td>
</tr>
</tbody>
</table>

Example: EXP630-E1LD1-TSX1-LR
XT Tritium™ Self-Luminous Series
Non-electric, uses no electrical power internally or externally to illuminate

Construction
• Housing and frame are made of ABS molding
• Faceplate lens is .13 thick acrylic
• Legend is non-glare polycarbonate
• Tamper-proof assembly with no removable fasteners
• 6" exit lettering legend, background available in red or green

Mounting
• Surface mount
• Single face model includes (1) housing, (1) faceplate and (1) canopy
• Canopy included for wall, end or ceiling mount applications
• Double face model includes (2) housings, (2) faceplates and (1) canopy
• Canopy included for end or ceiling mount applications

Finishes
• Choice of finishes: white, black or gray

Chevrons
• Two field-selectable direction chevrons

Illumination
• Provided by phosphor-coated borosilicate tubes filled with tritium gas
• Low energy beta emission of tritium striking the phosphor coating inside the glass tubes generates illumination for the life of the sign

Special wording panels
Not available

Approvals
• NFPA Life Safety Code 101
• UL 924
• Approved for installation from -76°F to 212°F (-60°C to 100°C)
• City of Los Angeles
• State of California
• Council of American Building Officials (ICBO, SBCCI)
• OSHA
• USNRC
• ISO 9001

Warranty (subject to proper installation and maintenance)
• Full warranty for life of sign
• 10-year sign= 10 full year warranty
• 20-year sign= 20 full year warranty

Detailed warranty terms located on page 197 or online at: www.lightalarms.com
Dimensions (Dimensions are approximate and subject to change):

Mounting

Single face signs

Wall mount (flush wall or end)  Ceiling mount (flush ceiling)  Pendant mount

Double face signs

Wall mount (flush wall or end)  Ceiling mount (flush ceiling)  Pendant mount

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>White pendant</td>
<td>PW-*</td>
</tr>
<tr>
<td>Black pendant</td>
<td>PB-*</td>
</tr>
<tr>
<td>Gray pendant</td>
<td>PA-*</td>
</tr>
<tr>
<td>Wire guard-wall mount</td>
<td>WG13-L</td>
</tr>
<tr>
<td>Wire guard-ceiling mount</td>
<td>WG5-L</td>
</tr>
<tr>
<td>Wire guard-end mount</td>
<td>WG15-L</td>
</tr>
</tbody>
</table>

*Specify length of pendant (12", 24", 36" etc.)

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Sign life</th>
<th>Housing color</th>
<th>Legend color</th>
<th>Options</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>XT</td>
<td>10 = 10 Years</td>
<td>W = Off white ABS frame</td>
<td>R = Red</td>
<td>-PC = Polycarbonate shield</td>
<td>-N = New version</td>
</tr>
<tr>
<td>2XT</td>
<td>20 = 20 Years</td>
<td>B = Black ABS frame</td>
<td>G = Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GY = Gray ABS frame</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A = Aluminum frame</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: XT10WR-N
Special wording panels
Customized special wording panels available for use in our exit signs and combination units

Features
- The same sturdy construction and electrical design used in our exit signs and combination units, is used to produce our custom-worded, illuminated signage
- Sign bodies: steel, extruded and die-cast aluminum, weatherproof, flameretardant polycarbonate, high impact thermoplastic, recessed housing
- Custom wording: any style of lettering, any language, any alphabet, any special characters
- Graphics: logos, standard symbols, custom art
- Color choices: sign bodies, message, faceplate panel
- Contact your local Lightalarms® representative to discuss your specific requirements
Custom signage panels are available for use in the following series:

- Simplicity™ Premium Series page 14-15
- Simplicity™ Economizer Series page 18-19
- Genesis™ GX, GXE Series page 26-27
- Galaxy™ XD, XDN Series page 28-29
- Galaxy™ XDPC Series page 30-31
- UX4 LED Series page 34-35
- Grande™ Series page 36-37
- Grande™ Combination Series page 38-39
- Severe™ NEMA-4X Series page 48-49
- Severe™ NEMA-4X Combination Series page 50-51
- Severe™ Class I, Division 2 Series page 52-53
- Severe™ Class I, Division 2 Combination Series page 54-55
- X402, EXP and Combination Class I & II, Division 1&2 page 56-57

Note: Shown above are only a few examples of special wording panels that we have produced. Many more panels are available to meet any customized order.
Self-contained battery units are ideal for stand-alone use and for powering remote fixtures. Select from a range of capacities to provide the necessary power. Protective housings suit a variety of applications from commercial to heavy-duty industrial. High-performance lamps provide the necessary illumination at different mounting heights. Many battery units offer compatibility with the Nexus® system for automated testing and reduced maintenance.
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<td>Architectural Recessed: architectural RP Series</td>
</tr>
<tr>
<td>72-73</td>
<td>Architectural Recessed: linear dual-mode LSCN Series</td>
</tr>
<tr>
<td>74-75</td>
<td>Architectural Recessed: Phantom™ Series</td>
</tr>
<tr>
<td>76-77</td>
<td>Architectural Recessed: Mini-Phantoms™ Series</td>
</tr>
<tr>
<td>78-79</td>
<td>Architectural Recessed: TBR Series</td>
</tr>
<tr>
<td>80-81</td>
<td>Architectural Recessed: RD Series</td>
</tr>
<tr>
<td>82-83</td>
<td>Architectural Wall: Protector™ Series</td>
</tr>
<tr>
<td>84-85</td>
<td>Commercial Surface: LCAB-2SQLED Series</td>
</tr>
<tr>
<td>86-87</td>
<td>Commercial Cluster™ LED LCA-2LED Unit &amp; ELF652D Remote Head Series</td>
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<td>Commercial Surface: Grande™ Compact Series</td>
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<td>90-91</td>
<td>Commercial Surface: Grande™ Series</td>
</tr>
<tr>
<td>92-93</td>
<td>Architectural Surface: Camray™ LED Series</td>
</tr>
<tr>
<td>94-95</td>
<td>Commercial Surface: MG/MN-SP Series</td>
</tr>
<tr>
<td>96-97</td>
<td>Commercial Surface: MG &amp; MN Series</td>
</tr>
<tr>
<td>98-99</td>
<td>Commercial Surface: PG, PQ, P12G &amp; P12Q Series</td>
</tr>
<tr>
<td>100-101</td>
<td>Industrial Surface: S12E &amp; S24E Series</td>
</tr>
<tr>
<td>102-103</td>
<td>Industrial NEMA-4X &amp; NSF Rated Surface: Severe™ Series</td>
</tr>
<tr>
<td>104-105</td>
<td>Industrial Surface: SP Series</td>
</tr>
<tr>
<td>106-107</td>
<td>Industrial Surface: SPRL Series &amp; Remote Fixture</td>
</tr>
<tr>
<td>108-109</td>
<td>Industrial Surface: Hazardous Location Surface: SPH Series</td>
</tr>
<tr>
<td>110-111</td>
<td>Industrial Surface: Hazardous Location Surface: SPHRL Remote Fixture Series</td>
</tr>
<tr>
<td>112-113</td>
<td>Industrial Surface: Severe™ VH Series</td>
</tr>
<tr>
<td>114-115</td>
<td>Industrial Surface: EXP6N &amp; EXP12N LED Series</td>
</tr>
<tr>
<td>116-117</td>
<td>Industrial Hazardous Location Surface: EXP6N &amp; EXP12N LED Series</td>
</tr>
</tbody>
</table>
About Battery Units

Emergency Battery Unit Equipment
Illumination provided by an emergency lighting battery life safety unit is one of the key elements to ensuring safety within a public building. In the event of a failure of the normal power supply, self-contained emergency lighting battery units automatically provide the illumination required to evacuate the building in a safe manner. Lightalarms® offers a wide selection of emergency lighting battery units to meet your demanding needs and requirements, whether it’s for an architectural application or a Hazardous Location. With the many emergency lighting battery units available, the key is choosing the correct one to do the job. The appropriate Emergency Lighting Battery Unit will ensure that the proper emergency illumination is being provided. An emergency lighting battery unit is life saving equipment.

To select the correct Emergency Lighting Battery Unit, consider these 4 components: Housing, Circuitry, Battery, and Lamps.
1. Housing: Select a housing designed for the location where the unit will be installed; for example, indoors, outdoors, or in a vandal-prone or hazardous area.
2. Circuitry: The circuitry maintains the battery and allows the unit to be tested. Will standard circuitry meet your requirements, or does your application need self diagnostics or the state-of-the-art Nexus® system?
3. Battery: Lead-Calcium works best in controlled temperatures; and Nickel-Cadmium is for wider temperature ranges.
4. Battery: Lead-Calcium works best in controlled temperatures; and Nickel-Cadmium is for wider temperature ranges.

Select the proper emergency lighting battery unit for the specific application. Pick the proper lamps to provide the illumination needed to illuminate the area. Select the appropriate sized battery to provide DC power to illuminate the lamps for 90 minutes. Use the correct circuitry to maintain the battery and operate the lamps. To protect it all, use the proper housing for the environment where the emergency lighting battery unit will be located.

Housing
The required housing construction of emergency lighting battery units depends on the location where the equipment is to be installed. Of all the components, the housing is the one most affected by the external environment. The housing plays many roles: it provides the fixture with a degree of protection against the environmental conditions, and meets technical, aesthetic and functional requirements. In general, non-residential lighting is divided in three market segments: commercial, institutional and industrial. This market segmentation still applies in the case of emergency lighting. Typically, the commercial and institutional sectors are more sensitive to costs and aesthetics, whereas the industrial sector is more influenced by technical aspects (fixture durability, etc.) of the product. Commercial spaces (stores, restaurants, hotels etc.) as well as institutions (schools, hospitals) are generally air-conditioned and have a controlled environment. When the equipment operates in normal temperature and humidity conditions, it typically only requires a NEMA1 rated housing with a Lead-Calcium battery. Industrial environments are the most severe and require rugged housing construction. Industrial housing types are defined by a number of parameters specific to various technical processes within the industry: temperature range, degree of humidity, degree of protection against water and dust, and resistance to corrosive chemicals, etc. requiring a NEMA-4X or higher rating.
**Emergency Lighting**

**Battery units**

**Battery**
The most important thing to consider when picking a battery is the temperature of the environment where the battery will be located. The ideal temperature for battery performance is 77˚F. Cold temperatures affect the capacity, and hot temperatures affect the life of the battery. The temperature may affect the wattage size of the battery required. If you need a required amount of wattage to illuminate the lamp heads on the emergency lighting battery unit and the battery is in a cold area, that battery may not be able to deliver the required wattage needed for 90 minutes of operation. For example, at 32˚F, a Lead-Calcium battery will be at approximately 75% of capacity; but, a Nickel-Cadmium battery will be at approximately 95% of capacity. If a battery is in a high temperature area, that battery may have a reduced life expectancy. For Lead-Calcium batteries every 15-20 degree increase in ambient temperature reduces the life of the battery by half (approximately).

**Sealed Maintenance-Free Lead-Calcium:** (Good)
**Design Feature:** Recombination technology. Does not gas externally under charging.
**Temperature Range:** 32°F -100°F
**Expected Life:** 4-8 years
**Warranty:** 3 years full warranty, 3 years pro rata warranty

**Sealed Maintenance-Free Nickel-Cadmium:** (Better)
**Design Feature:** High abuse battery, operates well in extreme temperatures.
**Temperature Range:** 0°F -131°F
**Expected Life:** 15 years
**Warranty:** 5 years full warranty, 7 years pro rata warranty

**Sealed Maintenance-Free Nickel-Metal Hydride:** (Best)
**Design feature:** Similar to Nickel-Cadmium, Environmentally Friendly, Cadmium-Free and Lead-Free

**Lamp**
Base the lamp choice for the emergency lighting battery unit on the lumen output of the lamp and the illumination required during an emergency situation. The sole purpose of an emergency lighting battery unit is to illuminate a path of egress in an emergency situation to evacuate people safely. Picking a lamp without enough lumen output will not provide a safe situation. If emergency lighting battery unit lamps are insufficient to illuminate the path of egress, the unsafe situation could lead to bodily injury or even death. The average illumination provided to a path of egress should be at least 1 ft-candle at floor level.

**Hazardous Location Classifications**
Hazardous areas are locations where the potential for explosion or fire exists due to the presence of certain gases, liquid vapors, or combustible dusts or fiber particles suspended in the air. The National Electrical Code®, NEMA, OSHA, UL, NFPA (Life Safety Standards), as well as State and Local codes, dictate the type of emergency lighting equipment to be used in different Hazardous Locations.

In Hazardous Locations, the emergency lighting equipment must be a type which will not itself contribute to the ignition of flammable or explosive substances present in the location. Lightalarms® offers emergency lighting equipment dedicated for use in Hazardous Locations.

**Class I (NEC-500-5)** Areas in which flammable gases or vapors may be present in sufficient quantities to be explosive or ignitable.

**Class II (NEC-500-6)** Areas made hazardous by the presence of combustible dust.

**Class III (NEC-500-7)** Areas in which there are easily ignitable fibers or flyings present, due to the type of material being handled, stored or processed—but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.

**Division I (NEC-500-5, 6 & 7)** Normal Situation: A hazard is present in the everyday normal production operation or during frequent repair and/or maintenance activity.

**Division II (NEC-500-5, 6 & 7)** Abnormal Situation: Potentially hazardous material is expected to be safely contained within closed containers or closed systems, and will be present in the atmosphere only through accidental rupture, breakage, or abnormal operation.

**Group A, B, C & D (NEC-500-3)** Gases and vapors in Class I locations are classified into four groups: code A, B, C, and D. These materials are grouped according to the ignition temperature of the substance, its explosion pressure and other flammable characteristics.

**Groups E, F & G (NEC-500-3)** Combustible dust in Class II locations is classified according to ignition temperature and the conductivity of the hazardous substance.
Emergency Lighting

Battery units

Typical Class I locations:
• Industrial firms that use flammable liquids in dip tanks for parts cleaning or other applications.
• Petrochemical companies that manufacture chemicals from gas and oil.
• Dry cleaning plants where vapors from cleaning fluids can be present.
• Companies that have spraying areas where they coat products with paint or plastics.
• Aircraft hangars and fuel servicing areas.
• Utility gas plants, and operations involving storage and handling of liquified petroleum gas or natural gas

Typical Class II locations:
• Grain elevators, flour and feed mills.
• Plants that manufacture, use or store magnesium or aluminum powders.
• Plants that have chemical or metallurgical processes, producers of plastics, medicines, and fireworks etc.
• Producers of starch or candies.
• Spice grinding plants, sugar plants and cocoa plants.
• Coal preparation plants and other carbon handling or processing areas.

Typical Class III locations:
• Textile mills, cotton gins, cotton seed mills and flax processing plants.
• Clothing manufacturing plants.
• Any plant that shapes pulverizes or cuts wood and creates saw dust or shavings.

For more information consult the NEC Code.

NEMA Enclosures
• Type 1 – Intended for use indoors primarily to prevent accidental contact of personnel with the enclosed equipment.
• Type 2 – Intended for use indoors to protect the enclosed equipment against falling non-corrosive liquids and falling dirt.
• Type 3 – Intended for use outdoors to protect the enclosed equipment against rain, windblown dust, sleet and external ice formation.
• Type 3R – Intended for use outdoors to protect the enclosed equipment against falling rain, sleet and external ice formation.
• Type 4 – Intended for use indoors and outdoors to protect the enclosed equipment against windblown dust, rain, splashing water and hose-directed water.
• Type 4X – Intended for use indoors and outdoors to protect the enclosed equipment against windblown dust, rain, splashing water and hose-directed water; that provides an additional level of protection against corrosion.
• Type 5 – Intended for indoor use primarily to protect against dust and falling dirt.
• Type 6 – Intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during occasional temporary submersion at a limited depth.
• Type 6P – Intended for indoor or outdoor use primarily to provide a degree of protection against the entry of water during prolonged submersion at a limited depth.
• Type 7 – Intended for use indoors in locations classified as Class I, Groups A, B, C, or D as defined in the National Electrical Code®.
• Type 8 – Intended for indoor or outdoor use in locations classified as Class I, Groups A, B, C, & D as defined in the National Electrical Code®.
• Type 9 – Intended for indoor locations classified as Class II, Groups E, F & G, as defined in the National Electrical Code®.
• Type 10 – Enclosures are constructed to meet the applicable requirements of the Mine Safety and Health Administration.
• Type 11 – Intended for indoor use primarily to provide, by oil immersion, a degree of protection to enclosed equipment against the corrosive effects of liquids and gases.
• Type 12 – Intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping noncorrosive liquids.
• Type 12K – Enclosure with knockouts intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids other than at knockouts.
• Type 13 – Intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and noncorrosive coolant.
## Battery Units
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<td><strong>Origin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>North America</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** This is a quick reference guide only. Refer to individual product pages for complete details regarding applicable models.
**RP Series**

**Recessed architectural battery unit**

**Construction**
- Thermoplastic rectangular fixture with additional round trim-plate, white finish
- All-metal backbox enclosure
- Optional black finish
- Fixed optics, optimized light distribution for ceiling heights up to 12 ft
- Four high-intensity LEDs with redundant connections; 140 lm/W, CCT 5000K

**Options**
- Standard unit 680 lumens
- Square distribution unit 717 lumens
- Plenum-rated enclosure
- Fixed, square light distribution pattern up to 12 ft. ceilings

**Mounting**
- Easily spring mounted in sheetrock ceilings
- Recessed installation in T-bar suspended ceilings

**Electronics**
- Infrared remote test control (up to 30ft)
- Self-test and diagnostic functions operated by micro-controller
- Two-wire universal AC input: 120 – 277VAC 50-60 Hz
- Battery full recharge in 24 hours
- 90 minutes of emergency lighting
- Optional time delay: 15 minutes
- Optional Nexus®Pro IOT emergency lighting central monitoring system
- Optional Power over Ethernet (requires a dedicated PoE switch supplied by an unswitched AC line)

**Battery**
- High-temperature rated lithium battery

**Approvals**
- Listed UL-924 for damp locations: 50° to 104°F (10° to 40°C)
- NSF-certified for splash non food zones
- Listed CEC Title 20
- BC - California Energy Commission Title 20

**Warranty** (subject to proper installation and maintenance)
- Unit has a five-year limited warranty
- Detailed warranty terms located online at: www.lightalarms.com

**Photometric performance**
The RP Series has a fixed lighting distribution, optimized by design for ceiling heights up to 12 ft. The RP Series delivers a stable and optimal illumination easy to specify. Along an office corridor the space coverage ranges from 68 to 80 feet. The square distribution pattern covers a surface of more than 700 square feet.

**Table A: Standard unit 6-ft wide corridor**

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lumens</th>
<th>Spacing center-to-center</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 ft</td>
<td>680</td>
<td>68 ft</td>
</tr>
<tr>
<td>10 ft</td>
<td></td>
<td>80 ft</td>
</tr>
<tr>
<td>12 ft</td>
<td></td>
<td>72 ft</td>
</tr>
</tbody>
</table>

**Table B: Option “square distribution pattern” – single unit coverage**

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lumens</th>
<th>Room size</th>
<th>Room surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>717</td>
<td>27 ft x 27 ft</td>
<td>729 square feet</td>
</tr>
</tbody>
</table>

*Note: Illumination levels as per the Life Safety Code (NFPA 101): Average 1 fc, Minimum 0.1 fc, Max-to-min ratio 40:1. Typical reflectance levels of walls/ceiling/floor: 80/50/20.
Dimensions (Dimensions are approximate and subject to change)

Recessed suspended ceiling mount

Recessed sheetrock ceiling mount

Power consumption and unit rating

<table>
<thead>
<tr>
<th>AC</th>
<th>Maximum</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input (VAC)</td>
<td>Current (A)</td>
<td>Power (W)</td>
<td>Power factor</td>
</tr>
<tr>
<td>120</td>
<td>0.03</td>
<td>2.8</td>
<td>0.6</td>
</tr>
<tr>
<td>277</td>
<td>0.02</td>
<td>5.18</td>
<td>0.55</td>
</tr>
</tbody>
</table>

POE

<table>
<thead>
<tr>
<th>POE</th>
<th>Maximum</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DC supply (V)</td>
<td>Current (A)</td>
<td>Power (W)</td>
<td></td>
</tr>
<tr>
<td>44 - 57</td>
<td>0.08</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Color</th>
<th>Input</th>
<th>Unit type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP</td>
<td>B</td>
<td>Blank= 120 to 277VAC, 50/60Hz</td>
<td>Blank= standard charger</td>
<td>Blank= No options</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>POE= Power over ethernet cable</td>
<td>D= Advanced diagnostics, non-audible</td>
<td>D3= 15 minute time delay</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NEXP= Nexus®Pro wireless bluetooth</td>
<td>P= Plenum/Type IC rated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SQ= Square distribution pattern</td>
<td></td>
</tr>
</tbody>
</table>

Example: RPWPOEDD3
LSCN Series
Vandal resistant linear dual-mode battery unit

Housing
• White high impact thermoplastic housing
• Frosted lens

Mounting
• Standard surface ceiling and wall mount
• Optional accessory: semi-recessed ceiling mount

LED information
• Easily adjustable LED strips for multiple beam angles
• Color temperature: 4000K
• 1200–1300 lumen output in emergency

Electronics
• Dual-mode; normal lighting (field selectable) and emergency lighting
• Self-test and self-diagnostic
• Lithium-ion phosphate battery offering 120 minutes of emergency lighting
• Battery over/under charge protection
• Universal voltage 120V through 277Vac-60Hz

Approvals
• Rated for 41°F to 113°F (5°C to 45°C)
• Suitable for wet locations
• Meets IP65 rating
• Meets IK10 rating requirements¹
• ROHS compliant
• UL924 approved

Warranty (subject to proper installation and maintenance)
Unit has a three-year warranty
Detailed warranty terms located online at: www.lightharms.com

¹IK ratings refer to impact tests. IK10= Protected against 20 joules of impact (equivalent to 11lbs. of mass dropped from 16’ high)

Spacing

<table>
<thead>
<tr>
<th>Mounting type</th>
<th>Spacing at 9ft mounting</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling mount</td>
<td>62'</td>
<td>1300</td>
</tr>
<tr>
<td>Wall mount</td>
<td>53'</td>
<td>1200</td>
</tr>
</tbody>
</table>

Center-to-center spacing
Mounting height
Photometric spacing for 1FC average
6 ft.
**Dimensions** (Dimensions are approximate and subject to change)

![Dimensions Diagram]

**Power consumption**

<table>
<thead>
<tr>
<th>Status</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal lighting</td>
<td>120-277 volt</td>
<td>16 watts</td>
<td>LifeP0 9.6 volt</td>
</tr>
<tr>
<td>Emergency lighting</td>
<td>14 watts</td>
<td></td>
<td>3200mAh</td>
</tr>
</tbody>
</table>

**Accessories** (order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi recessed mounting bracket</td>
<td>KIT-SR-LA</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSCN</td>
<td>Linear battery unit</td>
<td></td>
</tr>
<tr>
<td>EM</td>
<td>Dual-mode: normal lighting and/or emergency lighting</td>
<td></td>
</tr>
</tbody>
</table>

**Example:** LSCN-EM
Phantom™ Series
The unseen solution
12V up to 100w capacities – generator capable

Housing
• Galvanized steel back-box
• Easy access to internal components
• Head assembly door and trim plate powder coated in a white finish
• Finish can be customized on site with paint or wallpaper
• Choice of various 12 volt MR16 LED lamp wattages
• Complete 360° head assembly door rotation
• Slip gear mechanism protects unit and objects against forcible stops

Mounting
• Recessed mount into ceiling or wall with cavities
• Hanger bars included for lay-in installation in T-bar grid
• Can be installed on the wall stud or ceiling beam with simple, U-shape bracket
• Head assembly includes keyhole slot and quick-connect plugs for easy installation

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
• 12V Lead-Calcium battery
• 12V Nickel-Cadmium battery

Approval
• CSA-US (To UL 924 standards)
• New York City Approved
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
</tr>
</tbody>
</table>
Dimensions (Dimensions are approximate and subject to change):

Charger and battery compartment:
For use in walls or ceilings with a cavity, not for use in block walls or solid ceilings.

Power consumption chart - Non-CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Type</th>
<th>Voltage</th>
<th>Units</th>
<th>Battery capacity (in watts)</th>
<th>AC Input</th>
<th>Current</th>
<th>Power</th>
<th>AC Input</th>
<th>Input Power</th>
<th>Input Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHN40</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>90 Mins</td>
<td>40</td>
<td>120V</td>
<td>0.25A</td>
<td>30W</td>
<td>0.79W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHN70</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>90 Mins</td>
<td>70</td>
<td>277V</td>
<td>0.12A</td>
<td>40</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHN100</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>90 Mins</td>
<td>100</td>
<td>277V</td>
<td>0.12A</td>
<td>50</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Stand-by power consumption is 50% lower for Lead-Calcium Batteries

Power consumption chart - CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Type</th>
<th>Voltage</th>
<th>Units</th>
<th>Battery capacity (in watts)</th>
<th>AC Input</th>
<th>Current</th>
<th>Power</th>
<th>AC Input</th>
<th>Input Power</th>
<th>Input Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHM40</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>90 Mins</td>
<td>40</td>
<td>120VAC</td>
<td>0.25A</td>
<td>30W</td>
<td>11W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHM70</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>90 Mins</td>
<td>70</td>
<td>277VAC</td>
<td>0.12A</td>
<td>40</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHM100</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>90 Mins</td>
<td>100</td>
<td>277VAC</td>
<td>0.12A</td>
<td>50</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Test Switch (Metal Faceplate)</td>
<td>PSW</td>
</tr>
<tr>
<td>Remote Test Switch (Plastic Faceplate)</td>
<td>PSW-1</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Type</th>
<th>Capacity</th>
<th>Number of heads</th>
<th>Lamp type</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHN</td>
<td>Battery unit</td>
<td>N=Nickel-Cadmium M=Lead-Calcium</td>
<td>40=12V-40W 70=12V-70W 100=12V-100W</td>
<td>-2= Two lamps</td>
<td>MR16 LED (LD7)= 12V-4W (LD9)= 12V-5W (LD10)= 12V-6W</td>
<td>Blank= No Options ID= Improved Diagnostics (audible)¹ IDNA= Improved Diagnostics (non audible)¹ DL= Damp location² X= Back box shipped separate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-CEC= CEC Title 20 for California²</td>
</tr>
</tbody>
</table>

Example: PHM100-2LD7

<table>
<thead>
<tr>
<th>Series</th>
<th>Input voltage</th>
<th>Number of heads</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHG</td>
<td>Generator unit</td>
<td>1= 120VAC, 60Hz 2= 277VAC, 60Hz</td>
<td>-2= Two lamps</td>
<td>MR16 LED (LD7)= 12V-4W (LD9)= 12V-5W (LD10)= 12V-6W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DL= Damp location X= Back box shipped separately</td>
</tr>
</tbody>
</table>

Example: PHG1-2LD7
Mini-Phantom™ Series
The full retrofit unseen solution
12V-40W capacities – generator capable

Housing
• Galvanized steel back-box
• Easy access to internal components
• Head assembly door and trim plate powder coated in a white finish
• Finish can be customized on site with paint or wallpaper
• Choice of various 12 volt MR16 LED lamp wattages
• Complete 360° head assembly door rotation
• Slip gear mechanism protects unit and objects against forcible stops

Mounting
• Recessed wall or ceiling with cavity mount (retrofit into finished wall)
• Designed to install into an 8-1/4” by 5-3/4” opening
• Key-hole slot for ease of installation

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD7</td>
<td>49’</td>
<td>39’</td>
</tr>
<tr>
<td>LD9</td>
<td>68’</td>
<td>54’</td>
</tr>
<tr>
<td>LD10</td>
<td>89’</td>
<td>80’</td>
</tr>
<tr>
<td>5OH</td>
<td>160’</td>
<td>171’</td>
</tr>
</tbody>
</table>

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
• 12V Lead-Calcium battery
• 12V Nickel-Cadmium battery

Approval
• CSA-US (To UL 924 standards)
• New York City Approved
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote test switch (Metal faceplate)</td>
<td>PSW</td>
</tr>
<tr>
<td>Remote test switch (Plastic faceplate)</td>
<td>PSW-1</td>
</tr>
</tbody>
</table>
### Dimensions
(Dimensions are approximate and subject to change):

![Diagram of dimensions](image)

### Power consumption chart - Non-CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Voltage</th>
<th>Battery capacity (in watts)</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>90 Mins 2 Hrs 3 Hrs 4 Hrs</td>
<td>Units dual voltage</td>
<td>Current</td>
</tr>
<tr>
<td>MPHM40</td>
<td>Lead-Calcium 12V</td>
<td>40 30 24 12</td>
<td>120VAC 0.25A</td>
<td>0.25A</td>
</tr>
<tr>
<td>MPHN40</td>
<td>Nickel-Cadmium 12V</td>
<td>40 30 24 12</td>
<td>277VAC 0.12A</td>
<td>0.05A</td>
</tr>
</tbody>
</table>

* Stand-by power consumption is 50% lower for Lead-Calcium Batteries

### Power consumption chart - CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Voltage</th>
<th>Battery capacity (in watts)</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>90 Mins 2 Hrs 3 Hrs 4 Hrs</td>
<td>Units dual voltage</td>
<td>Current</td>
</tr>
<tr>
<td>MRTM40</td>
<td>Lead-Calcium 12V</td>
<td>40 30 24 12</td>
<td>120VAC 0.25A</td>
<td>0.25A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>277VAC 0.12A</td>
<td>-</td>
</tr>
</tbody>
</table>

* Maximum power when equipped with 2x 50W lamps

### Ordering format – Battery unit

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Capacity</th>
<th>Number of heads</th>
<th>Lamp type</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPH</td>
<td>M= Lead-Calcium</td>
<td>40= 12V-40W -2= Two lamps</td>
<td>MR16 LED (LD7)= 12V-4W (LD9)= 12V-5W (LD10)= 12V-6W</td>
<td>Blank= No options</td>
<td>-CEC= CEC Title 20 for California²</td>
</tr>
<tr>
<td></td>
<td>N= Nickel-Cadmium</td>
<td></td>
<td></td>
<td>ID= Improved Diagnostics (audible)¹</td>
<td>IDNA= Improved Diagnostics (non audible)¹</td>
</tr>
</tbody>
</table>

**Example:** MPH40-2(LD7)DL

¹ -ID & -IDNA include a time delay feature that can be enabled/ disabled in the field or set by the factory by including -ID-TD* or -IDNA-TD*
² Available on all models except Lead-Calcium
³ Available with lead-cadmium models only

### Ordering format – Generator

<table>
<thead>
<tr>
<th>Series</th>
<th>Input voltage</th>
<th>Number of heads</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPHG</td>
<td>1= 120VAC, 60Hz 2= 277VAC, 60Hz</td>
<td>-2= Two lamps</td>
<td>MR16 LED (LD7)= 12V-4W (LD9)= 12V-5W (LD10)= 12V-6W</td>
<td>MR16 Halogen High Output (50H)= 12V-50W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DL= Damp location</td>
<td></td>
</tr>
</tbody>
</table>

**Example:** MPHG1-2(LD7)DL
TBR Series
Recessed steel housing

Housing
• Steel housing
• Standard off-white finish, optional black finish
• Lighting heads, available in thermoplastic or decorative die-cast aluminum
• Choice of MR16 LED lamp wattages

Mounting
• Fully recessed ceiling
• Hanger bars included for lay-in installation in t-bar grid

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• Optional: Nexus® monitoring system
• 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
• 6V or 12V Lead-Calcium battery
• 12V Nickel-Cadmium battery

Approval
• UL 924 Listed
• New York City Approved

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>43’</td>
<td>36’</td>
</tr>
<tr>
<td>LD2</td>
<td>81’</td>
<td>64’</td>
</tr>
<tr>
<td>LD7</td>
<td>55’</td>
<td>43’</td>
</tr>
<tr>
<td>LD9</td>
<td>71’</td>
<td>56’</td>
</tr>
<tr>
<td>LD10</td>
<td>100’</td>
<td>85’</td>
</tr>
</tbody>
</table>

Available Head Style Choices: ELF3 /D1
Head Style Suffix: /E3
Dimensions (Dimensions are approximate and subject to change)

![Diagram showing dimensions]

Cabinet dimensions

<table>
<thead>
<tr>
<th>Units</th>
<th>Cabinet</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>54W and under</td>
<td>S</td>
<td>4-5/8&quot;</td>
</tr>
<tr>
<td>81W and higher</td>
<td>L</td>
<td>7-1/8&quot;</td>
</tr>
</tbody>
</table>

Power consumption chart

<table>
<thead>
<tr>
<th>Series/Battery/Capacity</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Battery</td>
<td>Voltage</td>
</tr>
<tr>
<td>TBRC0</td>
<td>Lead-Calcium</td>
<td>6V</td>
</tr>
<tr>
<td>T12BRC0</td>
<td>Lead-Calcium</td>
<td>12V</td>
</tr>
<tr>
<td>T12BRC2</td>
<td>Ni-Cd with option (-N)</td>
<td>12V</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Test Switch (Metal Faceplate)</td>
<td>PSW</td>
</tr>
<tr>
<td>Remote Test Switch (Plastic Faceplate)</td>
<td>PSW-1</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series/Battery/Capacity</th>
<th>Head style</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank= No heads</td>
<td>Lead-Calcium Battery</td>
<td>/E3= ELF3 (MR16, Plastic)</td>
<td>LD1= 6V-4W MR16 LED</td>
<td>Blank= Mist white housing, no options</td>
</tr>
<tr>
<td>2= 2 heads</td>
<td>TBRC0= 6V-18W</td>
<td>/D1= DR130 (MR16, Metal)</td>
<td>LD2= 6V-5W MR16 LED</td>
<td></td>
</tr>
<tr>
<td>3= 3 heads</td>
<td>T12BRC0= 12V-36W</td>
<td></td>
<td>LD7= 12V-4W MR16 LED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For Nickel-Cadmium Battery (must include option -N)</td>
<td></td>
<td>LD9= 12V-5W MR16 LED</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T12BRC2= 12V-50W</td>
<td></td>
<td>LD10= 12V-6W MR16 LED</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-ID= Improved Diagnostics (audible)¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-IDNA= Improved Diagnostics (non audible)¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-NEX= Nexus® wired Compatible² (consult your sales representative)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-NEXRF= Nexus® wireless Compatible² (consult your sales representative)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-B= Black housing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-TD15= Time delay (15 minutes)³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-N= Nickel-Cadmium battery</td>
</tr>
</tbody>
</table>

Example: 2T12BRC0/D1LD9

¹ -Minimum lamp load required: 20% of unit capacity. Not available with 100W N-Cd 24V. Should also apply to NEX and NERF.
²-NEX & -NEXRF is CSA-US approved only.
³-Time delay only available with ID, IDNA, NEX or NEXRF models
RD Series
Recessed steel housing

Housing
• Steel housing
• Standard off-white finish, optional black finish
• Lighting heads, available in thermoplastic or decorative die-cast aluminum
• Choice of MR16 LED lamp wattages

Mounting
• Fully recessed ceiling or wall-mount
• Hanger bars included for lay-in installation in T-bar grid
• Suitable for sheet rock installation

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
• 6V or 12V Lead-Calcium battery
• 6V or 12V Nickel-Cadmium battery

Approvals
• UL 924 listed
• New York City Approved

Warranty
(subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>43’</td>
<td>36’</td>
</tr>
<tr>
<td>LD2</td>
<td>81’</td>
<td>64’</td>
</tr>
<tr>
<td>LD7</td>
<td>55’</td>
<td>43’</td>
</tr>
<tr>
<td>LD9</td>
<td>71’</td>
<td>56’</td>
</tr>
<tr>
<td>LD10</td>
<td>100’</td>
<td>85’</td>
</tr>
</tbody>
</table>

See lamp table

<table>
<thead>
<tr>
<th>Available Head Style Choices:</th>
<th>ELF3</th>
<th>DR130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Style Suffix:</td>
<td>/E3</td>
<td>/D1</td>
</tr>
</tbody>
</table>
Dimensions (Dimensions are approximate and subject to change)

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Style</th>
<th>Voltage</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Battery capacity (in watts)</td>
<td>Units dual voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6V</td>
<td>90 MIns</td>
<td>2 Hrs</td>
</tr>
<tr>
<td>RD6M1</td>
<td>Lead-Calcium</td>
<td>18</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>RD12M3</td>
<td>Lead-Calcium</td>
<td>36</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>RD12C4</td>
<td>Nickel-Cadmium</td>
<td>50</td>
<td>36</td>
<td>25</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard (DR130 or ELF3 heads)</td>
<td>WG6-L</td>
</tr>
<tr>
<td>Remote Test Switch (Metal Faceplate)</td>
<td>PSW</td>
</tr>
<tr>
<td>Remote Test Switch (Plastic Faceplate)</td>
<td>PSW-1</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series/Battery/Capacity</th>
<th>Head style</th>
<th>Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>No heads</td>
<td>/E3= ELF3 (MR16, Plastic)</td>
<td>LD1= 6V-4W MR16 LED</td>
<td>Blank= Mist white housing, no options</td>
</tr>
<tr>
<td>2</td>
<td>2 heads</td>
<td>/D1= DR130 (MR16, Metal)</td>
<td>LD2= 6V-5W MR16 LED</td>
<td>-B= Black Housing</td>
</tr>
<tr>
<td>Lead-Calcium Battery</td>
<td>RD6M1= 6V-18W</td>
<td></td>
<td>LD3= 12V-4W MR16 LED</td>
<td>-ID= Improved Diagnostics (audible)¹</td>
</tr>
<tr>
<td>RD12M3= 12V-36W</td>
<td>Nickel-Cadmium Battery</td>
<td>RD12C4= 12V-50W</td>
<td>LD7= 12V-4W MR16 LED</td>
<td>-IDNA= Improved Diagnostics (non audible)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD9= 12V-5W MR16 LED</td>
<td>-T3= Time delay (15 minutes)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD10= 12V-6W MR16 LED</td>
<td></td>
</tr>
</tbody>
</table>

Example: RD12M3/DR130LD9-IDNA

¹ Minimum lamp load required: 20% of unit capacity
² Time delay only available with ID or IDNA
Protector™ Series
6V Thermoplastic housing protected LED lamp heads

Housing
• White or black UV stabilized thermoplastic enclosure
• Clear polycarbonate lens covers

Mounting
• Surface mount
• Universal J-box mounting

Lamp Type
• MR16 LED Lamp, 6V-4W or 6V-5W

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• Optional: Nexus® monitoring system
• 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
• 6V Lead-Calcium battery

Approval
• UL 924 Listed
• Damp location optional 50°F to 104°F (10°C to 40°C)
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Fast & easy installation
Snap-together design eliminates screws
AC quick connect plug
Universal mounting pattern
Conduit knockout
Keyhole slot
Dimensions (Dimensions are approximate and subject to change)

![Dimensions diagram](image)

Power consumption chart - Non-CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2PT10</td>
<td>6V</td>
<td>10</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2PT18</td>
<td>6V</td>
<td>18</td>
<td>12</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Power consumption chart - CEC models

<table>
<thead>
<tr>
<th>Ac Input</th>
<th>Input Current</th>
<th>Input Power</th>
<th>Stand-by Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>120VAC</td>
<td>0.10A</td>
<td>12W</td>
<td>0.72W</td>
</tr>
<tr>
<td>277VAC</td>
<td>0.05A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional special bit for tamper-proof screws</td>
<td>690.0454-L</td>
</tr>
<tr>
<td>Replacements lamps MR16 LED 6V-4W</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>Replacements lamps MR16 LED 6V-5W</td>
<td>580.0122-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Heads</th>
<th>Series</th>
<th>Lamp suffix</th>
<th>Unit type</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2PT10</td>
<td>6V-10.8W</td>
<td>Blank</td>
<td>Blank</td>
<td>DL: Damp locations 68–86°F - CEC: CEC Title 20 for California¹</td>
</tr>
<tr>
<td></td>
<td>2PT18</td>
<td>6V-18W</td>
<td>LD1 = 6V-4W MR16 LED</td>
<td>Blank</td>
<td>VS: Vandal-resistant screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD2 = 6V-5W, MR16 LED ID = Improved Diagnostics (audible)</td>
<td>B = Black</td>
<td>3CP: Line cord 120V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IDNA = Improved Diagnostics (non-audible)</td>
<td>DL = Damp locations 68–86°F - CEC: CEC Title 20 for California¹</td>
<td>CM: Ceiling mount</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NEX = Nexus® wired¹</td>
<td>DL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NEXRF = Nexus® wireless¹</td>
<td>DL</td>
<td></td>
</tr>
</tbody>
</table>

Example: 2PT10LD1ID

¹ Available with 2PT10 only
² Available with PT10-LA with ID, IDNA or NEXRF only
LCAB-2SQLED Series
1W LED heads, thermoplastic 3.6V Nickel-Cadmium battery unit

Housing
• UV stabilized thermoplastic body
• Two fully adjustable glare-free square lighting heads
• White finish

Mounting
• Ceiling or wall mount
• Universal J-box mounting

Lamp Type
Two 3.6V-1W LED heads total 200 lumens, CCT 6000K

Options
Remote capacity for (2) ELF612/LED, (1) ELF612D/LED or (1) LCARDSQLED available with optional Improved Diagnostics

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• 120/277 60Hz

Battery type
• 3.6V maintenance free rechargeable Nickel-Cadmium battery

Approvals
• UL 924 listed
• Damp location 50°F to 104°F (10°C to 40°C)
• UL 94, 5VA flame rated

Warranty (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>LCAB</td>
<td>13’</td>
</tr>
<tr>
<td>LCAR</td>
<td>13’</td>
</tr>
<tr>
<td>ELF612</td>
<td>13’</td>
</tr>
</tbody>
</table>

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Battery</td>
<td>Battery</td>
</tr>
<tr>
<td>LCAB-2SQLED</td>
<td>3.6V</td>
<td></td>
</tr>
<tr>
<td>LCAB-2SQLEDR</td>
<td>Nickel-cadmium</td>
<td>3.6V</td>
</tr>
<tr>
<td>LCAB-2SQLEDRID</td>
<td>3.6V</td>
<td></td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type
Dimensions (Dimensions are approximate and subject to change)

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard</td>
<td>WG10-L</td>
</tr>
<tr>
<td>Vandal Resistant Shield</td>
<td>CPS</td>
</tr>
<tr>
<td>Vandal Resistant Shield (NEMA-4X)</td>
<td>CPS-4X</td>
</tr>
<tr>
<td>Replacement battery LCAB-2SQLED</td>
<td>022433-L</td>
</tr>
<tr>
<td>Replacement battery LCAB-2SQLEDRID</td>
<td>2 X 022433-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Head style / Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAB</td>
<td>2SQLED</td>
<td>Blank = No remote capacity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R = 3W Remote capacity¹</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RID = 3W Remote capacity and Improved Diagnostics¹</td>
</tr>
</tbody>
</table>

Example: LCAB2SQLEDRID

¹ To be used with the (2) ELF612/LED, (1) ELF612D/LED or (1) LCARDSQLED.

LCARDSQLED Series
Thermoplastic square LED indoor remote heads

Housing
- Thermoplastic dual head remote
- Wall or ceiling mount

Lamp information
- LED 3.6V, 2W total
- 6000K LED color temperature

Approvals
- Damp location listed
- UL924 Listed

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Dimensions

Ordering format – LCARDSQLED Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Head style / Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAR</td>
<td>D = Double</td>
<td>SQLED = Thermoplastic square LED head</td>
</tr>
</tbody>
</table>

Example: LCARDSQLED

ELF612D/LED Series
Thermoplastic square LED outdoor remote heads

Housing
- ELF612D/LED remote series is multi-volt 3.6, 6 or 12V, 3W total
- Thermoplastic housing and aluminum canopy with fully adjustable LED heads
- Suitable for outdoor application
- Suitable for wet location applications
- Wall or ceiling mount
- Available only in gray or black, single or double head configuration

Approvals
- UL924 Listed

Warranty (subject to proper installation and maintenance)
Three-year full warranty

Dimensions

Ordering format – ELF612D/LED Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Options</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF612D</td>
<td>Single</td>
<td>Blank= Gray</td>
</tr>
<tr>
<td>ELF612D</td>
<td>Double</td>
<td>-Bk= Black</td>
</tr>
</tbody>
</table>

Example: ELF612D/LED
Cluster™ LED LCA-2LED & ELF652D Remote Head Series
Offered in a family concept, with exit combination units and remote

Housing
- UV stabilized thermoplastic body
- Fully adjustable Cluster™ LED glare-free heads
- Choice of white or black housing

Mounting
- Ceiling or wall mount
- Universal J-box mounting

Lamp Type
- White LED 3.6V-3.6W, with life expectancy 50,000+ hours, 70 lumens per head

Electronics
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional: Improved Diagnostics
- 120/277 60Hz

Sealed Maintenance-Free Battery
3.6V Nickel-Cadmium battery

Approvals
- UL 924 listed
- Damp location 50°F to 104°F (10°C to 40°C)
- UL 94, 5VA flame rated
- BC- California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15  '</td>
<td>4'</td>
</tr>
</tbody>
</table>
Dimensions (Dimensions are approximate and subject to change)

![Diagram of dimensions]

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Lamp</th>
<th>Capacity</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCA</td>
<td>-2LED</td>
<td>Blank = No Remote</td>
<td>Blank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R = Remote capacity¹</td>
<td>B = Black</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RID = Remote capacity with Improved Diagnostics¹</td>
<td></td>
</tr>
</tbody>
</table>

Example: LCA-2LED

¹ Remote Capacity can ONLY be used to power the Cluster™ LED ELF652D Remote Head or the extend the battery units emergency run time beyond the standard 90 minutes.

Ordering format - Battery unit

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of heads</th>
<th>Lamp</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF652</td>
<td>D = Double head</td>
<td>/LED= Cluster™ LED head style</td>
<td>Blank = Indoor use only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-WP= Weather-proof</td>
</tr>
</tbody>
</table>

Example: ELF652D/LED

ELF652D/LED Series

Indoor remote head

The Cluster™ LED ELF652D/LED Remote head can ONLY be powered from the UQLXN-2LED combo or LCA 2LED battery units of the same family. Used for internal or external applications, the indoor remote head draws 3.6V-3.6W and Weather-Proof head draws 3.6V-3.8W

Dimensions

Indoor remote

![Diagram of indoor remote dimensions]

Outdoor remote

![Diagram of outdoor remote dimensions]

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of heads</th>
<th>Lamp</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF652</td>
<td>D = Double head</td>
<td>/LED= Cluster™ LED head style</td>
<td>Blank = Indoor use only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-WP= Weather-proof</td>
</tr>
</tbody>
</table>

Example: ELF652D/LED-WP Series

Outdoor remote head

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>15'</td>
<td>4'</td>
<td></td>
</tr>
</tbody>
</table>

Center-to-center spacing

Mounting height

Photometric Spacing for 1FC average
Grande™ Compact Series
Thermoplastic housing 6V up to 12W & 12V up to 24W capacities

Housing
• White or black UV stabilized thermoplastic enclosure
• Clear polycarbonate lens covers

Mounting
• Wall mount
  Optional: ceiling mount and pendant mount
• Universal J-box mounting

Lamp type
• Choice of MR16 LED lamp wattages

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional Improved Diagnostics
• Optional Nexus®Pro IoT monitoring system
• Optional Nexus® monitoring system
• 120/277 60Hz

Choice of battery
• 6V or 12V Lead-calcium battery
• 6V or 12V Nickel-metal hydride

Approval
• UL 924 Standards
• UL 94-5VA flame rated thermoplastic house
• Damp location listed 50°F to 104°F (10°C to 40°C)
• BC – California Energy Commission Title 20

Warranty
(subject to proper installation and maintenance)
• Unit has a five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 Feet Mounting height</th>
<th>15 Feet Mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39’</td>
<td>34’</td>
</tr>
<tr>
<td>LD2</td>
<td>74’</td>
<td>57’</td>
</tr>
<tr>
<td>LD7</td>
<td>49’</td>
<td>39’</td>
</tr>
<tr>
<td>LD9</td>
<td>68’</td>
<td>54’</td>
</tr>
<tr>
<td>LD10</td>
<td>89’</td>
<td>80’</td>
</tr>
</tbody>
</table>
**Dimensions** (Dimensions are approximate and subject to change)

![Dimension Diagram]

**Power consumption chart - Non-CEC models**

<table>
<thead>
<tr>
<th>Series</th>
<th>AC input</th>
<th>Current draw</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGRH1</td>
<td>120/277</td>
<td>0.12 / 0.5A</td>
<td>Nickel-Metal Hydride</td>
<td>12V-12W</td>
<td>12W</td>
<td>9W</td>
<td>6W</td>
<td>4W</td>
</tr>
<tr>
<td>MGR12H1</td>
<td>120/277</td>
<td>0.12 / 0.5A</td>
<td>Nickel-Metal Hydride</td>
<td>12V-12W</td>
<td>12W</td>
<td>9W</td>
<td>6W</td>
<td>4W</td>
</tr>
<tr>
<td>MGR12H2</td>
<td>120-24W</td>
<td>0.12 / 0.5A</td>
<td>Nickel-Metal Hydride</td>
<td>12V-24W</td>
<td>24W</td>
<td>18W</td>
<td>12W</td>
<td>8W</td>
</tr>
</tbody>
</table>

¹ National Electrical Code Specification

**Power consumption chart - CEC models**

<table>
<thead>
<tr>
<th>Series</th>
<th>AC input</th>
<th>Current draw</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGRA1</td>
<td>120/277</td>
<td>0.12 / 0.5A</td>
<td>Lead-Calcium</td>
<td>12V-12W</td>
<td>12W</td>
<td>9W</td>
<td>6W</td>
<td>4W</td>
</tr>
<tr>
<td>MGR12A1</td>
<td>120/277</td>
<td>0.20 / 0.09A</td>
<td>Lead-Calcium</td>
<td>12V-12W</td>
<td>12W</td>
<td>9W</td>
<td>6W</td>
<td>4W</td>
</tr>
<tr>
<td>MGR12A2</td>
<td>120-20W</td>
<td>0.20 / 0.09A</td>
<td>Lead-Calcium</td>
<td>12V-20W</td>
<td>20W</td>
<td>15W</td>
<td>10W</td>
<td>6.5W</td>
</tr>
</tbody>
</table>

¹ National Electrical Code Specification

**Ordering format**

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Heads/Capacity</th>
<th>Lamp/Wattage</th>
<th>Housing color</th>
<th>Diagnostic</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank= No heads</td>
<td>MGRA1= 6V-10W</td>
<td>/LD1= 6V-4W</td>
<td>-M= Mist white</td>
<td>Blank= Standard</td>
<td>Blank = No option</td>
<td>-CEC= CEC Title 20 for California¹</td>
</tr>
<tr>
<td>2= Two heads</td>
<td>MGR12A1= 12V-12W</td>
<td>/LD2= 6V-5W</td>
<td>-B= Black</td>
<td>-ID= Improved Diagnostics (audible)</td>
<td>-CM = Ceiling mount</td>
<td>-NEX= Nexus® wired compatible¹</td>
</tr>
<tr>
<td></td>
<td>MGR12A2= 12V-20W</td>
<td>/LD7= 12V-4W</td>
<td></td>
<td>-DNA= Improved Diagnostics (non audible)</td>
<td>-DL = Damp locations²</td>
<td>-NEXP= Nexus®Pro IoT¹</td>
</tr>
<tr>
<td></td>
<td>MGR12H1= 6V-12W Ni-MH</td>
<td>/LD8= 12V-5W</td>
<td></td>
<td>-NEXRF= Nexus® wireless¹</td>
<td>-LC = Line cord (120V only)</td>
<td>-PM = Pendant mount³</td>
</tr>
<tr>
<td></td>
<td>MGR12H2= 12V-24W Ni-MH</td>
<td>/LD10= 12V-6W</td>
<td></td>
<td></td>
<td>-T3 = Time delay (15 minute)</td>
<td>-ZU = 120/208/220-240V 50/60Hz input⁴</td>
</tr>
</tbody>
</table>

Example: 2MGRA1LD1M

¹ Consult your sales representative
² Not available in MGRA1
³ Pendant kit sold separately
⁴ Not available with -NEX and -NEXRF
⁵ Available with lead-calcium models only
Grande™ Series
Thermoplastic housing 6V up to 60W & 12V up to 72W capacities

Grande™ Thermoplastic Family

Housing
- White or Black UV stabilized thermoplastic enclosure
- Clear polycarbonate lens covers
- Choice of MR16 LED lamp wattages

Mounting
- Wall Mount, Ceiling Mount and pendant mount (optional)
- Universal J-Box mounting

Electronics
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional: Improved Diagnostics
- Optional: Nexus® monitoring system
- 120/277 60Hz

Choice of Battery
- 6V or 12 V Lead-calcium battery
- 6V or 12V Nickel-cadmium battery

Approvals
- UL 924 Listed
- UL 94, 5VA flame rated Thermoplastic housing
- Damp location listed 50°F to 104°F (10°C to 40°C)

Warranty
(subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>LD1</td>
<td>39’</td>
</tr>
<tr>
<td>LD2</td>
<td>74’</td>
</tr>
<tr>
<td>LD7</td>
<td>49’</td>
</tr>
<tr>
<td>LD9</td>
<td>68’</td>
</tr>
<tr>
<td>LD10</td>
<td>89’</td>
</tr>
</tbody>
</table>

See lamps next page
Dimensions (Dimensions are approximate and subject to change)

![Diagram of battery unit dimensions]

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (Wall mount)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (ceiling mount)</td>
<td>WG5-L</td>
</tr>
</tbody>
</table>

Power consumption chart

<table>
<thead>
<tr>
<th>Series/Capacity</th>
<th>Lamp type</th>
<th>Housing color</th>
<th>Diagnostic</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead-Calcium battery</td>
<td>MR16 LED Lamp</td>
<td>M=Mist white</td>
<td>Blank= Standard</td>
<td>Blank= No Options</td>
</tr>
<tr>
<td>GRA6 6V-60W¹</td>
<td>LD1= 6V-4W</td>
<td>B=Black</td>
<td>ID= Improved</td>
<td>-CM= Ceiling mount</td>
</tr>
<tr>
<td>GR12A4 12V-40W</td>
<td>LD2= 6V-5W</td>
<td></td>
<td>Diagnostics (audible)²</td>
<td>-DL= Damp location [50°F -104°F (10°C - 40°C)]</td>
</tr>
<tr>
<td>GR12A7 12V-72W</td>
<td>LD7= 12V-4W</td>
<td></td>
<td>IDNA= Improved</td>
<td>-T3= Time delay (15 minute)</td>
</tr>
<tr>
<td>Nickel-Cadmium battery</td>
<td>LD9= 12V-5W</td>
<td></td>
<td>Diagnostics (non audible)²</td>
<td>-3CP= 120V Cord &amp; plug, 3 wire, 3ft long³</td>
</tr>
<tr>
<td>GRN2 6V-20W</td>
<td>LD10= 12V-6W</td>
<td></td>
<td>NEX= Nexus® wired compatible (consult your sales representative)²</td>
<td>-3CP277= 277V Cord &amp; plug, 3 wire, 3ft long³</td>
</tr>
<tr>
<td>GR12N4 12V-40W</td>
<td></td>
<td></td>
<td>NEXRF= Nexus® wireless compatible (consult your sales representative)²</td>
<td>-240/50= 240V, 50Hz</td>
</tr>
</tbody>
</table>

Example: 2GRA6LD1M

¹ Not available with damp location
² Minimum lamp load required: 20% of capacity
³ -3CP & -3CP277 custom lengths available. Consult your sales representative
Camray™ LED Series

Die-cast aluminum LED emergency lighting – interior or exterior

Housing
- Indoor/outdoor suitable for wet location
- Die-cast aluminum housing
- UV-resistant (3” x 1.5”) polycarbonate lens

Mounting
- Wall mount
- 1/2” rigid conduit top entry
- Universal J-box mounting pattern

Lamp Type
- Patent-pending light engine: four power LEDs with redundant connections
- 400-640 lumens
- Color temperature: 4000K
- Optional forward-throw light distribution, for applications of outdoor egress
- Optional high-lumen output
- Optional dual-mode operation: normal and emergency LED lighting with separate AC inputs
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Standard Improved Diagnostics
- 120/277 60Hz

Approval
- UL 924 listed
- Nema-3R rated for indoor/outdoor cold-weather wet and damp locations: -4°F to 104°F (-20°C to 40°C)

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Unit color
- Platinum gray
- Black
- White
- Dark bronze (painted)

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>Normal lighting</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(maximum)</td>
<td>(maximum)</td>
<td>6-12V¹</td>
</tr>
<tr>
<td>Current</td>
<td>Power</td>
<td>Current</td>
<td>Power</td>
</tr>
<tr>
<td></td>
<td>(maximum)</td>
<td>(maximum)</td>
<td>(maximum)</td>
</tr>
<tr>
<td>AC, 2AC, ACDC, DC</td>
<td>0.12/0.08A</td>
<td>12W</td>
<td>0.11/0.08A</td>
</tr>
<tr>
<td>All above, -H</td>
<td>0.18/0.11A</td>
<td>18W</td>
<td>0.18/0.11A</td>
</tr>
<tr>
<td>ACSD, SD, SD-H</td>
<td>0.12/0.05A</td>
<td>12W</td>
<td>0.05/0.02A</td>
</tr>
<tr>
<td>SD-CW</td>
<td>–</td>
<td>–</td>
<td>0.15/0.07A</td>
</tr>
<tr>
<td>ACSD-CW-P, -FT</td>
<td>N/A¹</td>
<td>0.22/0.10A</td>
<td>24W</td>
</tr>
</tbody>
</table>

¹ Only unswitched AC input; normal lighting with photo-switch or remote control
**Dimensions** *(Dimensions are approximate and subject to change)*

![Dimensions Diagram](image)

**Photometric performance**

**Table A – Spacing for NFPA101 (average = 1FC) – Average of 1 foot-candle**

<table>
<thead>
<tr>
<th>Model type</th>
<th>Mounting height</th>
<th>Lumen</th>
<th>Color temperature</th>
<th>Width X length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>9'</td>
<td>400</td>
<td>4000K</td>
<td>6' X 50'</td>
</tr>
<tr>
<td>With option -H</td>
<td>11'</td>
<td>550</td>
<td></td>
<td>6' X 60'</td>
</tr>
<tr>
<td>With option -FT</td>
<td>12'</td>
<td>460</td>
<td></td>
<td>3' X 70'</td>
</tr>
<tr>
<td>With option -FTH</td>
<td>15'</td>
<td>640</td>
<td></td>
<td>6' X 40'</td>
</tr>
</tbody>
</table>

**Indoor reflectance:** 80/50/20 and 10-ft wide corridor. **Outdoor reflectance:** 0/30/10

*Note: The illumination level meets ALL the requirements of the Life Safety Code (NFPA 101):*

1) Average of 1 foot-candle or more
2) Minimum at any point of 0.1 foot-candle or more
3) Maximum-to-minimum illumination uniformity ratio of 40:1 or less

**Table B – Spacing for minimum illumination = 1FC – Minimum of 1 foot-candle**

<table>
<thead>
<tr>
<th>Model type</th>
<th>Mounting height</th>
<th>Lumen</th>
<th>Color temperature</th>
<th>Width X length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>9'</td>
<td>400</td>
<td>4000K</td>
<td>4' X 28'</td>
</tr>
<tr>
<td>With option -H</td>
<td>11'</td>
<td>550</td>
<td></td>
<td>4' X 32'</td>
</tr>
<tr>
<td>With option -FH</td>
<td>12'</td>
<td>460</td>
<td></td>
<td>4' X 22'</td>
</tr>
<tr>
<td>With option -FTH</td>
<td>15'</td>
<td>640</td>
<td></td>
<td>4' X 27'</td>
</tr>
</tbody>
</table>

**Photometry performance – Wide beam**

**Photometry performance – Forward throw**

**Ordering format – Battery unit**

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
<th>Color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM</td>
<td>Nickel-Metal Hydride Battery Units (standard with Self-Diagnostics)</td>
<td>B= Black</td>
<td>-CW= Cold weather (-40°F - 86°F)</td>
</tr>
<tr>
<td></td>
<td>SD= Self-Powered &amp; Self-Diagnostic (-4°F + 122°F)/(-20°C + 50°C)</td>
<td>DB= Dark bronze</td>
<td>-T3= Time delay: 15 minutes (models ACSD, SD only)</td>
</tr>
<tr>
<td></td>
<td>ACSD= Dual-Mode AC/Self-Powered &amp; Diagnostics (-4°F + 104°F)</td>
<td>OW= Off white</td>
<td>-P= Photo-switch, (model models ACSD only)</td>
</tr>
<tr>
<td></td>
<td>(-20°C + 40°C)</td>
<td>PG= Platinum gray</td>
<td>-RC= Remote control - infrared¹</td>
</tr>
</tbody>
</table>

**Example:** CAMSDOW-RC

¹ For ACSD Model only, with -RC option, order the remote control keypad (TB-RC1-L) separately
MG/MN-SP Series
Steel housing 12V up to 40W capacities Lead-Calcium or Nickel-Cadmium battery high performance LED heads

Housing
• Steel housing
• Standard gray finish, optional black finish

Lamp heads
• 6W (L6 lamp suffix), 10W (L10 lamp suffix) and 15W (L15 lamp suffix) high efficacy LED emergency heads outperform traditional 50W MR16-IR Halogen
• Black heads available in 15W (L15 lamp suffix) only
• Innovative head design: four-LED and dual-driver provide illumination even in case of unexpected component failure
• Die-cast aluminum, LED heads

Mounting
• Wall or ceiling mount
• Universal J-box mounting

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Optional: Improved Diagnostics
• Optional: Nexus® monitoring system
• 120/277 60Hz

Choice of Battery
• 12V Lead-Calcium battery
• 12V Nickel-Cadmium battery

Approvals
• UL 924 Listed
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Power consumption chart - Non-CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Battery capacity (in watts)</td>
<td>Units dual voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>90 Mins</td>
<td>2 Hrs</td>
</tr>
<tr>
<td>M12N1</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>30</td>
<td>21</td>
</tr>
<tr>
<td>M12N2</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>40</td>
<td>36</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Power consumption chart - CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Battery capacity (in watts)</td>
<td>Units dual voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>90 Mins</td>
<td>2 Hrs</td>
</tr>
<tr>
<td>M12G1</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>36</td>
<td>25</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type
Dimensions (Dimensions are approximate and subject to change)

Center-to-center spacing
Mounting height
14-7/8" (35.56 cm)
11-1/8" (27.94 cm)
7-5/8" (17.75 cm)
3-5/8" (7.62 cm)
5-1/8" (12.7 cm)

Photometry performance
For NEMA 1 type application, the MG/MN-SP Series LED emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights. Depending on the required illumination levels need for the application, choose between three level of lumen output using a 6W, 10W or 15W head.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L6</td>
<td>6W</td>
<td>565</td>
<td>37W PAR36, MR16 Halogen</td>
</tr>
<tr>
<td>L10</td>
<td>10W</td>
<td>1000</td>
<td>50W PAR36, MR16 Halogen</td>
</tr>
<tr>
<td>L15</td>
<td>15W</td>
<td>1300</td>
<td>50W MR16-IR Halogen</td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L6/6W, 565 Lm</th>
<th>Lamp L10/10W, 1000 Lm</th>
<th>Lamp L15/15W, 1300 Lm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>80°</td>
<td>110°</td>
<td>140°</td>
</tr>
<tr>
<td>15 ft</td>
<td>70°</td>
<td>105°</td>
<td>135°</td>
</tr>
<tr>
<td>20 ft</td>
<td>60°</td>
<td>100°</td>
<td>130°</td>
</tr>
<tr>
<td>25 ft</td>
<td>50°</td>
<td>95°</td>
<td>120°</td>
</tr>
</tbody>
</table>

Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path. Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting platform</td>
<td>MP-PQA</td>
</tr>
<tr>
<td>Wire Guard</td>
<td>WG10-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series/Capacity</th>
<th>Head style</th>
<th>Housing color</th>
<th>Mounting head Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2= Two heads</td>
<td>Lead-Calcium battery</td>
<td>/L6= 12V-6W (565 Lumens)</td>
<td>G= Gray</td>
<td>-FM= Front mount heads</td>
<td>-ID= Improved Diagnostics (audible)⁵</td>
</tr>
<tr>
<td>M12G1SP= 12V-36W</td>
<td>/L10= 12V-10W (1000 Lumens)</td>
<td>B= Black¹</td>
<td></td>
<td></td>
<td>-IDNA= Improved Diagnostics (non audible)⁶</td>
</tr>
<tr>
<td>Nickel-Cadmium battery</td>
<td>/L15= 12V-15W (1300 Lumens)</td>
<td></td>
<td></td>
<td></td>
<td>-NEX= Nexus® Wired compatible⁷</td>
</tr>
<tr>
<td>M12N1SP= 12V-30W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-NEXRF= Nexus® Wireless compatible⁸</td>
</tr>
<tr>
<td>M12N2SP= 12V-40W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-T3= Time delay (15 minute)⁴</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-3CP= 120V Cord &amp; Plug, 3 wire, 3ft long⁵</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-3CP277= 277V Cord &amp; plug, 3 wire, 3ft long⁵</td>
</tr>
</tbody>
</table>

Example: 2M12G1SP/L15G-FM-ID

¹ Available with 15 watt heads only
² -ID & -INDA include a time delay feature that can be enabled/ disabled in the field or set by the factory by including -ID-TD* or -IDNA-TD*
³ -NEX & -NEXRF is CSA-US approved only. Consult your sales representative
⁴ Time delay only available with ID, IDNA, NEX or NEXRF models
⁵ -3CP & -3CP277 custom lengths available . Consult your sales representative
⁶ Available with lead-calcium models only
⁷ -CEC= CEC Title 20 for California⁶
MG & MN Series
Steel housing 6V and 12V up to 36W capacities

Housing
- Steel housing
- Standard mist white finish, optional black finish
- Choice of MR16 LED lamp voltages and wattages
- Heads available in thermoplastic or decorative die-cast aluminum

Mounting
- Ceiling or wall mount
- Universal J-box mounting

Electronics
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional Improved Diagnostics
- Optional Nexus® monitoring system
- 120/277 60Hz

Choice of Battery
- 6V or 12V Lead-Calcium battery
- 6V or 12V Nickel-Cadmium battery

Approvals
- UL 924 Standard
- BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: three-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td></td>
<td>43'</td>
<td>36'</td>
</tr>
<tr>
<td>LD2</td>
<td></td>
<td>81'</td>
<td>64'</td>
</tr>
<tr>
<td>LD7</td>
<td></td>
<td>55'</td>
<td>43'</td>
</tr>
<tr>
<td>LD9</td>
<td></td>
<td>71'</td>
<td>56'</td>
</tr>
<tr>
<td>LD10</td>
<td></td>
<td>100'</td>
<td>85'</td>
</tr>
</tbody>
</table>

Housing color
Black
Mist White
### Dimensions (Dimensions are approximate and subject to change)

![Dimensions diagram]

### Power consumption chart - Non-CEC models

| Series | Battery | Voltage | 90 Mins | 2 Hrs | 3 Hrs | 4 Hrs | Units dual voltage¹ | Current Maximum |
|--------|---------|---------|---------|-------|-------|-------|---------------------|----------------|-----------------|
| MG18   | Lead-Calcium | 6V 18 | 12 | 0 | 0 | 0 | 120VAC 277VAC | 0.3A 0.15A |
| MG1    | 6V 27 | 18 | 14 | 0 | 0 | 0.62W |
| M12G1  | 12V 36 | 25 | 20 | 14 | 0 | 0.66W |
| MN1    | 6V 25 | 18 | 12 | 0 | 0 | 0.62W |
| M12N1  | Nickel-Cadmium | 12V 36 | 21 | 15 | 12 | 0.62W |
| M12N2  | 12V 50 | 36 | 25 | 18 | 0 | 0.66W |

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

### Power consumption chart - CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Units dual voltage¹</th>
<th>Current Maximum</th>
<th>Stand-by power</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG18</td>
<td>6V 18</td>
<td>12</td>
<td>9</td>
<td>16</td>
<td>0.62W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MG1</td>
<td>6V 27</td>
<td>18</td>
<td>14</td>
<td>0</td>
<td>0.62W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M12G1</td>
<td>12V 36</td>
<td>24</td>
<td>18</td>
<td>13</td>
<td>0.66W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

### Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting platform</td>
<td>MP-PQA</td>
</tr>
<tr>
<td>Wire guard (S cabinet)</td>
<td>WG1-L</td>
</tr>
<tr>
<td>Wire guard (L cabinet)</td>
<td>WG2-L</td>
</tr>
<tr>
<td>Wire guard (Front mounted heads)</td>
<td>WG10-L</td>
</tr>
</tbody>
</table>

### Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series/Capacity</th>
<th>Head style</th>
<th>Lamp type</th>
<th>Housing color</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0= No Heads</td>
<td>Lead-Calcium battery</td>
<td>/ELF3 = ELF3 (MR16, Plastic)</td>
<td>LD1= 6V-4W</td>
<td>-M= Mist white</td>
<td>Blank= No Options</td>
<td>-CEC= CEC Title 20</td>
</tr>
<tr>
<td>2= Two Heads</td>
<td>MG18= 6V-18W MG1= 6V-27W M12G1= 12V-36W</td>
<td>/DR130 = DR130 (MR16, Metal)</td>
<td>LD2= 6V-5W</td>
<td>-B= Black</td>
<td>-ID= Improved Diagnostics (audible)¹ for California</td>
<td></td>
</tr>
<tr>
<td>3= Three Heads</td>
<td>Nickel-Cadmium battery M12N1= 12V-36W M12N2= 12V-50W</td>
<td></td>
<td>LD7= 12V-4W</td>
<td></td>
<td>-IDNA= Improved Diagnostics (non audible)¹</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD8= 12V-5W</td>
<td></td>
<td>-FM= Front mounted heads</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD9= 12V-6W</td>
<td></td>
<td>-NEX= Nexus® Wired (contact your sales representative)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MR16 LED</td>
<td></td>
<td>-NEXRF= Nexus® Wireless (contact your sales representative)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MR16 LED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example: 2MG18/ELF3-LD1-M-ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ -ID & -IDNA include a time delay feature that can be enabled/disabled in the field or set by the factory by including -ID-TD* or -IDNA-TD*
² Time delay only available with ID, IDNA, NEX or NEXRF models
³ -3CP custom lengths available. Consult your sales representative
⁴ Must choose ID, IDNA or NEXRF
**PG, PQ, P12G & P12Q Series**

Steel housing 6V-54W & 12V up to 200W capacities Lead-Calcium battery

---

**Housing**
- Steel housing
- Standard mist white finish, optional black finish
- Choice of MR16 LED lamp voltages and wattages
- Heads available in thermoplastic or decorative die-cast aluminum

**Mounting**
- Wall mount
- Universal J-box mounting

**Electronics**
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional: Improved Diagnostics
- Optional: Nexus® monitoring system
- 120/277 60Hz

**Choice of Battery**
- 6V or 12V Lead-Calcium battery

**Approvals**
- UL 924 Standard
- New York City Approved

**Warranty** (subject to proper installation and maintenance)
Unit: three-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

---

**Photometric performance**

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>43'</td>
<td>36'</td>
</tr>
<tr>
<td>LD2</td>
<td>81'</td>
<td>64'</td>
</tr>
<tr>
<td>LD7</td>
<td>55'</td>
<td>43'</td>
</tr>
<tr>
<td>LD9</td>
<td>71'</td>
<td>56'</td>
</tr>
<tr>
<td>LD10</td>
<td>100'</td>
<td>85'</td>
</tr>
</tbody>
</table>

---

**Housing color**
- Black
- Mist White
### Dimensions

(Dimensions are approximate and subject to change)

- **Wire guard** WG2-L
- **Mounting platform** MP-PQA

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard</td>
<td>WG2-L</td>
</tr>
<tr>
<td>Mounting platform</td>
<td>MP-PQA</td>
</tr>
</tbody>
</table>

**Power consumption chart**

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Units dual voltage</th>
<th>Current Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG1</td>
<td>Lead-Calcium</td>
<td>6V</td>
<td>18</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>120VAC</td>
<td>0.25A</td>
</tr>
<tr>
<td>PG2</td>
<td>Lead-Calcium</td>
<td>6V</td>
<td>54</td>
<td>36</td>
<td>27</td>
<td>18</td>
<td>277VAC</td>
<td>0.15A</td>
</tr>
<tr>
<td>P12G1</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>54</td>
<td>36</td>
<td>27</td>
<td>18</td>
<td>120VAC</td>
<td>0.3A</td>
</tr>
<tr>
<td>P12Q1</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>100</td>
<td>75</td>
<td>50</td>
<td>36</td>
<td>277VAC</td>
<td>0.15A</td>
</tr>
<tr>
<td>P12Q2</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>200</td>
<td>150</td>
<td>100</td>
<td>72</td>
<td>120VAC</td>
<td>0.25A</td>
</tr>
</tbody>
</table>

**AC Specs**

- **Battery capacity (in watts)**
- **Units dual voltage**
- **Current Maximum**

**Ordering format**

Example: 2PG1/DR130LD1

1. **0** = No heads
2. **2** = Two heads
3. **3** = Three Heads

<table>
<thead>
<tr>
<th>Head style</th>
<th>Lamp type</th>
<th>Housing color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ELF3</td>
<td>/DR130</td>
<td>/MR16, Plastic</td>
<td>Blank: No Options</td>
</tr>
<tr>
<td>/MR16, Plastic</td>
<td>/MR16, Metal</td>
<td>/ELF3, ELF3</td>
<td>-ID: Improved Diagnostics (audible)¹,²</td>
</tr>
<tr>
<td>/DR130</td>
<td>/MR16</td>
<td>/MR16, Metal</td>
<td>-DNA: Improved Diagnostics (non audible)¹,²</td>
</tr>
<tr>
<td>/MR16, Plastic</td>
<td>/MR16, Metal</td>
<td>/MR16, Plastic</td>
<td>-NEX: Nexus® Wired (contact your sales representative)²</td>
</tr>
<tr>
<td>/MR16</td>
<td>/MR16, Plastic</td>
<td>/MR16, Metal</td>
<td>-NEXRF: Nexus® Wireless (contact your sales representative)²</td>
</tr>
<tr>
<td>/MR16, Plastic</td>
<td>/MR16, Metal</td>
<td>/MR16, Plastic</td>
<td>-3CP: 120V Cord &amp; plug, 3 wire, 3ft long¹</td>
</tr>
</tbody>
</table>

¹ -ID & -DNA include a time delay feature that can be enabled/disabled in the field by including -ID-TD* or -DNA-TD*.
² Minimum lamp load required: 20% of unit capacity.
³ Time delay only available with ID, DNA, NEX or NEXRF models.
⁴ -3CP custom length available. Consult your sales representative.

¹ -ID & -DNA include a time delay feature that can be enabled/disabled in the field or set by the factory by including -ID-TD* or -DNA-TD*.
² Minimum lamp load required: 20% of unit capacity.
³ Time delay only available with ID, DNA, NEX or NEXRF models.
⁴ -3CP custom length available. Consult your sales representative.
S12E & S24E Series
Steel housing 12V up to 400W & 24V-400W capacities Lead-Calcium battery

Housing
- Steel housing
- Standard mist white finish, optional black finish
- Choice of 12 or 24 volt MR16 LED lamp wattages
- Heads available in Thermoplastic or decorative die-cast aluminum

Mounting
- Wall Mount
- Universal J-Box mounting

Electronics
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional: Improved Diagnostics
- Optional: Nexus® monitoring system
- 120/277 60Hz

Choice of Sealed Maintenance-Free Battery
6V or 12V Nickel-Cadmium battery

Approvals
- UL 924 Standard
- New York City Approved

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD7</td>
<td></td>
<td>55'</td>
<td>43'</td>
</tr>
<tr>
<td>LD9</td>
<td></td>
<td>71'</td>
<td>58'</td>
</tr>
<tr>
<td>LD10</td>
<td></td>
<td>100'</td>
<td>85'</td>
</tr>
<tr>
<td>LD13</td>
<td></td>
<td>56'</td>
<td>44'</td>
</tr>
<tr>
<td>LD14</td>
<td></td>
<td>106'</td>
<td>87'</td>
</tr>
</tbody>
</table>

Housing color

- Black
- Mist White
- Gray
Dimensions (Dimensions are approximate and subject to change)

![Diagram of dimensions]

Cabinet dimensions

<table>
<thead>
<tr>
<th>Cabinet</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>18-3/8&quot; (46.67cm)</td>
<td>16-1/2&quot; (41.91cm)</td>
<td>7-1/4&quot; (18.41cm)</td>
<td>12-1/4&quot; (32.38cm)</td>
</tr>
<tr>
<td>D</td>
<td>18-3/8&quot; (46.67cm)</td>
<td>27&quot; (68.58cm)</td>
<td>7-1/4&quot; (18.41cm)</td>
<td>12-1/4&quot; (32.38cm)</td>
</tr>
</tbody>
</table>

200W unit use C Cabinet dimensions
300W and 400W unit use D Cabinet dimensions

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Units dual voltage1</th>
<th>Current Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1245</td>
<td>Lead-Calcium</td>
<td>12V</td>
<td>300</td>
<td>225</td>
<td>165</td>
<td>127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S12E6</td>
<td></td>
<td>12V</td>
<td>400</td>
<td>300</td>
<td>214</td>
<td>170</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S24E4</td>
<td></td>
<td>24V</td>
<td>400</td>
<td>300</td>
<td>120</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard (S12E5/S12E6/S24E4)</td>
<td>WG4-L</td>
</tr>
<tr>
<td>Mounting platform (S12E4)</td>
<td>MP-A</td>
</tr>
<tr>
<td>Mounting platform (S12E5/S12E6/S24E4)</td>
<td>MD-12</td>
</tr>
<tr>
<td>Mounting bracket (S12E4/S24E4)</td>
<td>MB-A</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series/Capacity</th>
<th>Head style</th>
<th>Lamp type</th>
<th>Housing color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0= No heads</td>
<td>S12E5= 12V-300W</td>
<td>/ELF3= ELF3 (MR16, Plastic)</td>
<td>LD7= 12V-4W MR16 LED</td>
<td>-G= Gray</td>
<td>Blank= No Options</td>
</tr>
<tr>
<td>2= Two heads</td>
<td>S12E6= 12V-400W</td>
<td>/DR130= DR130 (MR16, Metal)</td>
<td>LD9= 12V-5W MR16 LED</td>
<td>-M= Mist white</td>
<td>-ID= Improved Diagnostics (audible)²</td>
</tr>
<tr>
<td>3= Three Heads</td>
<td>S24E4= 24V-400W</td>
<td></td>
<td>LD10= 12V-6W MR16 LED</td>
<td>-B= Black</td>
<td>-IDNA= Improved Diagnostics (non audible)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD13= 24V-4W MR16 LED</td>
<td></td>
<td>-NEX= Nexus® Wired (contact your sales representative)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD14= 24V-6W MR16 LED</td>
<td></td>
<td>-NEXRF= Nexus® Wireless (contact your sales representative)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-T3= Time delay (15 minute)²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-DS= Lamp disconnect switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-VS= Vandal-resistant screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-3CP= 120V Cord &amp; plug, 3 wire, 3ft long⁴</td>
</tr>
</tbody>
</table>

Example: 2S12E4/ELF3LD7-G

1 -ID & -IDNA include a time delay feature that can be enabled/disabled in the field or set by the factory by including -ID-TD* or -IDNA-TD*
2 Minimum lamp load required: 20% of unit capacity
3 Time delay only available with ID, IDNA, NEX or NEXRF models
4 -3CP custom length available. Consult your sales representative
Severe™ Series
NEMA-4X, NSF, Vandal-Resistant housing 6V-18W & 12V up to 60W capacities
Lead-Calcium, Nickel-Cadmium or Nickel-Metal Hydride battery

Housing
• Full gasketed NEMA-4X die-cast aluminium housing
• Vandal-resistant UV stabilized polycarbonate cover
• Comes with both Phillips head and tamper-proof screws

Mounting
• Universal J-box mounting
• Strut or I-beam installation bracket sold separately (order catalog number: PMK-E)

Lamp type
• Choice of MR16 LED lamp voltages and wattages

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Magnetic test switch
• Standard Improved Diagnostics (non-audible)
• Standard 15 minutes time delay
• Optional Nexus®Pro IoT monitoring system

Choice of Battery
• 6V or 12V Lead-Calcium battery
• 12V Nickel-Cadmium battery
• 12V Nickel-Metal Hydride battery

Approvals
• UL 924 Listed
• UL listed for wet and damp location 50°F to 104°F (10°C to 40°C)
• UL listed for cold weather option -40°F to 104°F (-40°C to 40°C)
• NSF certified for use in food processing plants
• NEMA-4X Rated
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
<td>57'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
<td>80'</td>
</tr>
</tbody>
</table>

Housing color

Black  White  Gray

The Severe™ XV Series Family

Severe™ XV
exit series
PG. 48-49
Severe™ XV
combo series
PG. 50-51
Severe™ ELF650
remote series
PG. 137

• Optional Nexus® wire and wireless monitoring system
• 120/277 60Hz

nexus®Pro
Power consumption & unit rating chart - Non-CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Current Maximum</th>
<th>Power Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>V12N1</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>24</td>
<td>16</td>
<td>12</td>
<td>–</td>
<td>120VAC</td>
<td>0.2A</td>
</tr>
<tr>
<td>V12N2</td>
<td>Nickel-Cadmium</td>
<td>12V</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>277VAC</td>
<td>0.11A</td>
</tr>
<tr>
<td>V12H1</td>
<td>Nickel Metal Hydride</td>
<td>12V</td>
<td>60</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>120VAC</td>
<td>0.2A</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type
² Dependent on lower ambient temperatures

Power consumption & unit rating chart - CEC models

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Current Maximum</th>
<th>Power Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>VG1</td>
<td>Lead-Cadmium</td>
<td>6V</td>
<td>18</td>
<td>12</td>
<td>–</td>
<td>–</td>
<td>120VAC</td>
<td>0.2A</td>
</tr>
<tr>
<td>V12G1</td>
<td>Lead-Cadmium</td>
<td>12V</td>
<td>24</td>
<td>16</td>
<td>12</td>
<td>–</td>
<td>277VAC</td>
<td>0.11A</td>
</tr>
<tr>
<td>V12G2</td>
<td>Lead-Cadmium</td>
<td>12V</td>
<td>36</td>
<td>24</td>
<td>20</td>
<td>14</td>
<td>120VAC</td>
<td>0.4A/0.3A</td>
</tr>
<tr>
<td>V12G3</td>
<td>Lead-Cadmium</td>
<td>12V</td>
<td>54</td>
<td>36</td>
<td>27</td>
<td>20</td>
<td>120VAC</td>
<td>0.7A/4A</td>
</tr>
<tr>
<td>V12G1-CW4</td>
<td>Lead-Cadmium</td>
<td>12V</td>
<td>24</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>120/277VAC</td>
<td>–</td>
</tr>
<tr>
<td>V12G2-CW4</td>
<td>Lead-Cadmium</td>
<td>12V</td>
<td>36</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type
² Dependent on lower ambient temperatures

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bit for Tamper-proof screws</td>
<td>690.0454-L</td>
</tr>
<tr>
<td>Universal mounting bracket</td>
<td>PMK-L</td>
</tr>
</tbody>
</table>

Ordering format

- **# of heads**: 2 (Two heads)
- **Series/Capacity**: Lead-Cadmium battery
- **Lamp type**: MR16 LED Lamp
- **Housing color**: -B= Black, -G= Gray, -M= White
- **Diagnostics**: Standard Diagnostic, Optional Diagnostic
- **Options**: Blank= No Options, -T3= Time delay (15 minute), -CW4= Cold Weather -40°F to 104°F (-40°C to 40°C)
- **Approval**: -SMC= Surface ceiling mount

**Example**: 2V12G2/LD10-B-D-CW4

1. Consult your sales representative
2. -CW4 option only available with V12N1 (none Nexus®), V12G1 & V12G2 models
3. Available with Lead-Cadmium models only
SP Series
NEMA-4X, Severe-performance industrial battery unit for indoor or outdoor applications

Housing
- Compact gray fiberglass housing with captive screws
- NEMA-4X rated
- All external fasteners and hardware are constructed of stainless steel
- Die-cast aluminum LED heads

Mounting
- Simple and easy to install on walls, poles, columns, struts also on vertical
- Pole or column installation bracket sold separately (order catalog number: PMK1-L)
- ½ NPT conduit entry on top or side

Performance
- High temperature Lead-Calcium battery operates 32°F to 122°F (0°C to 50°C) and Nickel-Cadmium battery operates 50°F to 104°F (10°C to 40°C); optional cold-weather -40°F to 122°F (-40°C to 50°C)
- 6W, 10W and 15W high efficacy LED emergency heads
- 15W head outperforms traditional 50W MR16 Halogen
- Innovative head design: four-LED and dual-driver provide illumination even in case of unexpected component failure

Electronics
- Infra-red remote control tester included with all models: allows testing the equipment without the need to climb a ladder. Distance range up to 30 ft. Universal, one remote control tester can test all the units on the job
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Standard Improved Diagnostics (non-audible)
- Optional: Nexus® monitoring system
- 120/277 60Hz

Approvals
- UL 924 Listed
- BC – California Energy Commission Title 20

Warranty
- (subject to proper installation and maintenance)
- Unit: five-year limited warranty
- Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance
Capable of being installed indoors or outdoors, the SP Series LED emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights. Depending on the required illumination levels need for the application, choose between three level of lumen output using a 6W, 10W or 15W head.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L6</td>
<td>6W</td>
<td>565</td>
<td>37W PAR36, MR16 Halogen (700 Lumens)</td>
</tr>
<tr>
<td>L10</td>
<td>10W</td>
<td>1000</td>
<td>50W PAR36, MR16 Halogen (950 Lumens)</td>
</tr>
<tr>
<td>L15</td>
<td>15W</td>
<td>1300</td>
<td>50W MR16-IR Halogen (1550 Lumens)</td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L6/6W, 565Lm</th>
<th>Lamp L10/10W, 1000Lm</th>
<th>Lamp L15/15W, 1300Lm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>80’</td>
<td>110’</td>
<td>140’</td>
</tr>
<tr>
<td>15 ft</td>
<td>70’</td>
<td>105’</td>
<td>135’</td>
</tr>
<tr>
<td>20 ft</td>
<td>60’</td>
<td>100’</td>
<td>130’</td>
</tr>
<tr>
<td>25 ft</td>
<td>50’</td>
<td>95’</td>
<td>120’</td>
</tr>
</tbody>
</table>

Industrial environment: Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path. Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1
**Unit rating chart - Non-CEC models**

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Specs (87.5% battery capacity in watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90 minutes</td>
</tr>
<tr>
<td>SP12N4</td>
<td>40</td>
</tr>
<tr>
<td>SP24N9</td>
<td>90</td>
</tr>
</tbody>
</table>

Note: the cold-weather option is only rated for 90 minutes.

**Unit rating chart - CEC models**

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Specs (87.5% battery capacity in watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 1/2 Hrs</td>
</tr>
<tr>
<td>SP12G3</td>
<td>30</td>
</tr>
<tr>
<td>SP12G6</td>
<td>60</td>
</tr>
</tbody>
</table>

Note: the cold-weather option is only rated for 90 minutes

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery and capacity</th>
<th>Number of heads¹</th>
<th>LED heads¹</th>
<th>Diagnostics</th>
<th>Option</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP12G3</td>
<td>High Temperature</td>
<td>0= No head</td>
<td>L6= 12-24V, 6W (565 Lumens)</td>
<td>ID= Improved Diagnostics, audible</td>
<td>CW4= Cold-weather -40°F (-40°C)²</td>
<td>-CEC= CEC Title 20 for California³</td>
</tr>
<tr>
<td>SP12G6</td>
<td>Lead-Calcium</td>
<td>1= One head</td>
<td>L10= 12-24V, 10W (1000 Lumens)</td>
<td>IDN= Improved Diagnostics, non-audible</td>
<td>T3= Time delay 15 minutes</td>
<td>² Only available on 12V Models</td>
</tr>
<tr>
<td></td>
<td>G3= 12V-30W, High</td>
<td>2= Two heads</td>
<td>L15= 12-24V, 15W (1300 Lumens)</td>
<td>NEX= Nexus® Wired (contact your sales representative)</td>
<td>RFI= Radio frequency interference filter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>temperature Lead-Calcium battery, Temperature= 32°F to 122°F (0…50°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP12G3</td>
<td>G6= 12V-60W, High</td>
<td></td>
<td></td>
<td>NEXRF= Nexus® Wireless (contact your sales representative)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>temperature Lead-Calcium battery, Temperature= 32°F to 122°F (0…50°C)</td>
<td></td>
<td></td>
<td>NID= No Improved Diagnostics</td>
<td></td>
<td>³ Available with lead-calcium models only</td>
</tr>
<tr>
<td></td>
<td>Nickel-Cadmium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP12G6</td>
<td>N4= 12V-40W, Nickel-Cadmium battery, Temperature= 50°F to 104°F (10…40°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP24</td>
<td>N9= 24V-90W, Nickel-Cadmium battery, Temperature= 50°F to 104°F (10…40°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: SP12G42L6IDNARFI

¹ For total Unit battery draw multiple head number by wattage

² Only available on 12V Models

³ Available with lead-calcium models only
SPRL Series Remote Fixture
NEMA-4X, Severe-performance remote for indoor or outdoor applications

Housing
• Lightweight polycarbonate gray housing with captive screws
• NEMA-4X protection grade
• All external fasteners and hardware are constructed of stainless steel
• Die-cast aluminum LED heads

Mounting
• Simple and easy to install on walls, poles, columns, struts also on vertical
• Pole or column installation bracket sold separately (order catalog number: PMK1-E)
• ½ NPT conduit entry on top or side

Performance
• 6W, 10W and 15W high efficacy LED emergency heads
• 15W head outperforms traditional 50W MR16 halogen
• Innovative head design: four-LED and dual- driver provide illumination even in case of unexpected component failure

Approvals
• UL924 Listed
• Can be installed in wide temperature range: -40°F to 131°F (-40°C to 55°C)

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance
Capable of being installed indoors or outdoors, the SP Series of LED emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights. Depending on the required illumination levels need for the application, one choose between three level of lumen output using a 6W, 10W or 15W head.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L6 6W</td>
<td>565</td>
<td>37W PAR36, MR16 Halogen (700 Lumens)</td>
<td></td>
</tr>
<tr>
<td>L10 10W</td>
<td>1000</td>
<td>50W PAR36, MR16 Halogen (950 Lumens)</td>
<td></td>
</tr>
<tr>
<td>L15 15W</td>
<td>1300</td>
<td>50W MR16-IR Halogen (1550 Lumens)</td>
<td></td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L6/6W, 565Lm</th>
<th>Lamp L10/10W, 1000Lm</th>
<th>Lamp L15/15W, 1300Lm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>80'</td>
<td>110'</td>
<td>140'</td>
</tr>
<tr>
<td>15 ft</td>
<td>70'</td>
<td>105'</td>
<td>135'</td>
</tr>
<tr>
<td>20 ft</td>
<td>60'</td>
<td>100'</td>
<td>130'</td>
</tr>
<tr>
<td>25 ft</td>
<td>50'</td>
<td>95'</td>
<td>120'</td>
</tr>
</tbody>
</table>

Industrial environment: Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path. Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1
**Dimensions** (Dimensions are approximate and subject to change):

<table>
<thead>
<tr>
<th>Dimensions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9-1/8” (23.2cm)</td>
<td></td>
</tr>
<tr>
<td>6-1/2” (16.6cm)</td>
<td></td>
</tr>
<tr>
<td>5” (12.7cm)</td>
<td></td>
</tr>
</tbody>
</table>

**Warning:** The mounting column must be anchored at both ends: floor and ceiling.

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of heads</th>
<th>LED head</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRL</td>
<td>Blank</td>
<td>L6 = 12-24V – 6W (565 Lumens)</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>L10 = 12-24V – 10W (1000 Lumens)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L15 = 12-24V – 15W (1300 Lumens)</td>
</tr>
</tbody>
</table>

**Example:** SPRLDL6
SPH Series
Class I Division 2, Groups A, B, C and D, Class II Division 2 Groups F and G & Class III. NEMA-4X Severe-performance unit equipment for hazardous, damp and wet locations.

Housing
• Class I, Div. 2, Groups A, B, C & D, Class II Div. 2, Groups F & G, Class III
• Fiberglass light-grey housing with captive screws; outside hardware in stainless steel
• NEMA-4X protection grade against liquids and dust
• Compact size: 0.46 cubic feet

Mounting
• Simple and easy to install on walls, columns and struts
• For installation on columns use mounting bracket catalog number: PMK1-L (order separately)
• May be wired from top or side using conduit (½" NPT)

Performance
• Wide ambient temperature range (choice of battery types)
  *32°F to 122°F (0°C-50°C) high temperature Lead-Calcium battery
  *50°F to 104°F (10°C to 40°C Nickel Cadmium battery
  Optional cold-weather -40°F (-40°C) (available with 12V battery models only)
• High-efficacy LED emergency lamps outperform traditional 50W halogen lamps
• Innovative lamp design: four-LED and dual-driver provide illumination even in case of unexpected component failure

Testing option
• Infra-red remote control tester included in all models: allows testing the equipment without the need to climb a ladder. Distance range up to 30 ft. Universal, one Remote Control may test all the units on the job
• Non-Audible Improved Diagnostics and Self-test available
• Optional: Nexus® monitoring system available

Approvals
• Listed UL924 and UL844 for hazardous locations: Class I Division 2, Groups A, B, C and D; Class II Division 2 Groups F & G and Class III; Rated NEMA-4X severe-performace for hazardous, damp and wet location.
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance
Capable of being installed indoors or outdoors, the SPH Series LED emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L15</td>
<td>15W</td>
<td>1300</td>
<td>50W MR16 Halogen</td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L15/15W, 1300Lm</th>
<th>1FC Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>140°</td>
<td></td>
</tr>
<tr>
<td>15 ft</td>
<td>135°</td>
<td></td>
</tr>
<tr>
<td>20 ft</td>
<td>130°</td>
<td></td>
</tr>
<tr>
<td>25 ft</td>
<td>120°</td>
<td></td>
</tr>
</tbody>
</table>

Industrial environment: Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path. Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1
Temperature Specification
Standard temperature range 120/277VAC, 60Hz, 0.30/0.15A
Cold-weather option 120/277VAC, 60Hz, 0.70/0.35A

Lamp rating Temperature code  
Nickel-cadmium Ta= 104°F/40°C
Lead-acid Ta= 122°F/50°C

Power consumption chart: maximum current draw

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Specification</th>
<th>Maximum temperature</th>
<th>Replacement part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard temperature range</td>
<td>120/277VAC, 60Hz, 0.30/0.15A</td>
<td>NiCd Ta= 104°F/40°C</td>
<td>T3C</td>
</tr>
<tr>
<td>Cold-weather option</td>
<td>120/277VAC, 60Hz, 0.70/0.35A</td>
<td>Pb-Acid Ta= 122°F/50°C</td>
<td>T3A</td>
</tr>
</tbody>
</table>

Unit rating chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery capacity in 90 minutes</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPH12G3</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>SPH12G6</td>
<td>60</td>
<td>40</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>SPH12N4</td>
<td>40</td>
<td>36</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>SPH24N9</td>
<td>90</td>
<td>72</td>
<td>48</td>
<td>36</td>
</tr>
</tbody>
</table>

Note: the cold-weather option is only rated for 90 minutes.

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery and Capacity</th>
<th># of heads</th>
<th>LED heads</th>
<th>Diagnostics</th>
<th>Option</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPH12</td>
<td>High Temperature Lead-Calcium</td>
<td>L15 (15W)</td>
<td>(1300 Lumens)</td>
<td>ID= Improved Diagnostics, audible¹</td>
<td>CW4= Cold-weather -40°F (-40°C)¹</td>
<td>-CEC= CEC Title 20 for California¹</td>
</tr>
<tr>
<td>G3</td>
<td>G3= 12V-30W, High temperature Lead-Calcium battery, Temperature= 32°F to 122°F (0...50°C)</td>
<td>0= No head</td>
<td>One head</td>
<td>Two heads</td>
<td>T3= Time delay 15 minutes</td>
<td></td>
</tr>
<tr>
<td>SPH12</td>
<td>G6= 12V-60W, High temperature Lead-Calcium battery, Temperature= 32°F to 122°F (0...50°C)</td>
<td>0= No head</td>
<td>One head</td>
<td>Two heads</td>
<td>RFI= Radio frequency interference filter</td>
<td></td>
</tr>
<tr>
<td>SPH12</td>
<td>Nickel-Cadmium N4= 12V-40W, Nickel-Cadmium battery, Temperature= 50°F to 104°F (10...40°C)</td>
<td>0= No head</td>
<td>One head</td>
<td>Two heads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPH24</td>
<td>N9= 24V-90W, Nickel-Cadmium battery, Temperature= 50°F to 104°F (10...40°C)</td>
<td>0= No head</td>
<td>One head</td>
<td>Two heads</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: SPH12N402L15ID

¹ Minimum load required: 20% of load capacity
² Available with lead-calcium models only

Remote test control (included with unit)

Standard infrared remote test control tester included with all models: allows to test the equipment without need to climb a ladder. Functional up to 30 ft distance. Universal, one Remote Test Control can test all units on the job.
SPHRL Remote Fixture Series
Class I, Division 2, Groups A, B, C & D, Class II, Division 2, Groups F & G and Class III, NEMA-4X, damp & wet locations

Housing
- Light weight polycarbonate gray housing and die-cast fully adjustable heads Class I, Div. 2, Groups A, B, C & D, Class II Div. 2, Groups F & G, Class III
- NEMA-4X protection grade
- All external fasteners and hardware are constructed of stainless steel
- Die-cast aluminum LED heads

Mounting
- Simple and easy to install on walls, poles, columns, struts also on vertical pole or column installation bracket sold separately (order catalog number: PMK1-L)
- ½ NPT conduit entry on top or side

Performance
- 15W high efficacy LED emergency heads outperform traditional 50W MR16-IR Halogen
- Innovative head design: four-LED and dual-driver provide illumination even in case of unexpected component failure

Approvals
- UL924 Listed
- Can be installed in wide temperature range: -40°F to 131°F (-40°C to 55°C)
- Listed to the UL844 Standard for Class I, Division 2, Groups A, B, C & D, Class II, Division 2, Groups F & G and Class III

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance
Capable of being installed indoors or outdoors, the SPHRL Series of LED remote emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L15</td>
<td>15W</td>
<td>1300</td>
<td>50W MR16-IR Halogen</td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L15/15W, 1300Lm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>140'</td>
</tr>
<tr>
<td>15 ft</td>
<td>135'</td>
</tr>
<tr>
<td>20 ft</td>
<td>130'</td>
</tr>
<tr>
<td>25 ft</td>
<td>120'</td>
</tr>
</tbody>
</table>

Industrial environment: Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path.
Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1
**Dimensions** (Dimensions are approximate and subject to change)

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Power</th>
<th>Lumen flux</th>
<th>Ambient</th>
<th>Classification</th>
<th>Temperature code</th>
</tr>
</thead>
<tbody>
<tr>
<td>L15</td>
<td>12-24VDC</td>
<td>15W</td>
<td>1,300 Lm</td>
<td>131°F (55°C)</td>
<td>Class I Division 2 Groups A, B, C and D</td>
<td>T3C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class II Division 2 Groups F and G; Class III</td>
<td>T5</td>
</tr>
</tbody>
</table>

**Ordering format**

- **Series**: SPHRL = Severe performance hazardous location remote head
- **Number of heads**: Blank = Single head, D = Double head
- **LED head**: L15 = 12-24V – 15W (1300 Lumens)

**Example**: SPHRLDL15

---

**Classifications for hazardous locations**

**Warning**: The mounting column must be anchored at both ends: floor and ceiling.

**PMK1-L Universal Mounting Bracket Installation**

Accessory: PMK1-L Order Separately

---

**Dimensions**

- 11-1/2" (29.2cm)
- 4-3/4" (12cm)
- 6-7/8" (17.4cm)

---

**Classification for hazardous locations**
Severe™ VH Series
Class I, Division 2, Groups A, B, C and D 6V-18W & 12V up to 72W capacities
lead-calcium battery

The Severe™ VH Series Class I Division 2 Family

Housing
• Class I Division 2, Groups A, B, C and D
• Vandal-resistant UV stabilized polycarbonate lamp cover
• Front and back plates are of a heavy duty aluminum
• Stainless steel tamper-proof screws

Mounting
• Surface wall mount only
• Includes mounting lugs on each side of the housing
• Universal J-Box mounting
• ½ inch entry on both sides and top of housing

Lamp type
Choice of MR16 LED lamp voltages and wattages

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Magnetic test switch
• Standard Improved Diagnostics (non-audible)
• Optional: Nexus® monitoring system
• 120/277 60Hz

Battery type
6 or 12V Lead-Calcium battery

Approvals
• CSA-US (To UL 924 standards)
• Evaluated to the UL 844 Standard for Class I Division 2,
Groups A, B, C and D
• NEC, OSHA and NEMA compliant for above Classes and
Groups
• Damp and wet location 50°F to 104°F (10°C to 40°C)

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
<td>57'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
<td>80'</td>
</tr>
</tbody>
</table>
Dimensions (Dimensions are approximate and subject to change)

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Units dual voltage²</th>
<th>Current Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHG1</td>
<td>Lead-Calcium</td>
<td>6V</td>
<td>18</td>
<td>12</td>
<td>9</td>
<td>0</td>
<td>120/277VAC</td>
<td>0.17A/0.09A</td>
</tr>
<tr>
<td>VH12G1</td>
<td>12V</td>
<td>36</td>
<td>27</td>
<td>18</td>
<td>14</td>
<td></td>
<td>120VAC</td>
<td>0.3A</td>
</tr>
<tr>
<td>VH12G2</td>
<td>12V</td>
<td>60</td>
<td>45</td>
<td>30</td>
<td>24</td>
<td></td>
<td>277VAC</td>
<td>0.15A</td>
</tr>
<tr>
<td>VH12G3</td>
<td>12V</td>
<td>72</td>
<td>54</td>
<td>36</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ National Electrical Code Specification
² All units 120/277 dual voltage, information based on wiring to specific voltage type

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire guard</td>
<td>WG3-L</td>
</tr>
</tbody>
</table>

Temperature codes: MR16 LED lamps

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Max temperature</th>
<th>Replacement number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>T4A</td>
<td>120°C</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>T4A</td>
<td>120°C</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>T4A</td>
<td>120°C</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>T4A</td>
<td>120°C</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>T4A</td>
<td>120°C</td>
<td>580.0106-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Number of heads</th>
<th>Series</th>
<th>Lamp type</th>
<th>Color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>0= No heads</td>
<td>VHG1- 6V-18W</td>
<td>LD1- 6V-4W, MR16 LED</td>
<td>G= Grey</td>
<td>Blank= Improved Diagnostics standard (non audible)¹</td>
</tr>
<tr>
<td>2= Two heads</td>
<td>VH12G1- 12V-36W</td>
<td>LD2- 6V-5W, MR16 LED</td>
<td></td>
<td>-DA= Improved Diagnostics (audible)¹</td>
</tr>
<tr>
<td></td>
<td>VH12G2- 12V-60W</td>
<td>LD7- 12V-4W, MR16 LED</td>
<td></td>
<td>-NEX= Nexus® Wired (contact your sales representative)</td>
</tr>
<tr>
<td></td>
<td>VH12G3- 12V-72W</td>
<td>LD9- 12V-5W, MR16 LED</td>
<td></td>
<td>-NEXRF= Nexus® Wireless (contact your sales representative)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LD10- 12V-6W, MR16 LED</td>
<td></td>
<td>-T3= Time delay (15 minute)</td>
</tr>
</tbody>
</table>

Example: 2VHG1LD1G

¹ -ID & -IDNA include a time delay feature that can be enabled/disabled in the field or set by the factory by including -ID-TD* or -IDNA-TD*
EXP LED Series
Explosives/Hazardous location housing 6V up to 30W & 12V up to 40W capacities
Nickel-Cadmium battery

Battery type
6V or 12V, Nickel-Cadmium battery

Approvals
- CSA-US (To UL 924 standards)
- Manufactured in accordance with UL844, UL1203
- Class I, Division 1 & 2, Groups C and D
- Class II, Division 1 & 2, Groups E, F and G
- Class III
- NEC, OSHA and NEMA compliant for above Classes and Groups
- Temperature Code T6

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Housing
- One-piece heavy gauge, corrosion resistant, copper-free cast aluminum
- Consists of a housing with provisions for up to two lighting heads
- Spin-off gasketed cover prevents propagation of internally generated arcs
- Stainless steel vent/drain
- Lighting head fixtures are heavy cast aluminum with Pyrex® lens
- Exit faceplate: heavy-duty 20 gauge steel, baked enamel grey finish
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons

Mounting
- Surface wall mount
- 3/4” NPT conduit entry on top and bottom of housing
- Single and double pendant mount heads include elbow swivel, conduit extension pipe (6” increments)

Electronics
- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- 120/277 60Hz

Lamp type
- Heads offer a choice of MR16 LED lamp voltages and wattages
- Exit sign uses a 3 watt LED lamp

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 X LD1</td>
<td>43’</td>
<td>29’</td>
</tr>
<tr>
<td>2 X LD2</td>
<td>70’</td>
<td>39’</td>
</tr>
<tr>
<td>2 X LD7</td>
<td>55’</td>
<td>36’</td>
</tr>
<tr>
<td>2 X LD9</td>
<td>67’</td>
<td>41’</td>
</tr>
<tr>
<td>2 X LD10</td>
<td>87’</td>
<td>62’</td>
</tr>
</tbody>
</table>

Dimensions (Dimensions are approximate and subject to change)

Housing: 12” X 12” X 9-1/2”
Mounting Lugs: 10” and 13-1/2” on center
Overall dimensions (including fixtures): 38” X 38” X 10”
Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>Battery</th>
<th>Voltage</th>
<th>90 Mins</th>
<th>2 Hrs</th>
<th>3 Hrs</th>
<th>4 Hrs</th>
<th>Units dual voltage¹</th>
<th>Current Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP618</td>
<td>Nickel-Cadmium</td>
<td>6V</td>
<td>18</td>
<td>12</td>
<td>9</td>
<td>6</td>
<td>120/277VAC</td>
<td>0.55/0.25 A</td>
</tr>
<tr>
<td>EXP630</td>
<td>Nickel-Cadmium</td>
<td>6V</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXP1224</td>
<td></td>
<td>12V</td>
<td>24</td>
<td>18</td>
<td>12</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXP1240</td>
<td></td>
<td>12V</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ All units 120/277 dual voltage, information based on wiring to specific voltage type

Standard configurations for EXP6N and EXP12N series

<table>
<thead>
<tr>
<th>Unit</th>
<th>Catalog number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote capability</td>
<td>EXP618</td>
<td>6 Volt self contained hazardous location emergency battery unit 18 watts of remote capacity</td>
</tr>
<tr>
<td></td>
<td>EXP618-TS</td>
<td>6 Volt self contained hazardous location emergency battery unit 18 watts of remote capacity. Transfer switch included for use with remote Exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Single head emergency unit</td>
<td>EXP1240E1LD9</td>
<td>12 Volt self contained hazardous location emergency battery unit with one head containing 2 X 2V 5W MR16 LED lamps, 30 watts of remote capacity</td>
</tr>
<tr>
<td></td>
<td>EXP1240E1LD9-TS</td>
<td>12 Volt self contained hazardous location emergency battery unit with one head containing 2 X 12V 5W MR16 LED lamps, 30 watts of remote capacity. Transfer switch included for use with remote Exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Double head emergency unit</td>
<td>EXP630E2LD1</td>
<td>6 Volt self contained hazardous location emergency battery unit with two heads, each containing 2 X 6V 4W MR16 LED lamps, 14 watts of remote capacity</td>
</tr>
<tr>
<td></td>
<td>EXP630E2LD1-TS</td>
<td>6 Volt self contained hazardous location emergency battery unit with two heads, each containing 2 X 6V 4W MR16 LED lamps, 14 watts of remote capacity. Transfer switch included for use with remote Exit signs (maximum 5 Exit signs per TS)</td>
</tr>
<tr>
<td>Self-powered exit</td>
<td>EXP618-TSX1-LR</td>
<td>6 volt self contained exit sign with 15 watts of remote capacity. Transfer switch included for use with integral exit sign and additional remote exit signs (maximum 5 exit signs per TS).</td>
</tr>
<tr>
<td>Combination unit</td>
<td>EXP1230-E1LD10-TSX1-LR</td>
<td>12 volt self contained combination unit with 15 watts of remote capacity. Transfer switch included for use with integral exit sign and additional remote exit signs (maximum 5 exit signs per TS).</td>
</tr>
</tbody>
</table>

Reflector/Guards

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>145.0016-L</td>
<td>Dome reflector</td>
</tr>
<tr>
<td>145.0017-L</td>
<td>Angle reflector</td>
</tr>
<tr>
<td>330.0125-L</td>
<td>Aluminum guard</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Voltage</th>
<th>Capacity</th>
<th>No. of heads and lamps</th>
<th>Lamp wattage/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP = Battery Unit/Combo</td>
<td>6 = 6VDC</td>
<td>18 = 18W (6V only)</td>
<td>Blank = No emergency head</td>
<td>LD1= 6V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td>12 = 12VDC</td>
<td>30 = 30W (6V only)</td>
<td>-E1= Single head, two lamps</td>
<td>LD2= 6V-5W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 = 24W (12V only)</td>
<td>-E2= Two heads, two lamps</td>
<td>LD7= 12V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40 = 40W (12V only)</td>
<td></td>
<td>LD9= 12V-5W, MR16 LED</td>
</tr>
</tbody>
</table>

Battery options

- Blank= no transfer panel
- TS= transfer panel (Required to supply remote exit sign only)

Example: EXP630E1LD1-TSX1-LR
LCA-2RHL Series
High output lithium LED battery unit

Housing
• UV stabilized thermoplastic body
• Two adjustable high output LED lighting heads
• White finish

Mounting
• Wall or ceiling mount
• Universal J-box mounting

Lamp type
• Two 9.6V-5.4W LED heads, 550 lumens per head

Electronics
• Pulse plus charger
• Low voltage disconnect
• Automatic brownout protection
• Battery lock-out
• Fused output circuit
• Standard Improved Diagnostics
• 120/277 60Hz

Battery type
• 9.6V Lithium phosphate battery

Approvals
• UL 924 Listed
• Damp location (50°F to 104°F)
• UL 94, 5VA flame rated
• Circle BC meet CEC title 20

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 of the catalog or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>Mounting height</th>
<th>6 ft spacing distance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.5'</td>
<td>90'</td>
</tr>
<tr>
<td></td>
<td>10'</td>
<td>78'</td>
</tr>
</tbody>
</table>

Center-to-center spacing
Photometric Spacing for 1FC average
Dimensions (Dimensions are approximate and subject to change)

Power consumption chart

<table>
<thead>
<tr>
<th>Series</th>
<th>DC Specs</th>
<th>AC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Battery</td>
<td>Voltage</td>
</tr>
<tr>
<td>LCA-2RHL-ID</td>
<td>Lithium-ion battery</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Heads</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCA-2RHL-ID</td>
<td>Two round high output LED heads Improved Diagnostics</td>
</tr>
</tbody>
</table>

Example: LCA-2RHL-ID
REMOTE FIXTURES

A range of remote lamp types suit illumination and spacing requirements in architectural, commercial, and industrial locations. Remote fixtures in contemporary styles are ideal where subtle, code-compliant lighting is required. Flexible mounting options accommodate challenging installations with limited space. Power remotes with battery units or mini inverters for a complete lighting solution.
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## Remote Fixtures & Heads

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<th>Introduction</th>
<th>About remote fixtures</th>
<th>120-121</th>
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<td>Architectural</td>
<td>Recessed architectural</td>
<td>RP Series</td>
</tr>
<tr>
<td>Architectural</td>
<td>Vandal resistant linear dual-mode</td>
<td>LSCN Series</td>
</tr>
<tr>
<td>Architectural</td>
<td>Remote Fixture Decorative™ Series</td>
<td>126-127</td>
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<tr>
<td>Architectural</td>
<td>Remote Fixture Phantom™ Series</td>
<td>128</td>
</tr>
<tr>
<td>Architectural</td>
<td>Remote Fixture Saf-T-Ray™ Series</td>
<td>129</td>
</tr>
<tr>
<td>Architectural</td>
<td>Remote Fixture Camray® LED Series</td>
<td>130-131</td>
</tr>
<tr>
<td>Architectural</td>
<td>Remote Head &amp; Unit Head DR Series</td>
<td>132</td>
</tr>
<tr>
<td>Commercial</td>
<td>Remote Head and Unit Head ELFS Series</td>
<td>133</td>
</tr>
<tr>
<td>Commercial</td>
<td>LCARDSLED Series</td>
<td>134</td>
</tr>
<tr>
<td>Commercial</td>
<td>ELF612D/LED Series</td>
<td>135</td>
</tr>
<tr>
<td>Commercial &amp; Industrial</td>
<td>Vandal-resistant ELF640 Series</td>
<td>136</td>
</tr>
<tr>
<td>Commercial &amp; Industrial</td>
<td>NEMA-4X ELF650 Series</td>
<td>137</td>
</tr>
<tr>
<td>Product sector</td>
<td>NEMA-4X SPRL Series</td>
<td>138-139</td>
</tr>
<tr>
<td>Industrial</td>
<td>Hazardous location ELF651 Series</td>
<td>140-141</td>
</tr>
<tr>
<td>Industrial</td>
<td>Hazardous location EPF401 LED Series</td>
<td>142-143</td>
</tr>
</tbody>
</table>
About Remote Fixtures & Head Illumination

Emergency Lighting Heads and the choice of lamps used within those heads is the most important element of an emergency lighting system’s performance getting people to safety in an emergency situation. The light output or lumens provided by the lamp is a key factor in evacuating a building quickly and safely during an emergency situation, thus possibly saving lives. Providing the correct amount of light allows people to easily see their path of egress, saving precious seconds exiting a building in an emergency situation when every second counts. The Life Safety Code, which can be found at the back of this catalog, provides information on the minimum light levels that should illuminate a path of egress for safe evacuation, and the required foot candles at floor level. The lumen output of a lamp can provide different foot candle levels based on the mounting height of the lighting head or fixture. A photometric layout with the lighting heads mounted at the height of installation and the lamps being used will provide a visual estimation of the foot candle levels achieved at floor level. Emergency lighting heads should be installed to provide illumination along the path of egress of no less than an average of 1 footcandle, with no point at less than 0.1 footcandle. The heads should also be mounted in such a way that if one lamp should fail, it will not leave an area with less than 0.2 foot candle of illumination. Local and state codes may have other requirements. It is always good practice to check with the appropriate inspector about the illumination required.

Important considerations when choosing the proper lamp:

Emergency Lighting is required to provide illumination for a minimum of 90 minutes or an hour and a half during an emergency situation. Emergency Lighting lamps powered from a DC battery source must be powered by a battery that has the capacity to power all the lamps using that battery source for a minimum of 90 minutes. It is important to choose the correct lumen output lamp to meet the required illumination at the floor level on a path of egress. It is equally important to match the lamp and the battery voltages. If you do not have a battery that is the same voltage as the lamp and with enough wattage capacity to illuminate all the lamps, then the lamps will not provide adequate lumen output for 90 minutes to meet the required illumination at floor level along the path of egress.

First, match voltage. The voltage of the lamp MUST exactly match the voltage of the battery powering that lamp. If the voltage of the battery is lower than the voltage of the lamp, the lamp may not illuminate. If the voltage of the battery is higher than the voltage of the lamp, the lamp may “pop”. Second, consider total wattage. The wattage of each individual lamp drawing from a battery during emergency operation, including the lamps mounted on the unit as well as all remote lamps wired to that unit, added together, CAN NOT EXCEED the total wattage capacity of that battery within 90 minutes of operation. A unit’s battery wattage capacities are shown in the Unit Rating Chart of each particular unit. Available lamp types are shown on the Lamp Selection Chart on the catalog page for each head style or fixture type. Lamp Selection Chart information refers to a single lamp. If you are using a double or triple lamp type head or fixture, the wattage draw of that head or fixture will be the total number of lamps used. For example, if you are using a double lamp fixture with a 12W lamp, that fixture will have a 24W draw (two lamps of 12W each, 12W + 12W = 24W total).
Remote Fixtures Series
Emergency lighting

Lamp Life
It is often asked why emergency lighting lamps have such a short lamp life. Who wants a lamp that only lasts 50 hours? However, considering that most of the time emergency lighting lamps are not illuminated, 50 hours is not such a short life. If power failures are relatively scarce; for example, 90 minutes 4 times a year, then emergency lighting would only be required for six hours. If you add in monthly testing and a 90-minute annual test, that lamp would be illuminated for an average of 8 hours a year. Based on that example, a lamp with a 50-hour life is more than adequate for emergency lighting. By design, some emergency lighting lamps are made to burn brighter using the same wattage draw as lamps that could have a longer life but not burn as bright. A brighter burn lamp has a shorter life, but in an emergency situation, the brighter the better. Lamp improvements are continuously being made to make them brighter, draw less wattage, increase lumen efficacy per watt, and provide longer life. LED lamps have taken emergency lighting lamps to a whole new level. For example, our 12V-6W MR16 LED lamp provides 540 lumens with a lamp life of over 30,000 hours.

Lamp Types:
MR16 LED The MR16 LED lamp contains everything in one small package: long-life, high lumen output, and a high lumens-to-watts efficacy ratio. An MR16 lamp is easy to install and replace if needed – just push it in or pull it out of the lamp socket. Our 12V-6W MR16LED lamp has a lumen output of 540 for an average spacing of 100 feet center-to-center. With an efficacy of 91.9 lumens per watt, that’s 3 times the efficacy of an MR16 20W high-output lamp. An MR16 LED lamp has a life of over 30,000 hours.

The Phantom™ Series
Virtually invisible emergency lighting.
RPR Series
Remote recessed architectural fixture

**Construction**
- Thermoplastic rectangular fixture with additional round trim-plate, white finish
- All-metal backbox enclosure
- Fixed optics, optimized light distribution for ceiling heights up to 12 ft.
- Four high-intensity LEDs with redundant connections; 140 lm/W, CCT 5000K

**Options**
- Plenum-rated enclosure
- Black thermoplastic decorative trim-plates
- Fixed, square light distribution pattern

**Mounting**
- Easily spring mounted in sheetrock ceiling
- Recessed installation in T-bar suspended ceilings

**Electronics**
- AC model compatible with Lightalarms® mini inverters
- DC model available with Lightalarms® 6-24 battery units

**Approvals**
- Listed UL-924 for damp locations: 50° to 104°F (10° to 40°C)
- Listed NSF, splash non-food zone

**Warranty** (subject to proper installation and maintenance)
Unit has a five-year limited warranty
Detailed warranty terms located online at: www.lightalarms.com

**Photometric performance**
The RPR Series has a fixed lighting distribution, optimized by design for ceiling heights up to 12 ft. Along an office corridor the space coverage ranges from 68 to 80 feet. The square distribution pattern option covers a surface of more than 700 square feet.

**Table A: Standard unit 6-ft wide corridor**

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Spacing center-to-center</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 ft</td>
<td>68 ft</td>
</tr>
<tr>
<td>10 ft</td>
<td>80 ft</td>
</tr>
<tr>
<td>12 ft</td>
<td>72 ft</td>
</tr>
</tbody>
</table>

**Table B: Option “square distribution pattern” – single unit coverage**

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Room size</th>
<th>Room surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>27 ft x 27 ft</td>
<td>729 square ft</td>
</tr>
</tbody>
</table>

Note: Illumination levels as per the Life Safety Code (NFPA 101):
Average 1 fc, Minimum 0.1 fc, Max-to-min ratio 40:1.
Typical reflectance levels of walls/ceiling/floor: 80/50/20.
**Dimensions** (Dimensions are approximate and subject to change)

**Recessed suspended ceiling mount**

**Recessed sheetrock ceiling mount**

**Power consumption and unit rating**

<table>
<thead>
<tr>
<th>AC Input (VAC)</th>
<th>Input current (A)</th>
<th>Input power (W)</th>
<th>Power factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>0.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>0.030</td>
<td>7.0</td>
<td>0.95</td>
</tr>
<tr>
<td>277</td>
<td>0.025</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DC Input voltage (VDC)</th>
<th>Input power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-24</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Color</th>
<th>Voltage</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPR</td>
<td>B</td>
<td>AC= 120 to 277VAC, 50/60Hz</td>
<td>Blank= No options</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>DC= 6 to 24VDC</td>
<td>P= Plenum/Type IC rated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SQ= Square distribution pattern</td>
</tr>
</tbody>
</table>

**Example:** RPRWACSQ
LSCN Series

Vandal resistant linear remote fixture

Housing

• White high impact thermoplastic housing
• Frosted lens

Mounting

• Standard surface ceiling and wall mount
• Optional accessory: semi-recessed ceiling mount

LED information

• Easily adjustable LED strips for multiple beam angles
• Color temperature: 4000K
• 1200-1300 lumen output

Electronics

• Universal voltage 120V through 277V 60Hz. 12-24VDC
• Compatible with Lightalarms® 12 and 24V battery units

Approvals and ratings

• Rated for -4°F to 113°F (-20°C to 45°C)
• Suitable for wet locations
• Meets IP65 rating
• Meets IK10 rating requirements¹
• ROHS compliant
• UL924 approved

Warranty

(subject to proper installation and maintenance)

Unit has a three-year warranty

Detailed warranty terms located online at: www.lightalarms.com

¹IK ratings refer to impact tests. IK10= Protected against 20 joules of impact (equivalent to 11lbs. of mass dropped from 16" high)

Spacing

<table>
<thead>
<tr>
<th>Mounting type</th>
<th>Spacing at 9ft mounting</th>
<th>Lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling mount</td>
<td>62'</td>
<td>1300</td>
</tr>
<tr>
<td>Wall mount</td>
<td>53'</td>
<td>1200</td>
</tr>
</tbody>
</table>

New product
**Dimensions** (Dimensions are approximate and subject to change)

Power consumption

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 120-277VAC</td>
<td>14 watts</td>
</tr>
<tr>
<td>DC 12-24VDC</td>
<td>13 watts</td>
</tr>
</tbody>
</table>

**Accessories** (order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi recessed mounting bracket</td>
<td>KIT-SR-LA</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSCN</td>
<td>Remote linear</td>
</tr>
<tr>
<td>-ACDC</td>
<td>ACDC 120-277VAC, -12-24VDC</td>
</tr>
</tbody>
</table>

Example: LSCN-ACDC
Remote Fixture Decorative™ Series  
Contemporary and enduring style

![Remote Fixture Decorative™ Series](image)

### Description
- Indoor use
- Die cast aluminum construction

### Finish
Powder-coated off-white, black or brushed nickel

### Lamp type
Choice of MR16 LED lamp wattages

### Mounting
- Recessed Mount
- Must order appropriate housing with decorative head selection for installation into new construction ceiling (LU-GRHR03) or non-insulated ceiling (LU-GRHR05) GU10 or Insulated ceiling (LU-GRHR06)

### Approval
UL 924 Listed

### Warranty
(subject to proper installation and maintenance)  
Unit: three-year full warranty  
Detailed warranty terms located on page 197 or online at: [www.lightalarms.com](http://www.lightalarms.com)

### Series
<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Color Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decorative lighting head</td>
<td>4.0&quot; diameter base</td>
<td>-WH = White, -BK= Black</td>
</tr>
<tr>
<td>RSTH18R: concave (egress/ regress)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decorative lighting head</td>
<td>4.0&quot; diameter base</td>
<td>-WH = White, -BK= Black</td>
</tr>
<tr>
<td>RSTH19: pop-out</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Housing Enclosure

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU-GRHR03</td>
<td>5.6&quot; x 14.24&quot;</td>
</tr>
<tr>
<td>LU-GRHR05</td>
<td>New construction housing</td>
</tr>
<tr>
<td>LU-GRHR06</td>
<td>Insulated ceilings housing</td>
</tr>
</tbody>
</table>

### Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>LD1</td>
<td>43'</td>
</tr>
<tr>
<td>LD2</td>
<td>81'</td>
</tr>
<tr>
<td>LD7</td>
<td>55'</td>
</tr>
<tr>
<td>LD9</td>
<td>71'</td>
</tr>
<tr>
<td>LD10</td>
<td>100'</td>
</tr>
<tr>
<td>LD13</td>
<td>56'</td>
</tr>
<tr>
<td>LD14</td>
<td>100'</td>
</tr>
<tr>
<td>LD26</td>
<td>43'</td>
</tr>
</tbody>
</table>

![Center-to-center spacing](image)
Dimensions (Dimensions are approximate and subject to change)

LU-GRHR03

LU-GRHR06

LU-GRHR05

Lamp selection chart – MR16 LED lamps

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD14</td>
<td>24</td>
<td>6</td>
<td>590</td>
<td>580.0100-L</td>
</tr>
<tr>
<td>LD26</td>
<td>120</td>
<td>4</td>
<td>200</td>
<td>580.0113-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Lamp suffix</th>
<th>Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSTH18R</td>
<td>/</td>
<td>WH= White</td>
<td>6= 6 VDC</td>
</tr>
<tr>
<td>RSTH19</td>
<td>/</td>
<td>-BK= Black</td>
<td>12= 12 VDC</td>
</tr>
<tr>
<td></td>
<td>/</td>
<td>-BN= Brushed nickel (available with RSTH18R only)</td>
<td>24= 24 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>120= 120 VAC/VDC</td>
</tr>
</tbody>
</table>

Example: RSTH18R/LD9-WH and LU-GRHR03

With Housing Enclosure Example: LU-GRHR06 (for Insulated Ceiling installation)

¹ Choose from lamp selection chart
Remote Fixture Phantom™ Series
Virtually invisible, architecturally pleasing

Description
• Indoor use
• One-piece all-metal module design
• Complete 360° door rotation
• Slip gear mechanism protects the unit from objects that would cause the door rotation to be forcibly stopped.

Finish
• Flat door and frame are covered with a high-quality, powder coated textured mist white finish
• Surface finish can be customized on site with paint, wallpaper or other coverings.

Mounting
• The module includes the electrical junction box and is installed on the wall stud or ceiling beam with the help of a simple, U-shape bracket.
• Key-hole slot for ease of installation

Lamp type
Choice of MR16 LED lamp voltages and wattages

Approval
• CSA-US (to UL 924 standards)
• New York City Approved

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Dimensions (Dimensions are approximate and subject to change)

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD7</td>
<td>39'</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD9</td>
<td>49'</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD10</td>
<td>68'</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD13</td>
<td>89'</td>
<td>89'</td>
<td>80'</td>
</tr>
</tbody>
</table>

Lamp selection chart – MR16 LED lamps

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0101-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0098-L</td>
</tr>
</tbody>
</table>

Ordering format

Example: 12PM2R-LD10

1 Double lamp remote fixture
2 Choose from lamp selection chart
Remote Fixture Saf-T-Ray™ Series
Wall mount remote fixture for damp and wet locations

Description
- Indoor or Outdoor use
- Die-Cast aluminum construction
- Fully gasketed cover
- Impact- and tamper-resistant polycarbonate lens

Mounting
- Surface Wall Mount
- Universal J-Box mounting

Lamp type
Choice of MR16 LED lamp voltages and wattages

Approval
- UL 924 Listed
- NEMA-3
- Damp and wet location listed 50°F to 104°F (10°C to 40°C)

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Dimensions (Dimensions are approximate and subject to change)

Photometric performance

Lamp selection chart – MR16 LED lamps

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD25</td>
<td>120</td>
<td>4</td>
<td>200</td>
<td>580.0113-L</td>
</tr>
</tbody>
</table>

Ordering format

Example: SAF-2/LD1-M6

1Choose from lamp selection chart
Remote Fixture Camray® LED Series
Low-profile, slim look and performance in a remote fixture

Description
• Die-cast aluminium housing
• UV resistant polycarbonate lens

Lamp type
• LED light engine with redundant connections
• Optional forward-throw light distribution, for applications of outdoor egress
• Optional dual-mode: normal and emergency LED lighting with separate AC inputs
• Optional high-lumen output
• Optional photo-switch: dusk-to-dawn control of normal lighting
• Optional remote test: infrared remote control
• 400-640 lumens
• Color temperature: 4000K

Mounting
• Surface wall mount
• Universal J-Box mounting

Approval
• UL 924 Listed
• NEMA-3R
• Damp and wet location listed 50°F to 104°F (10°C to 40°C)

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Table A – Spacing for NFPA101 (average = 1FC) – Average of 1 foot-candle

<table>
<thead>
<tr>
<th>Model type</th>
<th>Mounting height</th>
<th>Lumen</th>
<th>Color temperature</th>
<th>Single unit width</th>
<th>Center-to-center width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>9’</td>
<td>400</td>
<td>4000K</td>
<td>6’ X 50’</td>
<td>6’ X 50’</td>
</tr>
<tr>
<td>With option -H</td>
<td>11’</td>
<td>550</td>
<td></td>
<td>6’ X 60’</td>
<td>6’ X 60’</td>
</tr>
<tr>
<td>With option -FT</td>
<td>12’</td>
<td>460</td>
<td></td>
<td>6’ X 70’</td>
<td></td>
</tr>
<tr>
<td>With option -FTH</td>
<td>15’</td>
<td>640</td>
<td></td>
<td>6’ X 40’</td>
<td></td>
</tr>
</tbody>
</table>

Indoor reflectance: 80/60/20 and 10-ft wide corridor.
Outdoor reflectance: 0/30/10

Table B – Spacing for minimum illumination = 1FC – Minimum of 1 foot-candle

<table>
<thead>
<tr>
<th>Model type</th>
<th>Mounting height</th>
<th>Lumen</th>
<th>Color temperature</th>
<th>Single unit width</th>
<th>Center-to-center width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>9’</td>
<td>400</td>
<td>4000K</td>
<td>6’ X 28’</td>
<td>6’ X 32’</td>
</tr>
<tr>
<td>With option -H</td>
<td>11’</td>
<td>550</td>
<td></td>
<td>6’ X 32’</td>
<td>6’ X 40’</td>
</tr>
<tr>
<td>With option -FT</td>
<td>12’</td>
<td>460</td>
<td></td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>With option -FTH</td>
<td>15’</td>
<td>640</td>
<td></td>
<td>6’ X 22’</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: The illumination level meets ALL the requirements of the Life Safety Code (NFPA 101):
1) Average of 1 foot-candle or more
2) Minimum at any point of 0.1 foot-candle or more
3) Maximum-to-minimum illumination uniformity ratio of 40:1 or less

Photometry performance - Wide beam

Photometry performance - Forward throw
Dimensions (Dimensions are approximate and subject to change)

![Diagram showing dimensions of the product]

Power consumption chart

<table>
<thead>
<tr>
<th>Model</th>
<th>Current (max.)</th>
<th>Power (max.)</th>
<th>Current (max.)</th>
<th>Power (max.)</th>
<th>Power (max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC, 2AC, ACDC, DC</td>
<td>0.12/0.08A</td>
<td>12W</td>
<td>0.11/0.08A</td>
<td>12W</td>
<td>8W</td>
</tr>
<tr>
<td>All above, -H</td>
<td>0.18/0.11A</td>
<td>18W</td>
<td>0.18/0.11A</td>
<td>18W</td>
<td>14W (6VDC only)</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Model¹</th>
<th>Color</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM= Camray® LED</td>
<td>AC= AC-only</td>
<td>B= Black</td>
<td>-FT= Forward throw lighting</td>
</tr>
<tr>
<td></td>
<td>ACDC= AC/6-12VDC remote</td>
<td>DB= Dark bronze</td>
<td>-H= High lumen output -40°F - 86°F (-40°C - 30°C)</td>
</tr>
<tr>
<td></td>
<td>DC= 6-12VDC remote fixture</td>
<td>OW= Off white</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2AC= AC-only two circuits: 120/120 or 277/277V</td>
<td>PG= Platinum gray</td>
<td>-P= Photo-switch (AC and ACDC only)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-RC= Remote control - infrared (AC and ACDC only)²</td>
</tr>
</tbody>
</table>

Example: CAMACDCB-H

¹ Temperature range: -40°F - 122°F (-40°C + 50°C)
² With -RC option, order the remote control keypad (TB-RC1-L) separately
Remote Head & Unit Head DR Series
Decorative metal MR16 lamp head

Description
- Indoor use
- Powder-coated die cast aluminum construction

Finish
Mist-white or black

Lamp type
Choice of MR16 LED lamp voltages and wattages

Mounting
- Surface mount
- Universal J-Box mounting

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 or online at www.lightalarms.com

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard for DR1130, DR2130</td>
<td>WG8-L</td>
</tr>
<tr>
<td>Wire Guard for DR3130</td>
<td>WG2-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Lamp suffix</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR1130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR2130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR3130</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: DR1130/LD12-WH6

Photometric performance

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD10</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>590</td>
<td>580.0100-L</td>
</tr>
<tr>
<td>LD25</td>
<td>120</td>
<td>6</td>
<td>200</td>
<td>580.0010-L</td>
</tr>
</tbody>
</table>

*Lamp suffix

- WH = White
- BK = Black

*Lamp selection chart – MR16 LED lamps

Center-to-center spacing

Photometric Spacing for 1FC average

Dimensions (Dimensions are approximate and subject to change)
Remote Head & Unit Head ELF3 Series
Thermoplastic MR16 lamp head

Description
- Indoor use
- Available as a single, double or triple head
- Thermoplastic construction
- Snap-out lens for easy lamp replacement

Finish
Mist-white or black

Lamp type
Choice of MR16 LED lamp voltages and wattages

Mounting
- Surface Mount
- Universal J-Box mounting

Approval
UL 924 Listed

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Lamp selection chart – MR16 LED lamps

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD14</td>
<td>24</td>
<td>6</td>
<td>590</td>
<td>580.0100-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th># of heads</th>
<th>Lamp suffix</th>
<th>Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF3</td>
<td>MR16 Par18 head</td>
<td>Blank= Single head</td>
<td>-B= Black</td>
<td>6-6 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D= Double heads</td>
<td>-M= Mist white</td>
<td>12= 12 VDC</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td>T= Triple heads</td>
<td></td>
<td>24= 24 VDC</td>
</tr>
</tbody>
</table>

¹Choose from lamp selection chart
LCARDSQLED Series
Thermoplastic square LED indoor remote heads

Housing
• Thermoplastic dual head remote
• Wall or ceiling mount

Only used with
• LCAC-2SQLED
• LCAC-2SQLEDRID
• LCA-2SQLLED
• LCA-2SQLLEDRID

Lamp information
• LED 3.6V, 2W total
• 6000K LED color temperature

Approvals
• Damp location listed
• UL924 Listed

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Dimensions (Dimensions are approximate and subject to change)

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>13'</td>
<td>4'</td>
<td></td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Head style / Lamp type</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAR</td>
<td>D= Double</td>
<td>SQLED= Thermoplastic square LED head</td>
</tr>
</tbody>
</table>

Example: LCARDSQLED
ELF612D/LED Series
Thermoplastic square LED outdoor remote heads

Housing
- ELF612D/LED remote series is multi-volt 3.6, 6 or 12V, 3W total
- Thermoplastic housing and aluminum canopy with fully adjustable LED heads
- Suitable for outdoor application
- Suitable for wet location applications
- Wall or ceiling mount

Approvals
UL924 Listed

Warranty (subject to proper installation and maintenance)
Unit: three-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Accessories (Order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard (heads in any position) wall mount</td>
<td>WG10-L</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th># of heads</th>
<th>Options</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF612</td>
<td>Blank= Single head</td>
<td>/LED= Thermoplastic square LED head</td>
<td>Blank= Gray</td>
</tr>
<tr>
<td></td>
<td>D= Double heads</td>
<td></td>
<td>Bk= Black</td>
</tr>
</tbody>
</table>

Example: ELF612D/LED

Dimensions (Dimensions are approximate and subject to change)

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF612</td>
<td>13</td>
<td>4'</td>
</tr>
</tbody>
</table>
ELF640 Series
ELF640 vandal resistant

Description
- ELF640 & ELF640P vandal resistant for indoor use with choice of cast aluminum or plastic back plate
- Include clear polycarbonate UV impact resistant cover

Lamp type
Choice of MR16 LED lamp voltages and wattages

Mounting
- Surface Mount
- Universal J-Box mounting

Approvals
- UL 924 Listed
- Vandal Resistant

Warranty (subject to proper installation and maintenance)
Unit: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Dimensions (Dimensions are approximate and subject to change)

Photometric performance

Lamp selection chart

Ordering format

Example: ELF640D/LD7-M12

¹Choose from lamp selection chart
**ELF650 Series**

**ELF650 NEMA-4X & NSF Certified**

**Description**
- ELF650 and ELF650P NEMA-4X and NSF certified indoor or outdoor use
- ELF650 and ELF650P NEMA-4X and NSF certified with choice of fully gasketed cast aluminum or plastic back plate
- ELF650 and ELF650P NEMA-4X and NSF certified comes standard with Phillips head screws and tamper proof screws
- Include clear polycarbonate UV impact resistant cover

**Lamp type**
Choice of MR16 LED lamp voltages and wattages

**Mounting**
- Surface mount
- Universal J-Box mounting

**Approvals**
- UL 924 listed
- Vandal resistant
- NEMA-4X¹
- NSF Rated

**Warranty** (subject to proper installation and maintenance)
Unit: five-year full warranty

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

¹NEMA-4X Certified when installed using a circular NEMA-4X rated junction box (sold separately by Thomas&Betts under P/N 091647-L)

---

**Ordering format**

**Example:** ELF650/LD9-M12

---

**Lamp selection chart**

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>510</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD25</td>
<td>120</td>
<td>4</td>
<td>204</td>
<td>580.0095-L</td>
</tr>
</tbody>
</table>

**Photometric performance**

<table>
<thead>
<tr>
<th>Spacing center-to-center (feet)</th>
<th>7 feet mounting height</th>
<th>15 feet mounting height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39'</td>
<td>34'</td>
</tr>
<tr>
<td>LD2</td>
<td>74'</td>
<td>57'</td>
</tr>
<tr>
<td>LD7</td>
<td>49'</td>
<td>39'</td>
</tr>
<tr>
<td>LD9</td>
<td>68'</td>
<td>54'</td>
</tr>
<tr>
<td>LD10</td>
<td>89'</td>
<td>80'</td>
</tr>
<tr>
<td>LD13</td>
<td>51'</td>
<td>39'</td>
</tr>
<tr>
<td>LD25</td>
<td>43'</td>
<td>39'</td>
</tr>
</tbody>
</table>

---

**Dimensions** (Dimensions are approximate and subject to change)

**Lamp spacing center-to-center (feet)**

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0097-L</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>4</td>
<td>130</td>
<td>580.0122-L</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>170</td>
<td>580.0093-L</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>580.0104-L</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>510</td>
<td>580.0106-L</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>200</td>
<td>580.0098-L</td>
</tr>
<tr>
<td>LD25</td>
<td>120</td>
<td>4</td>
<td>204</td>
<td>580.0095-L</td>
</tr>
</tbody>
</table>

**Ordering format**

**Example:** ELF650/LD9-M12

---

¹ Choose from lamp selection chart
SPRL Series Remote Fixture
NEMA-4X, Severe-performance remote for indoor or outdoor applications

Housing
- Lightweight polycarbonate gray housing with captive screws
- NEMA-4X rated
- All external fasteners and hardware are constructed of stainless steel
- Die-cast aluminum LED heads

Mounting
- Simple and easy to install on walls, poles, columns, struts also on vertical
- Pole or column installation bracket sold separately (order catalog number: PMK1-E)
- ½ NPT conduit entry on top or side

Performance
- 6W, 10W and 15W high efficacy LED emergency heads
- 15W head outperforms traditional 50W MR16 halogen
- Innovative head design: four-LED and dual-driver provide illumination even in case of unexpected component failure

Approvals
- UL924 Listed
- Can be installed in wide temperature range: -40°F to 131°F (-40°C to 55°C)

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance
Capable of being installed indoors or outdoors, the SPRL Series LED emergency lights deliver a stable and consistent illumination on the path of egress for a wide range of mounting heights. Depending on the required illumination levels need for the application, choose between three level of lumen output using a 6W, 10W or 15W head.

<table>
<thead>
<tr>
<th>LED Head</th>
<th>Power</th>
<th>Total lumens</th>
<th>Outperform spacing of MR16 halogen lamp types</th>
</tr>
</thead>
<tbody>
<tr>
<td>L6</td>
<td>6W</td>
<td>565</td>
<td>37W PAR36, MR16 Halogen (700 Lumens)</td>
</tr>
<tr>
<td>L10</td>
<td>10W</td>
<td>1000</td>
<td>50W PAR36, MR16 Halogen (950 Lumens)</td>
</tr>
<tr>
<td>L15</td>
<td>15W</td>
<td>1300</td>
<td>50W MR16-IR Halogen (1550 Lumens)</td>
</tr>
</tbody>
</table>

Spacing center-to-center (feet)

<table>
<thead>
<tr>
<th>Mounting height</th>
<th>Lamp L6/6W, 565Lm</th>
<th>Lamp L10/10W, 1000Lm</th>
<th>Lamp L15/15W, 1300Lm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft</td>
<td>80</td>
<td>110</td>
<td>140</td>
</tr>
<tr>
<td>15 ft</td>
<td>70</td>
<td>105</td>
<td>135</td>
</tr>
<tr>
<td>20 ft</td>
<td>60</td>
<td>100</td>
<td>130</td>
</tr>
<tr>
<td>25 ft</td>
<td>50</td>
<td>95</td>
<td>120</td>
</tr>
</tbody>
</table>

Industrial environment: Wall mounted equipment, reflectances: 10/10/10; 6-ft wide illumination path. Illumination as per NFPA101; Average: 1fc; Min: 0.1fc; Max/min< 40:1
Dimensions (Dimensions are approximate and subject to change)

Warning: The mounting column must be anchored at both ends: floor and ceiling.

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Number of heads</th>
<th>LED head</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRL=</td>
<td>Blank= Single head</td>
<td>L6= 12-24V – 6W (565 Lumens)</td>
</tr>
<tr>
<td></td>
<td>D= Double head</td>
<td>L10= 12-24V – 10W (1000 Lumens)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L15= 12-24V – 15W (1300 Lumens)</td>
</tr>
</tbody>
</table>

Example: SPRLDL6
Remote Fixture ELF651 Series
Class I division 2, groups A, B, C and D certified remote fixture

Description
• Available with single or double lamp heads
• Die-cast aluminum back plate with gasket
• Vandal-resistant UV stabilized polycarbonate lamp cover
• Includes tamper-proof screws and bit
• Universal J-box mounting
• Extreme operational temperature range: -40°F to +104°F
  (-40°C to +40°C)

Mounting
• Surface mount
• Conduit entry ½” NPT

Approval
• CSA-US (To UL 924 standards)
• Evaluated to the UL 844 Standard for Class I Division 2, Groups A, B, C and D

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometry performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>7 feet mounting height (feet)</th>
<th>15 feet mounting height (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>39’</td>
<td>34’</td>
</tr>
<tr>
<td>LD2</td>
<td>74’</td>
<td>57’</td>
</tr>
<tr>
<td>LD7</td>
<td>49’</td>
<td>39’</td>
</tr>
<tr>
<td>LD9</td>
<td>68’</td>
<td>54’</td>
</tr>
<tr>
<td>LD10</td>
<td>89’</td>
<td>80’</td>
</tr>
<tr>
<td>LD13</td>
<td>51’</td>
<td>39’</td>
</tr>
<tr>
<td>LD26</td>
<td>43’</td>
<td>39’</td>
</tr>
</tbody>
</table>
**Lamp selection chart**

<table>
<thead>
<tr>
<th>MR16 LED lamps</th>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Lumens</th>
<th>Replacement number</th>
<th>Temperature code</th>
<th>Maximum temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>200</td>
<td></td>
<td>580.0097-L</td>
<td>T4A</td>
<td>248°F/120°C</td>
</tr>
<tr>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td></td>
<td>580.0122-L</td>
<td>T4A</td>
<td>248°F/120°C</td>
</tr>
<tr>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>220</td>
<td></td>
<td>580.0093-L</td>
<td>T5</td>
<td>212°F/100°C</td>
</tr>
<tr>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td></td>
<td>580.0104-L</td>
<td>T4A</td>
<td>248°F/120°C</td>
</tr>
<tr>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td></td>
<td>580.0106-L</td>
<td>T4</td>
<td>275°F/135°C</td>
</tr>
<tr>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>220</td>
<td></td>
<td>580.0098-L</td>
<td>T5</td>
<td>212°F/100°C</td>
</tr>
<tr>
<td>LD26</td>
<td>120</td>
<td>4</td>
<td>230</td>
<td></td>
<td>580.0113-L</td>
<td>T4A</td>
<td>248°F/120°C</td>
</tr>
</tbody>
</table>

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Lamp suffix</th>
<th>Color</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF651</td>
<td>Single lamp remote fixture</td>
<td>-G= Gray</td>
<td>6= 6 VDC</td>
</tr>
<tr>
<td>ELF651D</td>
<td>Double lamp remote fixture</td>
<td>/___________¹</td>
<td>12= 12 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24= 24 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>120= 120 VAC/VDC</td>
</tr>
</tbody>
</table>

**Example:** ELF651/LD1-G6

¹ Choose from lamp selection chart
Remote Fixture EPF401 LED Series
Hazardous location remote fixtures

Description
• LED Light source
• Indoor use
• Available as a single or double
• Heavy cast aluminum
• Pyrex® lenses

Finish
• Painted grey

Mounting
• Surface mount: wall or ceiling
• Pendant mount: single head or double head
• Pendant mount including hazardous location elbows, swivels
  and conduit extension pipe (6” increments)
• Combination hazardous location junction box/mounting plate
• Conduit entry ½” NPT

Approvals
• CSA US Listed
• Class I, Division 1&2, Groups C and D
• Class II, Division 1&2, Groups E, F and G
• Class III, Division 1&2
• Complies with NEC, OSHA and NEMA for above classes and
  groups
• Suitable for wet and damp location
• Temperature Code T6

Warranty (subject to proper installation and maintenance)
Unit: five-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Photometric performance

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Spacing center-to-center (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 feet mounting height</td>
</tr>
<tr>
<td>2 X LD1</td>
<td>43'</td>
</tr>
<tr>
<td>2 X LD2</td>
<td>70'</td>
</tr>
<tr>
<td>2 X LD7</td>
<td>55'</td>
</tr>
<tr>
<td>2 x LD9</td>
<td>67'</td>
</tr>
<tr>
<td>2 x LD10</td>
<td>87'</td>
</tr>
<tr>
<td>2 X LD13</td>
<td>56'</td>
</tr>
<tr>
<td>2 X LD25</td>
<td>58'</td>
</tr>
</tbody>
</table>

The EXP Family

EXP6N & EXP12N
battery unit
PG. 114-115

X402 series
exit sign unit
PG. 56-57

EXP6N & EXP12N
combination series
PG. 58-59

The EXP Family

Center-to-center spacing

1FC Average
Photometric Spacing for 1FC average

6 ft.
**Dimensions** *(Dimensions are approximate and subject to change)*

**Description**
- **Guard**: One-piece aluminum casting construction. Attaches to globe holder ring with four screws

**Suffix**
- -GD

**Options**

**Temperature codes chart**

<table>
<thead>
<tr>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Temperatures code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD1</td>
<td>6V</td>
<td>4W</td>
<td>T6</td>
</tr>
<tr>
<td>LD2</td>
<td>6V</td>
<td>5W</td>
<td>T6</td>
</tr>
<tr>
<td>LD7</td>
<td>12V</td>
<td>4W</td>
<td>T6</td>
</tr>
<tr>
<td>LD9</td>
<td>12V</td>
<td>5W</td>
<td>T6</td>
</tr>
<tr>
<td>LD10</td>
<td>12V</td>
<td>6W</td>
<td>T6</td>
</tr>
<tr>
<td>LD13</td>
<td>24V</td>
<td>4W</td>
<td>T6</td>
</tr>
<tr>
<td>LD25</td>
<td>120V</td>
<td>4W</td>
<td>T6</td>
</tr>
</tbody>
</table>

**Accessories**

- **Number**: 145.0017-E
- **Reflectors/Guards**: -AG = Angle reflector

- **Number**: 145.0016-E
- **Reflectors/Guards**: -DM = Dome reflector

- **Number**: 330.0125-E
- **Reflectors/Guards**: -GD = Aluminium guard

**Ordering format**

<table>
<thead>
<tr>
<th>Series</th>
<th>Mounting</th>
<th># of lamps</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPF401</td>
<td>C= Ceiling Mount</td>
<td>2 lamps¹</td>
<td>LD1= 6V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td>P= Pendant Mount</td>
<td></td>
<td>LD2= 6V-5W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td>W= Wall Mount</td>
<td></td>
<td>LD7= 12V-4W, MR16 LED</td>
</tr>
<tr>
<td></td>
<td>D= Double Pendant Mount</td>
<td></td>
<td>LD9= 12V-5W, MR16 LED</td>
</tr>
</tbody>
</table>

**Example**: EPF401P2LD1

¹ Each head includes 2 lamps
EMERGENCY FLUORESCENT BALLASTS

Self-contained emergency ballasts and LED drivers are available in a range of lumen output capacities to power new or existing fixtures as emergency lighting units. Concealed ballasts do not interfere with the look of existing lighting, and the space-saving design mounts directly on or in a fixture.
# Table of contents

**Battery packs**

## LED Emergency drivers
- Emergency LED Driver
  - LALDR Series: 148-149
  - LALDR CEC Series: 150-151

## Emergency battery packs
- Introduction
  - About Ballast: 146
- Ballast/Lamp reference chart: 147
- Emergency ballast
  - LADL Series: 152
  - LADL 4 Pin Series: 153
About emergency fluorescent ballast packs and AC inverters

About Emergency Fluorescent Ballast Packs and AC Inverters

Emergency Fluorescent Ballast Packs and AC Inverters are completely self-contained battery-powered systems designed to invert DC battery current to AC current in order to operate AC lighting loads in the event of an emergency. Under normal conditions: AC current flows into the Ballast or Inverter, keeping the DC batteries charged, and AC current continues to power the AC lighting fixture. In an Emergency situation: When AC current stops flowing into the Ballast or Inverter, the Inverter converts DC battery current into AC current to power the AC lighting fixture.

Lumens and Wattage Capacities

Emergency Fluorescent Ballasts come in various lumen output capacities and are designed to operate only 1 or 2 lamps in a fluorescent fixture type. AC Inverters are based on total wattage capacities and are designed to operate multiple lighting fixtures with different lamp types in an emergency situation.

Emergency Fluorescent Ballast:

Designed to operate fluorescent lighting loads, these ballasts can be mounted directly on or in the existing fluorescent fixture and are meant to operate one or two lamps within that fixture. Emergency Fluorescent Ballasts are selected based on the lumen output levels needed in an emergency situation and the lamp type being used in the fluorescent fixture during normal AC operation.

Mini Interruptible Inverter Systems:

These systems are designed to keep incandescent, fluorescent, and LED lighting operating properly when there is a break in power. Available in 32-720W models.

Single Phase Transfer IPS Systems:

These systems are designed to keep incandescent, fluorescent, and LED lighting operating properly when there is a break in power. The transfer time is 50 milliseconds. Available in single phase from 1500VA to 16700VA.

Single Phase Fast Transfer Systems (UPS):

These systems are designed to operate in much the same way as the IPS system, but with a transfer time that is sufficient to keep HID lighting on and operate incandescent, fluorescent, and LED lighting loads with no break in power to the critical load upon failure or restoration of the AC power source. Available in single phase from 500VA to 16700VA.

Three Phase Fast Transfer Systems (UPS):

These fast transfer systems operate on 3 phase 4 wire (120/208VAC or 277/480VAC) utility power. Available for 3 phase applications from 4800VA to 50000VA. The transfer time is sufficient to keep HID lighting on and operate incandescent, fluorescent, and LED lighting loads.
## Ballast / Lamp Quick reference chart

<table>
<thead>
<tr>
<th>MODEL #</th>
<th>LADL7</th>
<th>LADL12</th>
<th>LADL20-N</th>
<th>LADL30-N</th>
<th>LADL32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumens</td>
<td>750</td>
<td>1350</td>
<td>750</td>
<td>3000</td>
<td>500</td>
</tr>
</tbody>
</table>

### BATTERY PACKS

- **Model # LADL7**: 750 lumens, 1350 lumens, 750 lumens, 3000 lumens, 500 lumens
- **Model # LADL12**: 750 lumens, 1350 lumens, 750 lumens, 3000 lumens, 500 lumens
- **Model # LADL20-N**: 750 lumens, 1350 lumens, 750 lumens, 3000 lumens, 500 lumens
- **Model # LADL30-N**: 750 lumens, 1350 lumens, 750 lumens, 3000 lumens, 500 lumens
- **Model # LADL32**: 750 lumens, 1350 lumens, 750 lumens, 3000 lumens, 500 lumens

### Lamp Type (# of Lamps)

#### LINEAR LAMPS

- **F15 T8 (1)**
- **F17 T8 (1)**
- **F17 T8 (2)**
- **F25 T8 (1)**
- **F25 T8 (2)**
- **F28 T8 (1)**
- **F32 T8 (1)**
- **F32 T8 (2)**
- **F40 T8 (1)**
- **FO96 T8 59W (1)**
- **14W T5 (1)**
- **14W T5 (2)**
- **21W T5 (1)**
- **21W T5 (2)**
- **24W T5 (1)**
- **28W T5 (1)**
- **28W T5 (2)**
- **39W T5 (1)**
- **54W T5 HO (1)**
- **54W T5 HO (2)**
- **F20 T12 (1)**
- **F20 T12 (2)**
- **F40 T12 (1)**
- **F40 T12 (2)**
- **F48 T12 (1)**
- **F96 T12 60W (1)**

#### COMPACT LAMPS – BIAx LAMPS

- **18W Long Compact (1)**
- **18W Long Compact (2)**
- **24W Long Compact (1)**
- **24W Long Compact (2)**
- **36W Long Compact (1)**
- **36W Long Compact (2)**
- **40W Long Compact (1)**
- **40W Long Compact (2)**
- **50W Long Compact (1)**
- **50W Long Compact (2)**
- **55W Long Compact (1)**
- **7W PL CF 2-Pin (1)**
- **9W PL CF 2-Pin (1)**
- **13W PL CF 2-Pin (1)**
- **18W PL CF 2-Pin (1)**
- **26W PL CF 2-Pin (1)**
- **13W PL CF 4-Pin (1)**
- **13W PL CF 4-Pin (2)**
- **18W PL CF 4-Pin (1)**
- **18W PL CF 4-Pin (2)**
- **26W PL CF 4-Pin (1)**
- **26W PL CF 4-Pin (2)**
- **32W PL CF 4-Pin (1)**
- **32W PL CF 4-Pin (2)**
- **42W PL CF 4-Pin (1)**
- **42W PL CF 4-Pin (2)**
- **57W PL CF 4-Pin (1)**
- **57W PL CF 4-Pin (2)**
- **70W PL CF 4-Pin (1)**
- **20W Circline (1)**
- **22W Circline T9 (1)**
- **22W Circline T5 (1)**
- **40W Circline T8 (1)**
- **40W Circline T5 (1)**
- **55W Circline T5 (1)**
- **28 2D (1)**
- **28 2D (2)**
- **38 2D (1)**
- **38 2D (2)**
LALDR Series

Convert new or existing LED fixtures into emergency lighting units with a constant power emergency LED driver

Housing
- High impact thermoplastic enclosure, 5VA flame retardant in black finish
- LED illuminated remote test switch

Mounting
- Suitable for installation on top or remotely (up to 50 feet)

Lamp type operation
- LED lamps with 20VDC to 50VDC operating voltage
- Can be wired for normally-on, normally off or switched loads
- Lumen output depends on LED light source efficacy (Lumens/watts)

Battery
- Long-life maintenance free rechargeable Nickel-Cadmium battery

Approvals
- Damp location listed 32°F to 122°F (0°C to 50°C)
- UL classified for field or factory installation
- UL924 approved
- NFPA 101 life safety code, NEC, and OSHA

Lumen output
- Universal 120/277, 50/60Hz input
- Provides 90 minutes of emergency operation
- Surge protection
- Output classification: Class 2 compliant
- Output and input overcurrent protection
- Constant power supply in emergency mode

Warranty [subject to proper installation and maintenance]
Ballast: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Important note

LEDDR SERIES System Coordination Guidelines
These guidelines were developed to allow the lighting system Designer/Specifier to predict the operating performance levels of LED luminaires when powered by an electrically compatible LEDDR Series model. It is ultimately the responsibility of the Designer/Specifier to ensure that the as installed system delivers code-compliant path of egress illumination.

1. Determine Electrical Compatibility
   a. Verify that the Luminaire LED Driver, where applicable, is Class 2 compliant.
   b. Verify that the Luminaire LED Lamp(s) have an operating voltage between 20Vdc and 50Vdc.
   c. Verify that the Luminaire LED Lamp(s) have a power rating equal to, or greater than, the emergency power rating of the LEDDR model under consideration.
Calculate lumen output during emergency operation

- Lumen output = Efficacy (Lumen/watt) X Emergency LED Driver wattage
- In order to understand luminaire efficacy:
  - Access luminaire data by logging onto Design Lites Consortium:
    [www.designlights.org](http://www.designlights.org)
  - Select ‘Search the DLC Qualified Product List’ on the DLC homepage
  - Enter manufacturer name and P/N of luminaire under consideration in
    the ‘search by keyword’ text window
  - Select ‘Search’ tab to open the ‘Qualified Products List’
  - Determine luminaire Lumens per Watt efficacy in
    ‘Rated Data’ specifications
  - Multiply luminaire Lumens per Watt by Emergency Output of the
    ‘LED Driver’ model under consideration

Dimensions (Dimensions are approximate and subject to change)

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Width</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALDR-5</td>
<td>11.46&quot;</td>
<td>2.63&quot;</td>
<td>1.48&quot;</td>
</tr>
<tr>
<td>LALDR-7</td>
<td>15.35&quot;</td>
<td>2.63&quot;</td>
<td>1.48&quot;</td>
</tr>
<tr>
<td>LALDR-11</td>
<td>15.35&quot;</td>
<td>2.63&quot;</td>
<td>1.48&quot;</td>
</tr>
<tr>
<td>LALDR-14</td>
<td>19.19&quot;</td>
<td>2.63&quot;</td>
<td>1.48&quot;</td>
</tr>
<tr>
<td>LALDR-17</td>
<td>19.19&quot;</td>
<td>2.63&quot;</td>
<td>1.48&quot;</td>
</tr>
</tbody>
</table>

Electrical information

<table>
<thead>
<tr>
<th>Model</th>
<th>Output</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALDR-5</td>
<td>5 Watts</td>
<td>3.9 Watts</td>
</tr>
<tr>
<td>LALDR-7</td>
<td>7 Watts</td>
<td>4.8 Watts</td>
</tr>
<tr>
<td>LALDR-11</td>
<td>11 Watts</td>
<td>5.7 Watts</td>
</tr>
<tr>
<td>LALDR-14</td>
<td>14 Watts</td>
<td>6.9 Watts</td>
</tr>
<tr>
<td>LALDR-17</td>
<td>17 Watts</td>
<td>7.9 Watts</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALDR-</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

Example: LALDR-5
LALDR CEC Series Emergency LED driver
Convert new or existing LED fixtures into emergency lighting units with constant power emergency LED drivers

Housing
- 20 gauge steel housing, red powder coated finish
- LED illuminated remote test switch

Mounting
- Suitable for installation on top or remotely (up to 50 feet)

Lamp types
- LED lamps with 10VDC to 60VDC operating voltage
- Can be wired for normally-on, normally off or switched loads
- Lumen output depends on LED light source efficacy (lumens/watts)

Electronics
- Universal 120/277, 50/60Hz input
- Provides 90 minutes of emergency operation
- Surge protection
- Output and input overcurrent protection
- Constant power supply in emergency mode

Battery
- Long-life, lithium battery
- 24 hour battery recharge time

Approvals
- Damp location listed
- UL classified for field 50F to 122F
- UL 924 approved, NFPA 101 life safety code, NEC, and BC-California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
Unit has a three-year warranty
Detailed warranty terms located online at: www.lightalarms.com

Important note

LEDDR SERIES System Coordination Guidelines
These guidelines were developed to allow the lighting system Designer/Specifier to predict the operating performance levels of LED luminaires when powered by an electrically compatible LEDDR Series model. It is ultimately the responsibility of the Designer/Specifier to ensure that the as installed system delivers code-compliant path of egress illumination.

1. Determine Electrical Compatibility
   a. Verify that the Luminaire LED Driver, where applicable, is Class 2 compliant.
   b. Verify that the Luminaire LED Lamp(s) have an operating voltage between 10Vdc and 60Vdc.
   c. Verify that the Luminaire LED Lamp(s) have a power rating equal to, or greater than, the emergency power rating of the LEDDR model under consideration.
**Calculate lumen output during emergency operation**

- Lumen output = Efficacy (lumen/watt) X emergency LED driver wattage
- In order to understand luminaire efficacy:
  - Access luminaire data by logging onto DesignLites Consortium
    [www.designlights.org](http://www.designlights.org)
  - Select ‘Search the DLC Qualified Product List’ on the DLC homepage
  - Enter manufacturer name and P/N of luminaire under consideration
    in the ‘search by keyword’ text window
  - Select ‘Search’ tab to open the ‘Qualified Products List’
  - Determine luminaire lumens per watt efficacy in ‘Rated Data’ specifications
  - Multiply luminaire lumens per watt by emergency output of the
    ‘LED Driver’ model under consideration

**Dimensions** (dimensions are approximate and subject to change)

11.024" x 2.543" x 1.8" (L x W x H)

**Electrical information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Output</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALDR-7-CEC</td>
<td>7 Watts</td>
<td>5 Watts</td>
</tr>
<tr>
<td>LALDR-12-CEC</td>
<td>12 Watts</td>
<td>7 Watts</td>
</tr>
</tbody>
</table>

**How to order**

<table>
<thead>
<tr>
<th>Series</th>
<th>Wattage</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALDR-</td>
<td>7</td>
<td>-CEC = CEC Title 20 for California</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**Example:** LALDR-7-CEC
LADL Linear Emergency Fluorescent Battery pack

Convert new or existing fluorescent fixtures into emergency lighting units emergency ballast

**Housing**
- Low profile steel housing contains, battery, battery charger, transfer circuit and high frequency inverter
- Optional end caps available
- Operating temperature 68°F to 122°F (20°C to 50°C)

**Mounting**
- Internal or external mounting to a fluorescent fixture

**Lamp type operation**
- Refer to ballast/Lamp reference chart for specific lamp type page 147

**Electronics**
- Can be wired to operate switched, un-switched or normally off fixtures without affecting normal operation
- Will cold start and illuminate lamps
- Dual voltage 120/277VAC, 2.5W

**Controls**
- Momentary test switch allows for quick operational check of entire system

**Sealed maintenance-free battery**
- Nickel-Cadmium battery
- Provides 90 minutes of emergency operation

**Approvals**
- UL 924 Listed Damp location I (50°F to 104°F)
- Damp location listed

**Warranty** (subject to proper installation and maintenance)
Ballast: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

**Accessories** (order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>External mounting kit includes wire bundle cover</td>
<td>071139-E</td>
</tr>
<tr>
<td>Remote test switch (Metal faceplate)</td>
<td>RTS</td>
</tr>
<tr>
<td>Remote test switch (Plastic faceplate)</td>
<td>RTS-1</td>
</tr>
<tr>
<td>Recommended for inaccessible locations. Test switch and charging indicator on a single mounting plate.</td>
<td></td>
</tr>
<tr>
<td>Replacement Test Switch</td>
<td>TBTSP-E</td>
</tr>
</tbody>
</table>

**Dimensions** (Dimensions are approximate and subject to change)

- Length 16-1/4"
- Height 1-3/4"
- Width 5-1/2"
- Center 16-1/4"

**Ordering information**

**Series**
- LADL32
- LADL7
- LADL12
- LADL30-N

Example: LADL32
LADL 4 Pin Series
Convert new or existing fluorescent fixtures into emergency lighting units
750 lumen emergency ballast

Housing
- Steel housing contains, battery, battery charger, transfer
circuit and high frequency inverter
- Operating temperature 32°F to 122°F(0°C to 50°C)

Mounting
- Internal or external mounting to a fluorescent fixture

Lamp type operation
- Refer to ballast/Lamp reference chart for specific lamp type
  page 147

Lumen output
- (1) Lamp 350-750 lumens
- (2) Lamps 425-750 lumens

Electronics
- Can be wired to operate switched, un-switched or normally
  off fixtures without affecting normal operation
- Will cold start and illuminate lamps
- High capacity, automatic, dust-tight instantaneous
  transfer relay
- Low voltage disconnect prevents over discharge of battery
- Automatic brownout protection
- Battery connector prevents battery discharge
during installation

Controls
- Red charger monitor LED indicates charging of the battery
  and AC present
- Momentary test switch allows for quick operational check of
  entire system

Sealed maintenance-free battery
- Nickel-Cadmium battery
- Provides 90 minutes of emergency operation

Power requirements
- Dual voltage 120/277VAC, 60Hz, 1.8W

Approvals
- UL 924 Standards
- Damp location listed

Warranty (subject to proper installation and maintenance)
Ballast: five-year full warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Accessories (order as a separate item)

<table>
<thead>
<tr>
<th>Description</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote test switch (Metal faceplate)</td>
<td>RTS</td>
</tr>
<tr>
<td>Remote test switch (Plastic faceplate)</td>
<td>RTS-1</td>
</tr>
<tr>
<td>Replacement Test Switch</td>
<td>TBTSP-E</td>
</tr>
</tbody>
</table>

Ordering information

<table>
<thead>
<tr>
<th>Series</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LADL20-N</td>
<td></td>
</tr>
</tbody>
</table>

Example: LADL20-N
Central & Inverter Systems

Designed to meet the unique needs of emergency lighting loads, inverters provide power to existing lighting to function as emergency lighting when main power fails. By providing a single point of testing, inverters minimize maintenance requirements. Compact Mini Inverters are ideal for LED, incandescent, and fluorescent lighting, and are available in up to 1000W models. Interruptible Power Systems (IPS) and Uninterruptible Power Systems (UPS) provide higher capacity units for industrial applications.
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Central & Inverter Systems

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<th>Pages</th>
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<tr>
<td>EPC 2 Series</td>
<td>158-159</td>
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<tr>
<td>Mini Inverter Check List</td>
<td>161</td>
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<td>Inverter System: Low Capacity Mini Inverter Series</td>
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<td>Features &amp; Benefits: Light Support Power Inverter Systems</td>
<td>168-169</td>
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<tr>
<td>Central System: Light Support Power Systems Compact Series</td>
<td>170-171</td>
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<tr>
<td>Central System: FTC Single Phase Series</td>
<td>174-175</td>
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<tr>
<td>Central System: Light Support Power Systems FTC Three Phase Series</td>
<td>176-177</td>
</tr>
<tr>
<td>Central System: Light Support Power Systems FTC3R &amp; 3FTC3R</td>
<td>178-179</td>
</tr>
<tr>
<td>Product sector: Control Panel &amp; Display Functions</td>
<td></td>
</tr>
<tr>
<td>Data: Light Support Power Systems Options - AC Central Systems Request Data</td>
<td>180-181</td>
</tr>
</tbody>
</table>
EPC Fixture Mounted Series
Emergency power control for generator and mini inverters. Supplies power to switched lighting fixtures.

Mechanical specifications
• UL94-5VA rating
• Shipping weight: 8 oz
• Damp location
• Temperature: 32˚F - 140˚F (0˚C - 60˚C)
• Color: Black
• Body size: 4.9” x 0.9” x 1.2”

Emergency Operation
• The EPC-2-FM-L & EPC-2-FM-D-L will operate any lamp type in the designated fixture for the duration of the generator or mini inverter supply

Initial illumination
• The EPC-2-FM-L & EPC-2-FM-D-L will operate the designated lamp at full light output

Approval
• UL924 Listed

Wiring diagrams
• Visit our website: lightalarms.com

Mounting

Housing
• Thermoplastic UL94-5VA suitable for plenum installations
• Compatible with LED, fluorescent and incandescent lamp types including standard, energy-saving, and electronic AC drivers and ballasts¹

Mounting
• Wall and ceiling mount

Options
• 0-10V Dimming standard on the EPC-FM-2-D-L model
• Advanced Diagnostics standard EPC-2-FM-L and EPC-2-FM-D-L

Lamp types
• Filed selectable fire alarm, remote test option
• During utility power interruption, automatically connects generator or inverter circuit to emergency fixture and bypasses switching control to full light output for duration of inverter or generator supply

Lumen output
• Allows switching control of emergency fixtures during normal operation
• Allows auxiliary generator power on a switched lighting fixture

Power requirements
• Dual voltage 120/277V 60Hz

Approvals
• Meets or exceeds all National Electrical Code and Life Safety Code Emergency Lighting Requirements

Warranty (subject to proper installation and maintenance)
Unit has a five-year warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com
¹ When using EPC-FM-2-L & EPC-FM-2-D-L to control more than 10 emergency ballasts with a high corrective power factor capacitor, consult factory for more information regarding inrush currents.

Ordering information

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPC-2-FM-L</td>
<td>Emergency transfer switch fixture mounted with Advanced Diagnostics</td>
</tr>
<tr>
<td>EPC-2-FM-D-L</td>
<td>Emergency transfer switch fixture mounted with Advanced Diagnostics and 0-10 dimming</td>
</tr>
</tbody>
</table>

Example: EPC-2-FM-D-L
Specifications

**Electrical**
- Model number: EPC-2-FM
- Sensing input: 120V-277V
- LED load rating: 3A (120-277V)
- Ballast load rating: 5A (120-277V)
- Incandescent load: 360W (120V)/600W (277V)
- Warranty: Five-year replacement warranty

**Mechanical**
- Mounting: Fixture mount, panel mount
- Rating: UL94-5VA, Damp location rated
- Shipping weight/Color: 8 oz./Black
- Temperature: 32°F - 32°F (0°C - 60°C)
- Body size: 125mm X 25.4 mm X 30mm (L X H X W)

**NOTE**
When using EPC in conjunction with Lightalarms Mini-Inverter, the inverter must be non self-test/self diagnostics model.
EPC 2 Series
Emergency power control for generator and mini inverters. Supplies power to switched lighting fixtures.

Mechanical specifications
- Mounts in 4-11/16" Junction box with single gang plaster ring
- UL94-5VA rating
- Shipping weight: 12oz
- Temperature: 32°F - 140°F (0°C - 60°C)
- Color: White
- Flush mounted single gang
- Body size: 3" x .7" x 1.2"

Emergency Operation
- The EPC-2-L & EPC-2-D-L will operate any lamp type in the designated fixture for the duration of the generator or mini inverter supply

Initial illumination
- The EPC-2-L & EPC-2-D-L will operate the designated lamp at full light output

Approval
- UL924 Listed

Wiring diagrams
- Visit our website: lightalarms.com

Mounting
- Wall or ceiling mount

Options
- 0-10V Dimming standard on the EPC-2-D-L model
- Advanced Diagnostics standard EPC-2-L and EPC-2-D-L

Lamp types
- During utility power interruption, automatically connects generator or inverter circuit to emergency fixture and bypasses switching control to full light output for duration of inverter or generator supply

Lumen output
- Allows switching control of emergency fixtures during normal operation
- Allows auxiliary generator power on a switched lighting fixture

Power requirements
- Dual voltage 120/277V 60Hz

Approvals
- Meets or exceeds all National Electrical Code and Life Safety Code Emergency Lighting Requirements

Warranty (subject to proper installation and maintenance)
- Unit has a five-year warranty
- Detailed warranty terms located on page 197 or online at: www.lightalarms.com

1 When using EPC-2-L & EPC-2-D-L to control more than 10 emergency ballasts with a high corrective power factor capacitor, consult factory for more information regarding inrush currents.

Ordering information
- EPC-2-L = Emergency transfer switch
- EPC-2-D-L = Emergency transfer switch with Advanced Diagnostics and 0-10 dimming

Example: EPC-2-D-L
Single line drawing

Wiring diagram

Specifications

<table>
<thead>
<tr>
<th>Electrical</th>
<th>EPC-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model number</td>
<td>EPC-2</td>
</tr>
<tr>
<td>Sensing input</td>
<td>120V-277V</td>
</tr>
<tr>
<td>LED load rating</td>
<td>120V-277V (20A)</td>
</tr>
<tr>
<td>Ballast load rating</td>
<td>20A (120-277V)</td>
</tr>
<tr>
<td>Incandescent load</td>
<td>1200W (120V)/1500W (277V)</td>
</tr>
<tr>
<td>Warranty</td>
<td>Five-year replacement warranty</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td>4-11/16’ Junction box with single gang plaster</td>
</tr>
<tr>
<td>Rating</td>
<td>UL94-5VA</td>
</tr>
<tr>
<td>Shipping weight/Color</td>
<td>12 oz. / White</td>
</tr>
<tr>
<td>Temperature</td>
<td>32°F - 140°F (0°C - 60°C)</td>
</tr>
<tr>
<td>Flush mounted size</td>
<td>Single gang size</td>
</tr>
<tr>
<td>Body size</td>
<td>1.7” X 3” X 1.2” (W X H X D body)</td>
</tr>
</tbody>
</table>

NOTE
When using EPC in conjunction with Lightalarms Mini-Inverter, the inverter must be non self-test/self diagnostics model.
Mini Inverter Series - Compatibility checklist

1) Input voltage

- 120VAC
- 277VAC

2) Output voltage

- 120VAC
- 277VAC

3) Type of load

- EXIT
- LED
- LED Highbay
- Incandescent
- Fluorescent (HID non compatible)

**Compatible Exit Signs**
- Genesis GX
- Grande
- Galaxy XD
- XV
- XVHZ
- Simplicity Universal
- QLX
- Chicago Edge-Lit

LED load specifications: _________________________
Total watts: _________________________
Power factor: _________________________
Input current: _________________________
Inrush current: _________________________
Inrush length: _________________________

4) mode of Operation

- Normally ON
- Normally OFF
- Switched loads
- Mixed

5) Options (refer to available options for each type system)

- Diagnostics audible
- Diagnostics non audible
- No diagnostics
- Nexus wired
- Nexus Wireless
- Time delay
- Load shedding
- Service alarm contact
Low Capacity Mini Inverter Series
Interruptible unit equipment 32W or 55W

Construction
• Heavy-duty steel cabinet
• White baked on powder paint coating provides scratch and corrosion resistance

Mounting
• Surface mount
• Recessed T-bar (plenum rated)

Lamp types operated
• LED
• Incandescent
• Fluorescent
• Operates switched, normally-on or normally-off fixture types, incandescent
• LED, fluorescent and ballast combinations, including triac dimmable ballasts

Load capacity
• 32W & 55W
• Allows for remote mounting of the emergency fixtures at distances of up to 1000 feet
• May accept load when load feature power factor range from 0.44 lead to 0.44 lag

Electronics
• Pure sine wave inverter
• Temperature compensated charger
• Low battery voltage disconnect
• Unit comes standard with electronic lockout and brownout circuits

Controls
• Control panel with momentary test switch, AC-On, Charger-On and
• Inverter-On LED indicators
• Sealed maintenance-free battery
• 12V oversized valve regulated lead-calcium (VRLA) battery
• Provides 90 minutes of emergency operation

Power requirements
• Choice of voltage: 120V in/120V out or 277V in/277V out operation, 60Hz

Approvals
• UL 924 Standard
• Meets or exceeds all National Electric Codes and Life Safety Code
• Emergency lighting requirements

Warranty (subject to proper installation and maintenance)
• Unit has a three year full warranty
• Battery has a three-year full, plus an additional three year pro-rata warranty

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

¹ When using hi-bay fixtures or screw-in type LED lamps, consult the factory.
Specifications

<table>
<thead>
<tr>
<th>System type</th>
<th>Power rating</th>
<th>Sine wave</th>
<th>Installation</th>
<th>W&quot;</th>
<th>H&quot;</th>
<th>D&quot;</th>
<th>Number of battery</th>
<th>120V &amp; 277V</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMILC32-S</td>
<td>32W/VA</td>
<td>Pure</td>
<td>Surface mount</td>
<td>14-3/4&quot;</td>
<td>6-7/8&quot;</td>
<td>3-1/8&quot;</td>
<td>1</td>
<td>14 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC32-T</td>
<td>32W/VA</td>
<td>Pure</td>
<td>Recessed T-bar</td>
<td>23-7/8&quot;</td>
<td>6-1/4&quot;</td>
<td>4&quot;</td>
<td>1</td>
<td>15 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC55-S</td>
<td>55W/VA</td>
<td>Pure</td>
<td>Surface mount</td>
<td>14-3/4&quot;</td>
<td>6-7/8&quot;</td>
<td>4-3/8&quot;</td>
<td>1</td>
<td>18 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC55-T</td>
<td>55W/VA</td>
<td>Pure</td>
<td>Recessed T-bar</td>
<td>23-7/8&quot;</td>
<td>6-1/4&quot;</td>
<td>4&quot;</td>
<td>1</td>
<td>19 lbs</td>
<td></td>
</tr>
</tbody>
</table>

Note: For wiring diagram, please refer to instruction sheets.

Electrical characteristics and dimensions

<table>
<thead>
<tr>
<th>System type</th>
<th>Power rating</th>
<th>Sine wave</th>
<th>Installation</th>
<th>W&quot;</th>
<th>H&quot;</th>
<th>D&quot;</th>
<th>Number of battery</th>
<th>120V &amp; 277V</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMILC32</td>
<td>32W/VA</td>
<td>Pure</td>
<td>Surface mount</td>
<td>14-3/4&quot;</td>
<td>6-7/8&quot;</td>
<td>3-1/8&quot;</td>
<td>1</td>
<td>14 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC32</td>
<td>32W/VA</td>
<td>Pure</td>
<td>Recessed T-bar</td>
<td>23-7/8&quot;</td>
<td>6-1/4&quot;</td>
<td>4&quot;</td>
<td>1</td>
<td>15 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC55</td>
<td>55W/VA</td>
<td>Pure</td>
<td>Surface mount</td>
<td>14-3/4&quot;</td>
<td>6-7/8&quot;</td>
<td>4-3/8&quot;</td>
<td>1</td>
<td>18 lbs</td>
<td></td>
</tr>
<tr>
<td>LMILC55</td>
<td>55W/VA</td>
<td>Pure</td>
<td>Recessed T-bar</td>
<td>23-7/8&quot;</td>
<td>6-1/4&quot;</td>
<td>4&quot;</td>
<td>1</td>
<td>19 lbs</td>
<td></td>
</tr>
</tbody>
</table>

Power consumption and unit rating

<table>
<thead>
<tr>
<th>Model number</th>
<th>Input rating</th>
<th>Emergency power available for load (90min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMILC32</td>
<td>41W/VA</td>
<td>32W</td>
</tr>
<tr>
<td>LMILC55</td>
<td>64W/VA</td>
<td>55W</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity</th>
<th>Voltage in/out</th>
<th>Battery type</th>
<th>Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMILC</td>
<td>32=32W/VA</td>
<td>Blank=120/277VAC</td>
<td>Blank=Lead-Calcium</td>
<td>-S=Surface mount housing</td>
</tr>
<tr>
<td></td>
<td>55=55W/VA</td>
<td></td>
<td></td>
<td>-T=Plenum rated ceiling T-grid mount housing</td>
</tr>
</tbody>
</table>

Example: LMILC32-S
Mini Inverter Series
Interruptible unit equipment standard with non-audible improved self-diagnostics circuitry

Controls
• Standard with a non-audible self diagnostic/charger is fully self-contained, fully automatic microcontroller based system
• Optional audible auto diagnostic available
• Standard lighting control override for 0-10V dimming systems

Load Shedding – Available on LMIU-250 models only
• During a power outage the emergency fixture is dimmed to 25% or 45% brightness output. Reducing wattage draw from the fixture will allow for more fixture to be connected to the Mini Inverter.
• Maximum 20 Emergency fixtures can be daisy chained per LMIU-250
• In standby mode, the maximum normally-on load that can be connected to LMIU-250-LD is 960 watts

Nexus® Option
• Units equipped with Nexus® self-testing monitoring system circuitry shall selftest, in accordance with NFPA101, Life Safety Code minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually as well as keep a history of all testing logs, plus feature a real-time diagnoses, as well as, be able to locate exact fixture location while notifying service personnel to the status of the fixture via email notification. Nexus® system interface with an improved minimum load lost detection of 10%

Sealed maintenance-free battery
• 12V oversized valve regulated lead-calcium (VRLA) battery
• Provides 90 minutes of emergency operation

Power requirements
• Choice of voltage 120V in/120V out or 277V in/277V out operation, 60Hz

Approvals
• UL 924 Standard
• Meets or exceeds all National Electric Code and Life Safety Code Emergency Lighting Requirements
• BC – California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)
• Battery has a 3-year full, plus 7-year pro-rata warranty
• Unit has a three-year warranty
Detected warranty terms located on page 197 or online at: www.lightalarms.com

Construction
• 14-gauge steel
• White semi-gloss powered-coat paint finish

Mounting
• Surface mount
• Optional recessed T-bar (125W unit only)

Lamp types operated
• LED
• Incandescent
• Fluorescent
• Operates switched, normally-on or normally-off fixture types, incandescent
• Incandescent, LED, fluorescent lamps and ballast combinations, including triac dimmable ballasts (consult factory if DALI dimming)¹

Load capacity
• 125W, 250W, 400W or 720W
• Line voltage allows for remote mounting of the emergency fixtures at distances up to 1000 feet
• May accept load to it’s full capacity when load feature power factor of 0.9 for 250W model and 0.8 for 125, 400 and 720W model

Electronics
• High-efficiency pure sine wave inverter at 250W capacity or higher
• Temperature compensated charger
• Replaceable output fuse protection
• Low battery voltage disconnect
• Unit comes standard with electronic lockout and brownout circuits

¹ When using hi-bay fixtures or screw-in type LED lamps, consult the factory.
### Replacement battery

<table>
<thead>
<tr>
<th>Series</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU-125</td>
<td>860.0024-L</td>
</tr>
<tr>
<td>LMIU-250</td>
<td>2X 860.0024-L</td>
</tr>
<tr>
<td>LMIU-400</td>
<td>2X 860.0043-L</td>
</tr>
<tr>
<td>LMIU-720</td>
<td>2X 860.0096-L</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Transfer time</th>
<th>Voltage regulation on emergency</th>
<th>Frequency regulation on emergency</th>
<th>Load power factor range</th>
<th>Operating temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 second</td>
<td>+/- 3%</td>
<td>60 Hz +/- 1%</td>
<td>250W model: 0.9 leading to 0.9 lagging</td>
<td>68°F to 86°F (20° to 30°C)</td>
</tr>
</tbody>
</table>

| 125W          | 43 lbs | 20 lbs |
| 250W          | 41 lbs | 18.5 lbs |
| 400W          | 76 lbs | 30 lbs |
| 720W          | 128 lbs | 50 lbs |

125, 400 & 720W models: 0.8 leading to 0.8 lagging

### Electrical characteristics and dimensions

<table>
<thead>
<tr>
<th>Power rating</th>
<th>Sine wave</th>
<th>Installation</th>
<th>W&quot;</th>
<th>H&quot;</th>
<th>D&quot;</th>
<th>Number of battery</th>
<th>Weight 120 &amp; 277V</th>
<th>Weight w/o battery 120 &amp; 277V</th>
</tr>
</thead>
<tbody>
<tr>
<td>125W</td>
<td>Modified</td>
<td>T-Bar</td>
<td>24&quot;</td>
<td>6.5&quot;</td>
<td>8&quot;</td>
<td>1</td>
<td>43 lbs</td>
<td>20 lbs</td>
</tr>
<tr>
<td>250W</td>
<td>Modified</td>
<td>Wall</td>
<td>23&quot;</td>
<td>12.2&quot;</td>
<td>7.3&quot;</td>
<td>1</td>
<td>41 lbs</td>
<td>18.5 lbs</td>
</tr>
<tr>
<td>720W</td>
<td>Pure</td>
<td>Wall</td>
<td>24&quot;</td>
<td>20&quot;</td>
<td>10.5&quot;</td>
<td>2</td>
<td>128 lbs</td>
<td>50 lbs</td>
</tr>
</tbody>
</table>

**Note:** For wiring diagram, please refer to instruction sheets.

### Power consumption and unit rating - Non-CEC models

<table>
<thead>
<tr>
<th>Model number</th>
<th>Ac specs</th>
<th>90 minutes</th>
<th>2H</th>
<th>3H</th>
<th>4H</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU-720</td>
<td>120 / 277VAC</td>
<td>6.90 / 4.00 Amps</td>
<td>720W</td>
<td>480W</td>
<td>360W</td>
</tr>
</tbody>
</table>

### Power consumption and unit rating - CEC models

<table>
<thead>
<tr>
<th>Model number</th>
<th>Ac specs</th>
<th>AC power stand by</th>
<th>90 minutes</th>
<th>2H</th>
<th>3H</th>
<th>4H</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU-125</td>
<td>120 / 277VAC</td>
<td>1.15 / 0.50 Amps</td>
<td>1.44W</td>
<td>125W</td>
<td>83W</td>
<td>62W</td>
</tr>
<tr>
<td>LMIU-250</td>
<td>120 / 277VAC</td>
<td>2.28 / 0.99 Amps</td>
<td>2.26W</td>
<td>250W</td>
<td>167W</td>
<td>125W</td>
</tr>
<tr>
<td>LMIU-400</td>
<td>120 / 277VAC</td>
<td>3.73 / 1.62 Amps</td>
<td>3.21W</td>
<td>400W</td>
<td>300W</td>
<td>200W</td>
</tr>
</tbody>
</table>

### Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity</th>
<th>Voltage in/out</th>
<th>Diagnostic feature</th>
<th>Options</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU</td>
<td></td>
<td></td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-D3= Time delay (15 minutes)</td>
<td>-CEC= CEC Title 20</td>
</tr>
<tr>
<td>-125= 125W</td>
<td></td>
<td></td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-ID= Improved self-diagnostics (audible)¹</td>
<td>-LDC25= Load shedding to 25% for California' brightness²</td>
</tr>
<tr>
<td>-250= 250W</td>
<td></td>
<td></td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-NID= No self-test/Self-diagnostic</td>
<td>-LDC45= Load shedding to 45% brightness²</td>
</tr>
<tr>
<td>-400= 400W</td>
<td></td>
<td>277 / 277VAC</td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-NEX= Nexus® wired</td>
<td>-SAC= Service alarm contact³</td>
</tr>
<tr>
<td>-720= 720W</td>
<td></td>
<td></td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-NEXRF= Nexus® wireless</td>
<td>-T= Recessed T-Bar mounting (125W unit only)</td>
</tr>
</tbody>
</table>

**Note:**

1 Minimum load required: 10% of unit capacity
2 Available on 250W models only
3 Service alarm contact (SAC) shall provide a 24V signal, the charger board will indicate a fault by choosing a contact.
4 Available with 125, 250 and 400W capacities only
1000W Capacity Mini Inverter Series
Interruptible unit equipment standard with non-audible improved self-diagnostics circuitry

Controls
- Standard with a non-audible improved self diagnostic & self-testing microcontroller-based system
- Optional audible Improved Diagnostic available
- Optional Non-Improved Diagnostics available
- Non-Improved Diagnostics option for applications with emergency power controls
- Standard lighting control override for 0-10V dimming systems
- Optional 4 output circuits allow for multiple zone application
- Optional load shedding to dim 0-10V light fixtures connected to an emergency inverter system

Load Shedding
- During a power outage the emergency fixture is dimmed at field selectable level of 25%, 40% or 45% brightness output. Reducing wattage draw from the fixture will allow for more fixture to be connected to the Mini Inverter.
- Lightalarms 1000W Mini Inverter with 4C-24V option must be used in conjunction with RTS load shedding control device (Ordered separately)
- The LMIU-1000-4C-24V when in normal mode can accept a maximum of 1000watts per circuit.
- Maximum 20 Emergency fixtures can be daisy chained to each RTS
- One RTS required for each circuit (Ordered seperately)

For use of more than 4 RTS control devices contact factory

Sealed maintenance-free battery
- 12V valve regulated Lead-Calcium (VRLA) batteries
- Provides minimum 90 minutes of emergency operation power requirements
- Choice of Voltage 120V input/120V output or 277V input/277V output operation, 60Hz

Approvals
- UL 924 Standard
- Meets or exceeds all National Electric Code and Life Safety Code Emergency Lighting Requirements

Warranty (subject to proper installation and maintenance)
Unit has a three-year limited warranty
Detailed warranty terms located on page 197 or online at: www.lightalarms.com

¹ When using hi-bay fixtures or screw-in type LED lamps, consult the factory.
Replacement battery

<table>
<thead>
<tr>
<th>Series</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU-1000</td>
<td>4 X 860.0043</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Transfer time</th>
<th>Voltage regulation on emergency</th>
<th>Frequency regulation on emergency</th>
<th>Load power factor range</th>
<th>Operating temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 second</td>
<td>+/- 3%</td>
<td>60 Hz +/- 1%</td>
<td>0.8 at 120V</td>
<td>68°F to 86°F (20° to 30°C)</td>
</tr>
</tbody>
</table>

Electrical characteristics and dimensions

<table>
<thead>
<tr>
<th>Power rating</th>
<th>Sine wave</th>
<th>Installation</th>
<th>Cabinet dimensions</th>
<th>Weight</th>
<th>Weight w/o battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000W</td>
<td>Pure</td>
<td>Floor/ Wall</td>
<td>W&quot; 24&quot; H&quot; 40.75&quot; D&quot; 10.5&quot;</td>
<td>266 lbs</td>
<td>114 lbs</td>
</tr>
<tr>
<td>1000W-4C</td>
<td>Pure</td>
<td>Floor/ Wall</td>
<td>W&quot; 24&quot; H&quot; 40.75&quot; D&quot; 14.5&quot;</td>
<td>320 lbs</td>
<td>198 lbs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power consumption and unit rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model number</td>
</tr>
<tr>
<td>LMIU-1000</td>
</tr>
</tbody>
</table>

Ordering format

<table>
<thead>
<tr>
<th>Series</th>
<th>Capacity</th>
<th>Voltage in/out</th>
<th>Diagnostic feature</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIU-1000</td>
<td>-1000=1000W</td>
<td>Blank= 120/120VAC or 277/277VAC</td>
<td>Blank= Includes improved self-diagnostics (non-audible)¹</td>
<td>-D3= Time delay (15 minutes)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-ID= Improved self-diagnostics (audible)¹</td>
<td>-SAC= Service alarm contact²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-NID= No self-test/Self-diagnostic</td>
<td>-4C= 4 output circuits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-NEX= Nexus® wired</td>
<td>-4C-24V= 4 output circuits with 24VDC output³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-NEXRF= Nexus® wireless</td>
<td></td>
</tr>
</tbody>
</table>

Example: LMIU-1000-4C

¹ Minimum load required: 10% of unit capacity
² Service alarm contact (SAC) shall be provided a 24V signal, the charger board will indicate a fault by closing a contact.
³ Can only be used with RTS-0-10V-24-L for load shedding applications.

RTS Series

0-10V dimming load shedding control

Ordering information

<table>
<thead>
<tr>
<th>Series</th>
<th>RTS-0-10V-24V-L= 24V 0-10V dimming load shedding control¹</th>
</tr>
</thead>
</table>

Example: RTS-0-10V-24V-L

¹ Can only be used with LMIU-1000-4C-24V
Light Support Power Inverter Systems Features

HIGHLIGHTS

Performance
The Light Support Power Systems works with any type of lighting load to provide full light output for minimum 90 min. It is designed to support incandescent, fluorescent, HID*, quartz re-strike or halogen lamps. It will work into these loads at cold starts for all normally off circuits or normally on circuits. *except IPS systems

True Sine waveform
Using a solid-state, pulse width modulation (PWM) inverter the systems produce pure sinusoidal output waveform with less than 3% maximum Total Harmonic Distortion (THD) for linear loads. Microprocessor and crystal controlled.

Reliability
The product is third generation inverter technology. Proven solid design with double ratings of all critical components. LVD (Low Voltage Disconnect) for long power outages eliminates battery drain.

Batteries
Front access connections for easy installation significantly reduce the footprint, installation and maintenance time while increasing safety. Automatic restart and recharge upon restoration of utility.

Approvals
• UL listed to UL924. Meets UL924, NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI.
• N.Y. City approved.

Applications
Light Support Power Systems can be used in almost every type of building, especially in architecturally sensitive applications or when maintenance costs and individual testing of unit equipment becomes very significant. Our systems are designed to work with power factor corrected as well as the most recent T5 and T5-HO electronic ballasts.

Options
A full range of options such as integrated output circuit breakers, bypass relays, dry contacts, etc., makes Light Support Power Systems an industry leader in emergency lighting central systems page 168.

FEATURES

Self-Diagnostic/Self-Testing
Programmable monthly and annual self-testing. Proven self-diagnostic with over 120 parameters stored in separate memory logs for Test, Event and Alarm. Microprocessor monitoring and control.

Low heat dissipation
Very low heat loss technology in normal operating mode (see specifications for exact values). Convection cooling in normal mode with forced air during emergency mode. Battery cabinets: convection cooling only.

Maximum efficiency
• Highest efficiency in the industry, 98% at 100% load with no requirement for cooling in normal operating mode.
• Low input harmonic distortion <10%.

Versatile installation
Modular design, easy front access freestanding cabinets, fasten together when more than one cabinet is required. Optional seismic kit available. All wiring provided is pre cut and terminated, along with the necessary hardware and electrical fittings, for proper installation.

Complete protection
Input circuit breaker and fused battery circuit is standard. Systems offer overload capacity, short-circuit protection, current-limiting, low-battery disconnect, reverse polarity and brownout protection as standard.

Thermal performance
Bonded fin heat sink technology for maximum thermal performance. Cooling fans are energized only in inverter mode.

Monitoring and control
User friendly programmable interface with LED indicators and LCD display provides full metering values, easy program and control functions and a wide range of visual and audible alarms.

<table>
<thead>
<tr>
<th>System type</th>
<th>Capacity (KVA=KW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact Series</td>
<td></td>
</tr>
<tr>
<td>1PH IPS</td>
<td>500VA 1500VA</td>
</tr>
<tr>
<td>1PH FTC</td>
<td>2000VA 3KVA</td>
</tr>
<tr>
<td>3PH FTC</td>
<td>4KVA 4.8KVA 8KVA</td>
</tr>
<tr>
<td>Outdoor 1 PH FTC</td>
<td>16.7KVA 50KVA</td>
</tr>
<tr>
<td>Outdoor 3 PH FTC</td>
<td></td>
</tr>
</tbody>
</table>
Light Support Power Inverter Systems Benefits

**BENEFITS**

**Compliance with NFPA101**
- The self-testing meets the requirements of NFPA and UL. User programmable time of testing.
- Test results, events or alarms can be downloaded from history logs. Load monitoring. Reduced testing/service time.

**Less air-conditioning**
Reduced costs for air-conditioning required to ensure the optimum operating temperature when compared with equivalent systems that dissipate much more heat. Higher reliability of fans and the electronic components.

**Lower energy bills**
Low consumption of the system itself will result in lower energy bills paid over the system life time. Comparative analysis available on request.

**Easy to install**
Quick installation and connection through flexible cable entries and fast access terminal blocks. Reduced footprint for systems with stackable cabinets. Low MTTR (<15 min.) due to modular design, quick disconnect means and frontal access.

**Reduced damage risks**
The full protection of the system will eliminate damage created by external events and will increase lifetime of the electronics and the batteries. Also will provide safety during maintenance.

**Increased MTBF**
- Increased reliability and reduced preventative maintenance.
- No air filters needed.

**Easy maintenance**
Easier diagnostic, troubleshooting, preventative maintenance and service through the indicators and display or by using the history logs. Remote versions available.
## Light Support Power Systems Compact Series

Single fast transfer emergency lighting, 1PH, inverter system 500VA – 2000VA

### Features

- 98% efficient at full load
- PWM/MOSFET technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard output circuit breaker
- Micro-processor controlled
- Floor or wall mountable
- Field upgradeable (500VA steps)
- 90 min. standard run time
- Electronic and magnetic ballast compatible
- Automatic event, test and alarm log
- LCD display
- Very small footprint (stackable cabinets)
- Maintenance free standard batteries
- Forced air cooling during emergency mode only

### Approvals

UL listed to UL924, Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved

### Electrical/ mechanical characteristics

<table>
<thead>
<tr>
<th>Power rating¹</th>
<th>Effic. at full load</th>
<th>Max. input current (a)</th>
<th>Heat loss in normal mode (BTU/HR)</th>
<th>Batt. VDC</th>
<th>Batt. A</th>
<th>No. of batt.</th>
<th>UPS cabinet</th>
<th>Battery cabinet dimensions²³</th>
<th>No. of batt. cab</th>
<th>Batt. cab. weight lbs (empty)</th>
<th>UPS cab. weight lbs</th>
<th>Batt. weight lbs</th>
<th>Total system weight lbs</th>
</tr>
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<tbody>
<tr>
<td>500</td>
<td>98</td>
<td>5.2</td>
<td>2.3</td>
<td>34</td>
<td>13.5</td>
<td>4</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>1000</td>
<td>98</td>
<td>10.5</td>
<td>4.5</td>
<td>68</td>
<td>26.5</td>
<td>8</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
</tr>
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<td>1500</td>
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<td>6.8</td>
<td>102</td>
<td>40</td>
<td>12</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>2000</td>
<td>98</td>
<td>20.8</td>
<td>9</td>
<td>136</td>
<td>52</td>
<td>16</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
<td>10</td>
<td>10</td>
<td>26</td>
</tr>
</tbody>
</table>

¹ System capacity can be upgraded in the field up to 2000VA by adding more battery cabinets. Re-programming required by factory service technician
² Batteries are installed in separate modular cabinets
³ Special voltages may change the size, weight or number of cabinets

### Ordering format

<table>
<thead>
<tr>
<th>System type</th>
<th>Battery type</th>
<th>Input voltage³</th>
<th>VA/W rating</th>
<th>Output voltage³</th>
<th>Input breaker</th>
<th>Output breakers⁴</th>
<th>Options¹</th>
<th>VTD</th>
<th>BPR</th>
<th>RMP</th>
<th>RSAP</th>
<th>RS232</th>
<th>MOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTCM</td>
<td>-SC= Sealed Lead- Calcium</td>
<td>120= 120VAC</td>
<td>C - 500</td>
<td>120</td>
<td>ICB</td>
<td>OCBxxx FB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>277= 277VAC</td>
<td>E - 1000</td>
<td>277</td>
<td></td>
<td>NOFF</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>DCS</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>J - 2000</td>
<td></td>
<td></td>
<td>INVON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: FTCM-SC120G120-90-ICB-OHB0320-WB

¹ See page 179 for options description
² Other run times available
³ Special voltages may change the size, weight or number of cabinets
⁴ Max. 4 more additional output breakers for a total of 4. See page 179 for output breakers details
Specifications

GENERAL
Design
Stand-by no break. PWM inverter type utilizing MOSFET technology with 2ms transfer time
Control
Microprocessor controlled, 2 x 20-character display with touch pad controls & functions
Metering
Input and output voltage, battery voltage, battery and output current, output VA, temperature, inverter wattage
Communications
Optional RS-232 port (DB9)

ELECTRICAL INPUT
Voltage
120 or 277VAC 1-phase 2-wire +10% - 15%. Contact factory for all other voltages.
Input Power Walk-In
• Limiting inrush current to less than 125%, 10 times for 1 line cycle
• Input frequency 60Hz, +/-3Hz
• Protection standard input circuit breaker
• Harmonic distortion <10%
• Power factor 0.5 lag/lead

ELECTRICAL OUTPUT
Voltage
120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.
Static Voltage
Load current change +/-2%, battery discharge +/-12.5%
Dynamic Voltage
• +/-2% for +/-25% load step change, +/-3% for a 50% load step change, recovery within 3 cycles
• Harmonic Distortion <3% THD for linear load
• Output Frequency 60Hz +/- 0.05Hz during emergency mode
• Load Power Factor 0.5 lag to 0.5 lead
• Inverter Overload 115% for 5 minutes
• Protection Standard Output Circuit Breaker (normally on)
• Crest Factor 2.8

ENVIRONMENTAL CONDITIONS
Storage/Transport
• -4°F to 158°F (-20°C to 70°C) without batteries
• -0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104°F (40°C)
Operating temperature
System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68°F and 86°F (20°C to 30°C). Battery performance can be affected by temperature.
Altitude
<10,000 feet (above sea level) without de-rating
Relative Humidity
• 0 to 95% non-condensing
• Audible noise 45 dBA @ 1m from surface in emergency mode

Cabinets
Modular design, freestanding or wall mount NEMA type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design. Cabinets are stackable. Top and left side conduit entry with knockouts

Inverter
Using MOSFET/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

Charger
Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

Battery
System is provided with 10 year, maintenance free, sealed valve regulated Lead-Calcium batteries. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

Supervision
Automatic self-test consists of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily “watch” system functions as they occur and check on virtually any aspect of the system’s operation. Self-diagnostic function monitors, controls, generates alarms and memorizes events.

Alarms
High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip

Optional features
- Normally OFF output, Output Circuit Breakers, Output Trip Alarm, RS232 communication port, 12 Hours Fast Charge, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Variable Time Delay, Modem, Bypass Relays, Wall mount bracket

Factory start-up
Includes one additional year of warranty. See warranty conditions.

Warranty
Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one-year plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 180 days from ship date in order to validate warranty.

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Characteristics, specifications or dimensions subject to change without notice.
## Light Support Power Systems IPS Single Phase Series

Interruptible emergency lighting inverter system 1.5KVA –16.7KVA

### Features
- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard internal bypass switch
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log
- 90 min. standard run time
- Generator compatibility
- Available in Y or Δ input configuration
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint
- Maintenance free standard batteries
- Forced air cooling during emergency only

### Electrical/ mechanical characteristics
(data provided for standard lead calcium batteries) ¹ ² ³ ⁴

<table>
<thead>
<tr>
<th>Power rating¹</th>
<th>Effic. at full load</th>
<th>Max. input current (a)</th>
<th>Heat loss in normal mode (BTU/HR)</th>
<th>Batt. VDC</th>
<th>Batt. A</th>
<th>No. of batt.</th>
<th>UPS cabinet</th>
<th>Battery cabinet dimensions² ³ ⁴</th>
<th>No. of batt. weight lbs (empty)</th>
<th>UPS cab. weight lbs</th>
<th>Batt. weight lbs</th>
<th>Total system weight lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>98</td>
<td>16</td>
<td>7</td>
<td>102</td>
<td>43</td>
<td>39</td>
<td>4</td>
<td>30</td>
<td>47</td>
<td>25</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2.25</td>
<td>98</td>
<td>24</td>
<td>11</td>
<td>153</td>
<td>6</td>
<td>38</td>
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<td>47</td>
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<td>16.7</td>
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<td>1136</td>
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<td>80</td>
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<td>30</td>
<td>47</td>
<td>25</td>
<td>30</td>
<td>47</td>
</tr>
</tbody>
</table>

¹ Consult factory for 20 year type batteries
² Batteries are installed in the electronics cabinet for 1.5 to 5kVA systems
³ Battery cabinets are stackable. To be installed on the right side of the electronics cabinet
⁴ Special voltages or batteries may change the size, weight or number of cabinets

### Ordering format

<table>
<thead>
<tr>
<th>System type</th>
<th>Battery type</th>
<th>Input voltage¹</th>
<th>VA/W rating</th>
<th>Output voltage¹</th>
<th>Run time²</th>
<th>Input breaker</th>
<th>RS232 port</th>
<th>Output breakers³</th>
<th>Options⁴</th>
<th>Options⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPS SC</td>
<td>Sealed</td>
<td>120</td>
<td>G - 1500</td>
<td>120</td>
<td>90</td>
<td>ICB</td>
<td>RS232</td>
<td>OCbxxxx-</td>
<td>20Y-20yr sealed batteries</td>
<td>VTD- Time delay, 15 min.</td>
</tr>
<tr>
<td></td>
<td>Lead-</td>
<td>208</td>
<td>K - 2250</td>
<td>277</td>
<td></td>
<td></td>
<td></td>
<td>OCACxxxx-</td>
<td>12HR - 12 hr fast recharge</td>
<td>MOD- External modem</td>
</tr>
<tr>
<td></td>
<td>Calcium</td>
<td>240</td>
<td>L - 3000</td>
<td>208</td>
<td></td>
<td></td>
<td></td>
<td>With trip alarm</td>
<td>MGBP- Internal bypass switch</td>
<td>FAX- Fax modem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>277</td>
<td>M - 3750</td>
<td>120/240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EMBP- External bypass switch</td>
<td>BPR- Bypass relays</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P - 5000</td>
<td>120/277</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMP- Remote metering panel</td>
<td>SEIS- Seismic mounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R - 6000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RSAP- Remote summary alarm</td>
<td>ZONEM - Zone monitoring</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S - 8000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>panel</td>
<td>BATM- Battery cycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>T - 10000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DCS- Dry summary alarm</td>
<td>warranty monitor</td>
</tr>
<tr>
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<td></td>
<td>U - 12500</td>
<td></td>
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<td></td>
<td>contacts</td>
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<td></td>
<td>V - 16700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INVON- Inverter on dry</td>
<td></td>
</tr>
</tbody>
</table>

¹ See page 179 for options description
² Other run times available
³ Special voltages may change the size, weight or number of cabinets
⁴ Max. 12 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 179 for output breakers option details.
⁵ External bypass switch is not compatible with integrated output circuit breakers. Input/output voltage has to be the same

Example: IPS-SC120S120-90-ICB-RS232-OCB0420-DCS-20Y
Specifications

GENERAL
Design
Stand-by. PWM inverter type utilizing IGBT technology with 50ms transfer time

Control
• Microprocessor controlled, 2 x 20-character display with touch pad controls & functions
• 5 LED indicators & alarm with ring-back feature

Metering
Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, temperature, inverter wattage

Communications
RS-232 port (DB9)

ELECTRICAL INPUT
Voltage
120 or 277VAC 1-phase 2-wire +10% - 15%. Contact factory for all other voltages.

Input Power Walk-In
Limiting inrush current to less than 125%, 10 times for 1 line cycle

Input Frequency
• 60Hz, +/-3%, 50Hz available upon request
• Protection 60Hz, +/-3%, 50Hz available upon request
• Harmonic Distortion <10%
• Power Factor 0.5 lag/lead

ELECTRICAL OUTPUT
Voltage
120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.

Static Voltage
Load current change +/-2%, battery discharge +/-12.5%

Dynamic Voltage
• +/-2% for +/-25% load step change, +/-3% for a 50% load step change, recovery within 3 cycles
• Harmonic Distortion <3% THD for linear load
• Output Frequency 60Hz +/- 0.05Hz during emergency mode
• Inverter Overload 125% for 5 minutes
• Protection Optional Distribution Circuit Breaker
• Crest Factor 2.8

ENVIRONMENTAL CONDITIONS
Storage/Transport
• -4°F to 158°F (-20°C to 70°C) without batteries
• -0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104°F (40°C)

Operating temperature
System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68°F and 86°F (20°C to 30°C). Battery performance can be affected by temperature.

Altitude
<10,000 feet (above sea level) without de-rating

Relative Humidity
0 to 95% non-condensing

Audible noise
45 dBA @ 1m from surface in emergency mode

Cabinets - Modular design, freestanding NEMA type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39” front clearance and 12” top clearance. Cabinets are stackable up to 16.7kVA, if required to further reduce the footprint. Top and left side conduit entry with knockouts up to 16.7kVA. Left side only for 24kVA and up.

Inverter - Using IGBT/PWM technology the inverter converts DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

Charger - Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and overvoltage protection included.

Battery - System is provided standard with 10 year, maintenance free, sealed valve regulated, front terminals Lead-Calcium batteries. 20 years life sealed Lead-Calcium battery also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

Supervision - Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily “watch” system functions as they occur and check on virtually any aspect of the system's operation. Standard RS232 diagnostic interface.

Alarms - High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip

Optional features - Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Recharge, Internal/External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

Factory start-up - full limited warranty conditions available upon request) Includes one additional year of warranty. See warranty conditions.

Warranty (full limited warranty conditions available upon request) Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one-year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty. 2- Consult factory for other type batteries than the standard one.

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Characteristics, specifications or dimensions subject to change without notice.

Single line diagram
FTC Single Phase Series
Fast transfer emergency lighting inverter system 1.5KVA –16.7KVA

Features
- 98% efficient @ full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log
- 90 min. standard run time
- Generator compatibility
- Electronic and magnetic ballast compatible
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint
- Maintenance free standard batteries
- Forced air cooling during emergency mode only

Electrical characteristics and dimensions
(data provided for standard lead calcium batteries)

<table>
<thead>
<tr>
<th>Power rating¹</th>
<th>Effic. at full load</th>
<th>Heat loss in normal mode (BTU/HR)</th>
<th>Batt. VDC</th>
<th>Batt. A</th>
<th>No. of batt.</th>
<th>UPS cabinet</th>
<th>Battery cabinet dimensions³⁴</th>
<th>No. of batt.</th>
<th>Batt. weight lbs (empty)</th>
<th>Batt. weight lbs</th>
<th>UPS cab. weight lbs</th>
<th>Batt. cab. weight lbs</th>
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<td>14</td>
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<td>174</td>
<td>76</td>
<td>1136</td>
<td>240</td>
<td>80</td>
<td>30</td>
<td>47</td>
<td>25</td>
<td>30</td>
<td>N/A</td>
<td>N/A</td>
<td>530</td>
</tr>
</tbody>
</table>

¹ See page 179 for options description
² Batteries are installed in the electronics cabinet for 1.5 to 5kVA systems
³ Battery cabinets are stackable. To be installed on the right side of the electronics cabinet.
⁴ Special voltages or batteries may change the size, weight or number of cabinets
⁵ External bypass switch is not compatible with integrated output circuit breakers. Input/output voltage has to be the same
⁶ Normally Off loads cannot exceed 20% of total KVA rating with any combination of H.I.D loads

 Ordering format

<table>
<thead>
<tr>
<th>System type</th>
<th>Battery type</th>
<th>Input voltage⁴</th>
<th>VA/W rating</th>
<th>Output voltage⁴</th>
<th>Run time²</th>
<th>Input breaker</th>
<th>RS232 port</th>
<th>Output breakers³</th>
<th>Options³</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTC</td>
<td>Sealed Lead- Calcium</td>
<td>120</td>
<td>G - 1500</td>
<td>120</td>
<td>90</td>
<td>ICB</td>
<td>RS232</td>
<td>OCBxxx</td>
<td>20Y- 20 yr sealed batteries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>208</td>
<td>K - 2250</td>
<td>277</td>
<td></td>
<td></td>
<td></td>
<td>OCAxxxx</td>
<td>12HR- 12 hr fast recharge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240</td>
<td>L - 3000</td>
<td>208</td>
<td></td>
<td></td>
<td></td>
<td>MBYP</td>
<td>MBYP- Internal bypass switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>277</td>
<td>M - 3750</td>
<td>120/240</td>
<td></td>
<td></td>
<td></td>
<td>EMBP</td>
<td>EMBP- External bypass switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P - 5000</td>
<td>120/277</td>
<td></td>
<td></td>
<td></td>
<td>RMP</td>
<td>RMP- Remote metering panel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R - 6000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RSAP</td>
<td>RSAP- Remote summary alarm panel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S - 8000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DCS</td>
<td>DCS- Dry summary alarm contacts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>T - 10000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INVON</td>
<td>INVON- Inverter on dry contacts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>U - 12500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MOD</td>
<td>MOD- External modem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>V - 16700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FAX</td>
<td>FAX- Fax modem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BPR</td>
<td>BPR- Bypass relays</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SEIS</td>
<td>SEIS- Seismic mounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZONEM</td>
<td>ZONEM- Zone monitoring</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BATM</td>
<td>BATM- Battery cycle warranty monitor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOFF</td>
<td>NOFF- Normally Off output⁶</td>
</tr>
</tbody>
</table>

Example: FTC-SC120M12090ICBR232-OCB0420

² Other run times available
³ Special voltages may change the size, weight or number of cabinets
⁴ Max. 12 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 179 for output breakers option details.
⁵ External bypass switch is not compatible with integrated output circuit breakers. Input/output voltage has to be the same
⁶ Normally Off loads cannot exceed 20% of total KVA rating with any combination of H.I.D loads
Specifications

GENERAL

Design
Stand-by. PWM inverter type utilizing IGBT technology with 2ms transfer time.

Control
• Microprocessor controlled, 2 x 20-character display with touch pad controls & functions
• 5 LED indicators & alarm with ring-back feature

Metering
Input and output Voltage, battery voltage, battery and output current, output VA, temperature, inverter wattage

Communications  RS-232 port (DB9)

ELECTRICAL INPUT

Voltage
120 or 277VAC 1-phase 2-wire +10% - 15%. Contact factory for all other voltages.

Input Power Walk-In
Limiting inrush current to less than 125%, 10 times for 1 line cycle

Input Frequency
• 60Hz, +/-3%, 50Hz available upon request
• Protection Input Circuit Breaker
• Harmonic Distortion <10%
• Power Factor 0.5 lag/lead

ELECTRICAL OUTPUT

Voltage
120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.

Static Voltage
Load current change +/-2%, battery discharge +/-12.5%

Dynamic Voltage
• +/-2% for +/-25% load step change
• +/-3% for a 50% load step change, recovery within 3 cycles
• Harmonic Distortion <3% THD for linear load
• Output Frequency 60Hz +/- 0.05Hz during emergency mode
• Load Power Factor 0.5 lag to 0.5 lead
• Inverter Overload 125% for 5 minutes
• Protection Optional Distribution Circuit Breaker
• Crest Factor 2.8

ENVIRONMENTAL CONDITIONS

Storage/Transport
• -4°F to 158°F (-20°C to 70°C) without batteries
• -0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104°F (40°C)

Operating temperature
System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68°F and 86°F (20°C to 30°C). Battery performance can be affected by temperature.

Altitude
<10,000 feet (above sea level) without de-rating

Relative Humidity
0 to 95% non-condensing

Audible noise
45 dBA @ 1m from surface in emergency mode

Cabinets - Modular design, freestanding NEMA type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39” front clearance and 12” top clearance. Cabinets are stackable if required to further reduce the footprint. Top and left side conduit entry with knockouts.

Inverter - Using IGBT/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

Charger - Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

Battery - System is provided standard with 10 year, maintenance free, sealed valve regulated, front terminals lead calcium batteries. 20 years life sealed lead calcium battery also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

Supervision - Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily “watch” system functions as they occur and check on virtually any aspect of the system’s operation. Standard RS232 diagnostic interface.

Alarms - High/Low Battery Charger Voltage, High Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip.

Optional features - Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Recharge, Internal/External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Normally OFF output, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

Factory start-up - Includes one additional year of warranty. See warranty conditions.

Warranty (full limited warranty conditions available upon request) Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one-year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty. 2- Consult factory for other type batteries than the standard one

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Single line diagram

Characteristics, specifications or dimensions subject to change without notice.
Light Support Power Systems 3FTC Three Phase Series
Fast transfer emergency lighting inverter system 4.8KVA – 50KVA

Features
- 98% efficient @ full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard internal bypass switch
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log
- 90 min. standard run time
- Generator compatibility
- Available in Y or Δ input configuration
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint (stackable cabinets)
- Maintenance free standard batteries
- Forced air cooling during emergency mode only

Electrical characteristics and dimensions
(data provided for standard lead calcium batteries)

<table>
<thead>
<tr>
<th>System type</th>
<th>Battery type</th>
<th>Input voltage¹</th>
<th>VA/W rating</th>
<th>Output voltage¹</th>
<th>Run time</th>
<th>Input breaker</th>
<th>Internal Switch</th>
<th>Output breakers⁺</th>
<th>Options¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>3FTC</td>
<td>SC=</td>
<td>120V/208V</td>
<td>4800</td>
<td>90</td>
<td>ICB</td>
<td>RS232</td>
<td>MBYP</td>
<td>OCBxxxx</td>
<td>MOD- External modem</td>
</tr>
<tr>
<td></td>
<td>Sealed</td>
<td>277/480</td>
<td>277/480</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20Y- 20 yr sealed batteries</td>
<td>12HR- 12 hr fast recharge</td>
</tr>
<tr>
<td></td>
<td>Calcium</td>
<td>R- 6000</td>
<td>277/480</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOFF- Normally Off output 1PH³</td>
<td>FAX- Fax modem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S- 8000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EMBP- External bypass switch⁴</td>
<td>BPR- Bypass relays</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T- 10000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OCAxxxx³ With trip alarm</td>
<td>SEIS- Seismic monitoring</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U- 125000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RMP- Remote metering panel</td>
<td>ZONEM- Zone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>V- 167000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RSAP- Remote summary alarm panel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X- 24000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DCS- Dry summary alarm contacts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z- 40000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INVON- Inverter on dry contacts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>W- 50000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOFF3- Normally Off output 3PH³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MOD- External modem</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FAX- Fax modem</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BPR- Bypass relays</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BATM- Battery cycle warranty monitor</td>
<td></td>
</tr>
</tbody>
</table>

Example: 3FTC-SC277/480V277/480-90-ICB-RS232-MBYP-OCB1220-DCS-20Y

¹ Consult factory for 20 year type batteries
² Batteries are installed in the electronics cabinet for 1.5 to 5kVA systems
³ Battery cabinets are stackable. To be installed on the right side of the electronics cabinet.
⁴ Special voltages or batteries may change the size, weight or number of cabinets
⁵ See page 179 for options description. Summary alarm dry contacts and seismic brackets are standard
⁶ Other run times available
⁷ 1PH are input voltages available for 1 phase systems. 2PH are input voltages available for 3 phase systems.
⁸ Max. 14 unsupervised single pole positions or 8 with trip alarm. See page 179 for output breakers option details.
⁹ Not available in 3 Phase version
¹⁰ Normally Off loads cannot exceed 20% of total KVA rating with any combination of H.I.D loads
Specifications

GENERAL
Design
Stand-by. PWM inverter type utilizing IGBT technology with 2ms transfer time.
Control
- Microprocessor controlled, 2 x 20-character display with touch pad controls & functions
- 5 LED indicators & alarm with ring-back feature
Metering
Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, temperature, communications
Communications
RS-232 port (DB9)

ELECTRICAL INPUT
Voltage
120/208 or 277/480 3 phase 4-wire +10% - 15%. Contact factory for all other voltages.
Input Power Walk-In
Limiting inrush current to less than 125%, 10 times for 1 line cycle
Input Frequency
- 60Hz, +/-3%, 50Hz available upon request
- Protection Input Circuit Breaker
- Harmonic Distortion <10%
- Power Factor 0.5 lag/lead

ELECTRICAL OUTPUT
Voltage
120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.
Static Voltage
Load current change +/-4%, battery discharge +/-4%
Dynamic Voltage
- +/-3% for +/-25% load step change,
- +/-6% load step change, recovery within 3 cycles
- Harmonic Distortion <3% THD for linear load
- Output Frequency 60Hz +/- 0.05Hz during emergency mode
- Load Power Factor 0.5 lag to 0.5 lead
- Inverter Overload 115% for 5 minutes
- Protection Optional Distribution Circuit Breaker
- Crest Factor 2.8

ENVIRONMENTAL CONDITIONS
Storage/Transport
- -4°F to 158°F (-20°C to 70°C) without batteries (max. 3 months at 104°F (40°C)
- -0°F to 104°F (-18°C to 40°C) with batteries
Operating temperature
System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68°F and 86°F (20°C to 30°C).
Battery performance can be affected by temperature.
Altitude
<10,000 feet (above sea level) without de-rating
Relative Humidity
0 to 95% non-condensing
Audible noise
45 dBA @ 1m from surface in emergency mode

Cabinets
- Modular design, freestanding NEMA type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39" front clearance and 12" top clearance. Cabinets are stackable up to 16.7kVA, if required to further reduce the footprint. Top and left side conduit entry with knockouts up to 16.7kVA. Left side only for 24kVA and up.

Inverter
- Using IGBT/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

Charger
- Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included

Battery
- System is provided standard with 10 year, maintenance free, sealed valve regulated, lead acid batteries. 20 years life sealed lead calcium battery also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation or filters required.

Supervision
- Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily “watch” system functions as they occur and check on virtually any aspect of the system’s operation. Standard RS232 diagnostic interface

Alarms
- High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Circuit Breaker Trip.

Optional features
- Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Exchange, External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Normally OFF output, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

Factory start-up
- Includes one additional year of warranty. See warranty conditions.

Warranty
Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty.
2- Consult factory for other type batteries than the standard one.

Detailed warranty terms located on page 197 or online at: www.lightalarms.com

Single line diagram

Characteristics, specifications or dimensions subject to change without notice.
### Light Support Power Systems FTC3R & 3FTC3R

Outdoor fast transfer emergency lighting Inverter system 3KVA – 8KVA

#### Features
- 98% efficient @ full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- Standard input circuit breaker
- Standard internal bypass switch
- RS232 communication port
- Standard seismic zone 4 brackets
- Standard summary dry contacts
- Automatic event and alarm log
- NEMA 3R cabinet for outdoors
- 90 min. standard run time
- Generator compatibility
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- One size cabinet
- Maintenance free standard 5 year
- Temperature controlled cooling fans

#### Electrical characteristics and dimensions

(data provided for standard lead calcium batteries) ¹ ²

<table>
<thead>
<tr>
<th>Power rating¹ kVA=kW</th>
<th>Effic. at full load</th>
<th>Heat loss in normal mode (BTU/HR)</th>
<th>Heat loss (BTU)</th>
<th>Batt. VDC</th>
<th>Batt. A</th>
<th>No. of Batt.²</th>
<th>UPS cabinet dimensions</th>
<th>Batt. cab. weight lbs (empty)</th>
<th>UPS cab. weight lbs</th>
<th>Batt. weight lbs</th>
<th>Total system weight lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (1PH)</td>
<td>98</td>
<td>255</td>
<td>120</td>
<td>120</td>
<td>37</td>
<td>10</td>
<td>W¹ H² D³</td>
<td>48 76 30</td>
<td>N/A</td>
<td>535</td>
<td>888 1633</td>
</tr>
<tr>
<td>4 (1PH)</td>
<td>98</td>
<td>340</td>
<td>144</td>
<td>144</td>
<td>40</td>
<td>12</td>
<td>48 76 30</td>
<td>N/A</td>
<td>535</td>
<td>1110</td>
<td>1855</td>
</tr>
<tr>
<td>5 (1PH)</td>
<td>98</td>
<td>408</td>
<td>180</td>
<td>180</td>
<td>40</td>
<td>15</td>
<td>48 76 30</td>
<td>N/A</td>
<td>535</td>
<td>1480</td>
<td>2247</td>
</tr>
<tr>
<td>6.5 (1PH)</td>
<td>98</td>
<td>544</td>
<td>240</td>
<td>240</td>
<td>39</td>
<td>20</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>1776</td>
<td>2835</td>
</tr>
<tr>
<td>8 (1PH)</td>
<td>98</td>
<td>680</td>
<td>144</td>
<td>144</td>
<td>82</td>
<td>24</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>2220</td>
<td>3279</td>
</tr>
<tr>
<td>4 (3PH)</td>
<td>98</td>
<td>326</td>
<td>144</td>
<td>144</td>
<td>39</td>
<td>12</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>2100</td>
<td>4063</td>
</tr>
<tr>
<td>5 (3PH)</td>
<td>98</td>
<td>408</td>
<td>180</td>
<td>180</td>
<td>39</td>
<td>15</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>2320</td>
<td>4440</td>
</tr>
<tr>
<td>6.5 (3PH)</td>
<td>98</td>
<td>544</td>
<td>240</td>
<td>240</td>
<td>39</td>
<td>20</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>2520</td>
<td>4630</td>
</tr>
<tr>
<td>8 (3PH)</td>
<td>98</td>
<td>680</td>
<td>144</td>
<td>144</td>
<td>81</td>
<td>24</td>
<td>48 76 30</td>
<td>N/A</td>
<td>639</td>
<td>2420</td>
<td>4830</td>
</tr>
</tbody>
</table>

1. Factory installed floor mount brackets; add 2.5” to each side (total 53”)
2. Standard batteries are 5 year life expectancy.
3. Batteries are installed in the same cabinet with electronics
4. UL rated for 90 min. run time for temperatures: 50ºF to 104ºF (10ºC to 40ºC) or -4ºF to 104ºF (-20ºC to 40ºC) with optional heater
5. NEMA type 3R, freestanding, two-door powder coat cold rolled steel cabinet standard. Stainless steel enclosure is optional.

#### Ordering format

<table>
<thead>
<tr>
<th>System type</th>
<th>Battery type</th>
<th>Input voltage³</th>
<th>VA/W rating³</th>
<th>Output voltage³</th>
<th>Run time²</th>
<th>Input breaker</th>
<th>RS232 port</th>
<th>Internal bypass switch</th>
<th>Output breakers⁴</th>
<th>Options⁷</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTC3R-</td>
<td>SC= Sealed</td>
<td>120, 1PH</td>
<td>L- 3000</td>
<td>120</td>
<td>90</td>
<td>ICB</td>
<td>RS232 MBYP</td>
<td>OCBxxxx-No trip alarm</td>
<td>OCBxxxx-OCAxxxx-</td>
<td>10Y</td>
</tr>
<tr>
<td>single</td>
<td>Lead-Calcium</td>
<td>208, 1PH</td>
<td>M- 3750</td>
<td>208</td>
<td></td>
<td></td>
<td></td>
<td>With trip alarmrecharge</td>
<td></td>
<td>HTR</td>
</tr>
<tr>
<td>phase</td>
<td></td>
<td>240, 1PH</td>
<td>P- 5000</td>
<td>277</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INVON</td>
</tr>
<tr>
<td></td>
<td></td>
<td>277, 1PH</td>
<td>R- 6000</td>
<td>120/208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MOD</td>
</tr>
<tr>
<td>3FTC3R-</td>
<td></td>
<td>120/208, 3PH</td>
<td>S- 8000</td>
<td>277/480</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NOFF</td>
</tr>
<tr>
<td>3 phase</td>
<td></td>
<td>277/480, 3PH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EMBP</td>
</tr>
</tbody>
</table>

Example: FTC3R-SC277P277-90-ICB-RS232-MBYP-OCB1020-10Y

1. 1PH are input voltages available for 1 phase systems. 3PH are input voltages available for 3 phase systems.
2. Other run times available
3. 1PH are input voltages available for 1 phase systems. 3PH are input voltages available for 3 phase systems.
4. Max. 14 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 179 for output breakers option details.
5. Not available in 3 phase version
6. Normally Off loads cannot exceed 20% of total KVA rating with any combination of H.I.D loads.
7. See page 179 for options description. Summary alarm dry contacts and seismic brackets are standard.
Light Support Power Systems Options

-OCB 12 20

<table>
<thead>
<tr>
<th>Trip Alarm</th>
<th>Number of Circuit Breakers</th>
<th>Breaker Rating (Amps)</th>
<th>Number of poles</th>
<th>Breaker Voltage</th>
<th>Operation Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCB - No Breaker Trip Alarm</td>
<td>Combination of 1 pole, 2 pole and 3 pole breakers available.</td>
<td>*Various ratings available</td>
<td>Blank - 1 pole</td>
<td>-120VAC</td>
<td>Blank: Normally-On</td>
</tr>
<tr>
<td>OCA - With Breaker Trip Alarm</td>
<td>*For max. number of circuit breakers available please consult factory</td>
<td>-20VAC</td>
<td>Blank- matches system output voltage</td>
<td>-240VAC</td>
<td>-NOFF: Normally-Off</td>
</tr>
</tbody>
</table>

Distribution circuit breakers are for output load protection. Protection for the normally on and/or for the normally off loads. All circuit breakers are rated for 10,000 AIC. If ordered, an audible and visual alarm activates when an output distribution circuit breaker is open or has tripped.

(-20YR) 20 year Sealed Lead Calcium Batteries
Maintenance free battery requires no addition of water over the life of the battery. The battery cells are housed in protective, modular steel trays. Life expectancy is designed for 20-years at 77°F (25°C).

(-12HR) 12 hour fast recharge
Battery charger upgrade option which decreases the time required to return a fully discharged battery to the fully charged state. The normal 24 hour recharge cycle is reduced to a 12 hour period.

(-MBYP) Internal maintenance bypass switch
Internally mounted device permits maintenance personnel to easily bypass the protected equipment directly to the AC utility power. The manual make before break switch isolates the system to perform routine maintenance or servicing without interruption of utility power to the connected load.

(-EMBP) External Maintenance bypass switch
The external maintenance bypass switch is mounted in a 20"H x 16"W x 9"D NEMA 1 separate enclosure, used to completely isolate the inverter system from the connected load and AC utility input. This option allows the system to be safely powered down for maintenance or service. The option may not be used on systems with more than one single pole output circuit breaker which must be sized for the total system output current.

(-RMP) Remote meter panel
The panel allows monitoring of parameters and control from remote locations up to 150 feet away from the inverter system. Also, the remote panel provides a complete touch pad interface allowing the user to monitor, control and program the inverter system.

(-RSAP) Remote summary alarm panel
Wall mountable box provides visual and audible alarms with silent switch. The panel consists of LED indicators and built in audible alarm and may be located up to 1,000 feet away from the inverter system.

(-DCS) Summary alarm dry contacts
Form C dry contacts for remote monitoring purposes. Rated at 5 amps max. (250VAC/30VDC), the contacts will change state when any of the following alarms: High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery Voltage, Low Battery Voltage, Load Reduction Fault, High Ambient Temperature, Inverter Fault, Output Fault, Output Overload or Optional circuit breaker trip alarms, occurs. (-INVON) Inverter On Dry Contacts

(-INVON) Inverter on drycontacts
Form C dry contacts that will change state when the system transfers to battery operation

(-VTD) Time delay, 15 minutes (for normally off circuits)
After a return of AC utility power, delays retransfer of the inverter for up to 15 min. and continues to supply emergency power to the normally off circuits.

(-NOFF) Normally Off output
This output circuit is dedicated for the emergency only equipment. Emergency only equipment operates during power outages and when the system is on battery back up. This option leaves the normally off load circuits off during normal utility power conditions. A 1-pole circuit breaker is provided. For 3 phase systems, 3 pole normally off circuits are available as well.

(-MOD) External modem
External modem device is designed to boost the signal level of the RS-232 diagnostic interface to remote monitoring locations located more than 100 feet away from the system.

(-FAX) Internal fax modem
The internal fax modem enables the system to send a fax automatically to several pre-programmed numbers when one of the following conditions occurs: utility failure, output failure or any alarm. The Fax Modem option requires a user supplied dedicated phone line.

(-BPR) Bypass relays
Internal bypass relays will allow overriding circuits that can be switched on/off, so in case of a power failure the emergency circuits will be supplied from the inverter system whatever the position of the switching device. Please consult factory for more details.

(-SEIS) Seismic mounting kit
The seismic mounting kit option is designed to prevent system movement during seismic events. Heavy duty brackets are provided to secure system cabinetry to floor surfaces. Meets Zone 4 requirements.

(-ZONEM) Zone monitoring
Allows voltage monitoring of different circuits than the standard AC utility input. When the voltage of one of these circuits drops, the inverter system will go into battery back-up operation mode. Number and voltage of the monitored circuits to be specified.

(-RS232) Diagnostic interface
A microprocessor-based data acquisition system designed to monitor all the system parameters remotely. Monitors alarm log, event log and automatic test log. User can command the system to perform a battery test and review all system parameters. Access is through a DB9 connector and transmits at 9600 baud.

(-BATM) Battery cycle warranty monitor
Device providing battery monitoring at string level or cell level. Please consult factory for more details.

(-DCS) Summary alarm dry contacts
Form C dry contacts for remote monitoring purposes. Rated at 5 amps max. (250VAC/30VDC), the contacts will change state when any of the following alarms: High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery Voltage, Low Battery Voltage, Load Reduction Fault, High Ambient Temperature, Inverter Fault, Output Fault, Output Overload or Optional circuit breaker trip alarms, occurs. (-INVON) Inverter On Dry Contacts

(-INVON) Inverter on drycontacts
Form C dry contacts that will change state when the system transfers to battery operation

(-VTD) Time delay, 15 minutes (for normally off circuits)
After a return of AC utility power, delays retransfer of the inverter for up to 15 min. and continues to supply emergency power to the normally off circuits.

(-NOFF) Normally Off output
This output circuit is dedicated for the emergency only equipment. Emergency only equipment operates during power outages and when the system is on battery back up. This option leaves the normally off load circuits off during normal utility power conditions. A 1-pole circuit breaker is provided. For 3 phase systems, 3 pole normally off circuits are available as well.

(-MOD) External modem
External modem device is designed to boost the signal level of the RS-232 diagnostic interface to remote monitoring locations located more than 100 feet away from the system.

(-FAX) Internal fax modem
The internal fax modem enables the system to send a fax automatically to several pre-programmed numbers when one of the following conditions occurs: utility failure, output failure or any alarm. The Fax Modem option requires a user supplied dedicated phone line.

(-BPR) Bypass relays
Internal bypass relays will allow overriding circuits that can be switched on/off, so in case of a power failure the emergency circuits will be supplied from the inverter system whatever the position of the switching device. Please consult factory for more details.

(-SEIS) Seismic mounting kit
The seismic mounting kit option is designed to prevent system movement during seismic events. Heavy duty brackets are provided to secure system cabinetry to floor surfaces. Meets Zone 4 requirements.

(-ZONEM) Zone monitoring
Allows voltage monitoring of different circuits than the standard AC utility input. When the voltage of one of these circuits drops, the inverter system will go into battery back-up operation mode. Number and voltage of the monitored circuits to be specified.

(-RS232) Diagnostic interface
A microprocessor-based data acquisition system designed to monitor all the system parameters remotely. Monitors alarm log, event log and automatic test log. User can command the system to perform a battery test and review all system parameters. Access is through a DB9 connector and transmits at 9600 baud.

(-BATM) Battery cycle warranty monitor
Device providing battery monitoring at string level or cell level. Please consult factory for more details.
Light Support Power Systems Options - Control Panel & Display Functions

**Meter function**
- AC voltage input
- AC voltage output
- AC current output
- Battery Voltage
- Battery Current
- VA Output
- Inverter watts
- Ambient temperature
- System days (cumulative)
- Inverter minutes (cumulative)

**Program functions**
- Set date
- Set time
- Set monthly test date and time
- Set annual test date and time
- Set load fault reduction setting
- Set low battery alarm
- Set near low battery alarm
- Set low AC voltage alarm
- Set high AC alarm
- Set ambient temperature alarm

**Alarms**
- High battery charger voltage
- Low battery charger voltage
- High AC Input voltage
- Low AC input voltage
- Near low battery voltage
- Low battery voltage
- Load reduction fault
- High ambient temperature
- Inverter fault
- Output fault
- Output overload

**Control functions**
- Test and event logs
  - (75 logs stored) logs record the following data: date, time, duration, output voltage, output current, ambient temperature and alarms present.
- Alarm logs (50 logs stored) logs record the following data: Date, Time and Alarm type
- Buzzer On/Off (toggle)
- 5 LED Indicators and alarms with ringingback feature

**System Testing**

Systems provide one manual and two automatic test functions. Manual tests of system may be performed at any time using the control panel test key. Automatic self-diagnostic tests consist of a 5-minute monthly and 90-minute annual function (the user can program the date and time of day the test is to take place). The microprocessor automatically records the last 75 test events in its own separate test result log.
Light Support Power Systems Options - AC Central Systems Request Data

1) Input voltage
   Single phase (2 wire + ground)  120VAC □  208VAC □  240VAC □  277VAC □
   Three phase (4 wire + ground, Y) 120/208VAC □  277/480V □
   Three phase (3 wire + ground, △) 208VAC □  480VAC □

2) Output voltage
   Single phase (2 wire + ground)  120VAC □  208VAC □  277VAC □
   Single phase (3 wire + ground)  120/240V □  120/277 □
   Three phase (4 wire + ground, Y) 120/208VAC □  277/480V □

3) System capacity
   KVA rating:__________________ System series type__________
   a) Please consider power consumption and maximum current of the complete lamp fixture not just the lamp wattage (ie: ballasts consumption)
   b) Please consider loads power factor
   c) Even if the systems can run with 100% load, it is recommended as standard practice to use a system with a capacity at least 10% over maximum connected load

4) Type of loads
   Incandescent □  Fluorescent □  H.I.D (metal halide, high pressure sodium, etc.) □
   Others ____________________________________________________________________

5) Mode of operation
   Normally ON (24/7) □  Normally OFF (emergency only) □  Switched loads ON/OFF □
   a) Please consider internal bypass relays or external override relays for switched On/Off loads. Each switched output circuit will require a bypass relay. Maximum 20 A per circuit.

6) Integrated output circuit breakers
   # of CB_____ Amps_____ Voltage_____ # of poles ____ NON □ NOFF □ Trip alarm □
   # of CB_____ Amps_____ Voltage_____ # of poles ____ NON □ NOFF □ Trip alarm □

7) Type of batteries (check availability for each type system)
   10 yr sealed lead calcium □  20 yr sealed lead calcium □

8) Options (refer to available options for each type system)
   □ 12HR- 12 hr fast recharge  □ NOFF – normally OFF output
   □ MBYP- internal bypass switch  □ MOD- external modem
   □ EMBP- external bypass switch  □ FAX- fax modem
   □ RMP- remote metering panel  □ BPR- bypass relays  How many _____
   □ RSAP- remote summary alarm panel  □ SEIS- seismic mounting
   □ DCS- dry summary alarm contacts  □ ZONEM- zone monitoring
   □ INVON- inverter on dry contacts  □ VTD- Time delay, 15 min.
   □ RS232- diagnostic interface  □ BATM – battery cycle warranty monitor
   □ WB- wall mount bracket
Choose from different MR16 LED voltages and wattages to provide required illumination levels. Light levels must take into account the mounting height needed, surface reflectance, and preferred spacing for each installation. Accessories such as wire guards and mounting plates meet specific installation requirements.
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## Accessories & General Information

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<td>Product index</td>
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</tbody>
</table>
Emergency Lighting is required to provide illumination for a minimum of 90 minutes or an hour and a half during an emergency situation. Emergency Lighting lamps powered from a DC battery source must be powered by a battery that has the capacity to power all the lamps using that battery source for a minimum of 90 minutes. It is important to choose the correct lumen output lamp to meet the required illumination at the floor level on a path of egress. It is equally important to match the lamp and the battery voltages. If you do not have a battery that is the same voltage as the lamp and with enough wattage capacity to illuminate all the lamps, then the lamps will not provide adequate lumen output for 90 minutes to meet the required illumination at floor level along the path of egress.

First, match voltage. The voltage of the lamp MUST exactly match the voltage of the battery powering that lamp. If the voltage of the battery is lower than the voltage of the lamp, the lamp may not illuminate. If the voltage of the battery is higher than the voltage of the lamp, the lamp may “pop.”

Second, consider total wattage. The wattage of each individual lamp drawing from a battery during emergency operation, including the lamps mounted on the unit as well as all remote lamps wired to that unit, added together, CAN NOT EXCEED the total wattage capacity of that battery within 90 minutes of operation. A unit’s battery wattage capacities are shown in the Unit Rating Chart of each particular unit.

Available lamp types are shown on the Lamp Selection Chart on the catalog page for each head style or fixture type. Lamp Selection Chart information refers to a single lamp. If you are using a double or triple lamp type head or fixture, the wattage draw of that head or fixture will be the total number of lamps used. For example, if you are using a double lamp fixture with a 12W lamp, that fixture will have a 24W draw (two lamps of 12W each, 12W + 12W = 24W total).

### Lamp Data

Important considerations when choosing the proper lamp

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Part number</th>
<th>Lamp suffix</th>
<th>Voltage</th>
<th>Watts</th>
<th>Average lumen</th>
<th>Total candle power (CP)</th>
<th>Lamp #</th>
<th>Bulb type</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR16 LED Lamps</td>
<td>580.0097-L</td>
<td>LD1</td>
<td>6</td>
<td>4</td>
<td>199</td>
<td>600</td>
<td>24</td>
<td>MR16</td>
</tr>
<tr>
<td></td>
<td>580.0122-L</td>
<td>LD2</td>
<td>6</td>
<td>5</td>
<td>415</td>
<td>1300</td>
<td>24</td>
<td>MR16</td>
</tr>
<tr>
<td></td>
<td>580.0093-L</td>
<td>LD7</td>
<td>12</td>
<td>4</td>
<td>222</td>
<td>440</td>
<td>30</td>
<td>MR16</td>
</tr>
<tr>
<td></td>
<td>580.0104-L</td>
<td>LD9</td>
<td>12</td>
<td>5</td>
<td>340</td>
<td>900</td>
<td>24</td>
<td>MR16</td>
</tr>
<tr>
<td></td>
<td>580.0106-L</td>
<td>LD10</td>
<td>12</td>
<td>6</td>
<td>540</td>
<td>1800</td>
<td>25</td>
<td>MR16</td>
</tr>
<tr>
<td></td>
<td>580.0098-L</td>
<td>LD13</td>
<td>24</td>
<td>4</td>
<td>223</td>
<td>900</td>
<td>24</td>
<td>MR16</td>
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<td></td>
<td>580.0100-L</td>
<td>LD14</td>
<td>24</td>
<td>6</td>
<td>590</td>
<td>1939</td>
<td>24</td>
<td>MR16</td>
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<tr>
<td></td>
<td>580.0095-L</td>
<td>LD25</td>
<td>120</td>
<td>4</td>
<td>200</td>
<td>900</td>
<td>24</td>
<td>MR16</td>
</tr>
</tbody>
</table>
Unit accessories

Polycarbonate shields

VRC Series

- VRC = Vandal Resistant
- VRC-4X = NEMA-4X Vandal Resistant (including a gasket and breather vent)

![Polycarbonate shields diagram]

CPS Series

- CPS = Vandal Resistant
- CPS-4X = NEMA-4X Vandal Resistant (including a gasket and breather vent)

![CPS Series diagram]

Remote test switch

Make testing your ceiling mounted equipment easier with the remote test switch. Compatible with 120 or 277VAC circuits, the remote test switch will interrupt the line voltage to your equipment by means of a momentary push button switch. AC on/Charge status indicator lamp assures that power is going to your emergency lighting.

![Remote Test Switch diagram]

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Test Switch (Chrome)</td>
<td>PSW</td>
</tr>
<tr>
<td>Remote Test Switch (Plastic)</td>
<td>PSW1</td>
</tr>
</tbody>
</table>

Mounting platforms

MP Series

- 14 gauge steel
- Corrosion resistant undercoat
- Oven baked finish
- 1/2” retaining lip on three sides
- Keyhole slots for easy mounting

![Mounting platforms diagram]

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP-PQB (Mist)</td>
<td>17</td>
<td>7-3/4</td>
<td>12-1/4</td>
<td>16</td>
<td>3/4</td>
<td>5/16</td>
<td>5/8</td>
</tr>
<tr>
<td>MP-A (Gray)</td>
<td>17</td>
<td>7-3/4</td>
<td>12-1/4</td>
<td>16</td>
<td>3/4</td>
<td>5/16</td>
<td>5/8</td>
</tr>
<tr>
<td>MP-PQA (Mist)</td>
<td>16-3/8</td>
<td>5-3/4</td>
<td>10-1/4</td>
<td>12-1/2</td>
<td>7/8</td>
<td>5/16</td>
<td>7/16</td>
</tr>
<tr>
<td>MP12 (Mist white)</td>
<td>27-1/2</td>
<td>7-3/4</td>
<td>12-1/4</td>
<td>16</td>
<td>1-5/8</td>
<td>3/16</td>
<td>5/16</td>
</tr>
</tbody>
</table>

Mounting brackets

MB Series

- 16 gauge steel
- Corrosion resistant undercoat
- Oven baked finish
- Supplied with rubber stand-offs for unit and machine screws to secure unit to bracket

![Mounting brackets diagram]

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB-A</td>
<td>10</td>
<td>7-3/4</td>
<td>2-3/16</td>
<td>7</td>
</tr>
</tbody>
</table>
Wire guards

Designed to increase the protection level and deter vandalism to Exit signs, Battery units and Remote fixtures

**Catalog Number WG1-L**

- **Exit signs (wall mount)**
  - GX, GXE Series (6” only)
  - XD, XDN Series
  - TX, TXE Series
  - UX4 Series, GRANDE™ Exit Series
  - QLX500, QLXN500 Series
  - XT Series

- **Battery units**
  - Grande™ battery unit (wall mount)
  - MG Series (ELF3, DR1130 Heads)

**Catalog Number WG2-L**

- **Exit signs**
  - Grande™
    - (combination unit, wall mount)

- **Battery units**
  - PG & P12G Series
  - PN & P12N Series (A cabinet)

- **Remote fixtures**
  - DR 3130

**Catalog Number WG3-L**

- **Battery units**
  - PN & P12N Series (B Cabinet)
  - PQ & P12Q Series
  - S12E4 Series

**Catalog Number WG4-L**

- **Exit signs**
  - QLXN2SQ
    - (Combination Unit, Wall Mount)

- **Battery units**
  - S12E5, S12E6 & S24E4 Series

**Catalog Number WG5-L**

- **Exit signs (ceiling & end mount)**
  - GX, GXE Series (6” only)
  - XD, XDN Series
  - TX, TXE Series
  - UX4 Series,
    - GRANDE™ Exit Series
  - QLX500, QLXN500 Series
  - XT Series

- **Battery units**
  - MG Series (ELF3, DR1130 Heads)

**Catalog Number WG6-L**

- **Exit signs**
  - UX4
    - (Combination unit, wall mount)

- **Battery units**
  - RD Series

**Catalog Number WG7-L**

- **Battery units**
  - RD Series

**Catalog Number WG8-L**

- **Remote fixtures**
  - DR1130, DR 2130;
    - ELF3, ELF3D, ELF3T
Wire guards

Designed to increase the protection level and deter vandalism to Exit signs, Battery units and Remote fixtures

**Catalog Number WG10-L**

| Battery units | LCA-2 SQ Series
|               | LCA-2 LED Series |

**Catalog Number WG11-L**

| Exit signs (wall mount) | Floor proximity recessed exit
|                         | TX, TXE Series |

**Catalog Number WG12-L**

| Exit signs (wall mount) | XD, XDN Series
|                         | TX, TXE Series
|                         | UX4 Series,
|                         | GRANDE™ Exit Series
|                         | QLX500, QLXN500 Series
|                         | XT Series |

**Catalog Number WG13-L**

| Exit signs (wall mount) | GX, GXE Series (6" only)
|                         | XD, XDN Series
|                         | TX, TXE Series
|                         | UX4 Series
|                         | GRANDE™ Exit Series
|                         | QLX500, QLXN500 Series
|                         | XT Series |

**Catalog Number WG14-L**

| Exit signs (wall mount) | GX, GXE Series (6" & 8")
|                         | XD, XDN Series
|                         | TX, TXE Series
|                         | UX4 Series
|                         | GRANDE™ Exit Series
|                         | QLX500, QLXN500 Series |

**Catalog Number WG15-L**

| Exit signs (wall mount) | GX, GXE Series (6" & 8")
|                         | XD, XDN Series
|                         | TX, TXE Series
|                         | UX4 Series,
|                         | GRANDE™ Exit Series
|                         | QLX500, QLXN500 Series |

## Determining Wire Size

The following information is provided to assist in designing proper emergency lighting systems effectively and economically by using the smallest permissible wire size for load circuits. When remote lighting fixtures and/or Exit Signs are connected to emergency lighting units, circuit runs must be of sufficient size to maintain a proper operating voltage to all lamps. The National Electrical Code limits voltage to drop to a maximum of 5% of nominal. The table below gives the maximum length or wire run based on systems voltage, wire gauge and total wattage on the run. To determine the maximum length of a wire run not listed, divide the value of the load in watts into the constant listed at the bottom of each row. Example, the maximum wire run for #10 wire on a 12 volt system, with a 54 watt load, is $3397 \div 54$ or 62 feet.

Conversely, to determine the maximum load on a run of known length, divide the length into the constant. Example, a 36 foot run of #12 wire on a 6 volt systems can be loaded to, $534 \div 36$, or 14 watts; on #10 wire, 23 watts.

<table>
<thead>
<tr>
<th>Total watts on wire run</th>
<th>6 volt wire size</th>
<th>12 volt wire size</th>
<th>24 volt wire size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#12</td>
<td>#10</td>
<td>#8</td>
</tr>
<tr>
<td>6</td>
<td>89</td>
<td>141</td>
<td>225</td>
</tr>
<tr>
<td>8</td>
<td>66</td>
<td>106</td>
<td>168</td>
</tr>
<tr>
<td>9</td>
<td>59</td>
<td>94</td>
<td>150</td>
</tr>
<tr>
<td>10</td>
<td>53</td>
<td>84</td>
<td>135</td>
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<tr>
<td>12</td>
<td>44</td>
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<td>16</td>
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<tr>
<td>500</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>534</td>
<td>849</td>
<td>1350</td>
</tr>
</tbody>
</table>

Wiring distance in feet (Maximum voltage drop 5%)

## Longer Wire Runs

The wiring distances give the maximum length of a battery circuit, assuming that the entire load is concentrated at the end of the circuit. If loads are uniformly spaced along the circuit path (equal watts, equal distances), the lengths in the table may be increased, based on number of fixtures on a given circuit, by means of the chart and formula below.

<table>
<thead>
<tr>
<th>Number of Fixtures</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multiply By Feet</strong></td>
<td>1.33</td>
<td>1.5</td>
<td>1.6</td>
<td>1.67</td>
<td>1.71</td>
<td>2n/(n+1)</td>
</tr>
</tbody>
</table>

For example, a 36 foot long, 6 volt circuit has (3) 9 watt heads spaced 12 feet apart. According to the wire run table, #8 wire must be used (at 50 feet for a 5% voltage drop.) but, by multiplying the 31 feet for #10 wire by 1.5, a 46 1/2 foot wire run is acceptable, so #10 wire may be used and still meet the 5% voltage drop limitation.

Note: According to the National Electrical Code, Article 720-Y, the smallest permissible wire size for systems under 50 volts is the #12 wire gauge.
ARTICLE 700 – EMERGENCY SYSTEMS

I. General

700.1. Scope. The provisions of this article apply to the electrical safety of the installation, operation, and maintenance of emergency systems consisting of circuits and equipment intended to supply, distribute, and control electricity for illumination or power, or both, to required facilities when the normal electrical supply or system is interrupted.

(FPN No. 1): For further information regarding wiring and installation of emergency systems in health care facilities, see Article 517.


(FPN No. 3): Emergency systems are generally installed in places of assembly where artificial illumination is required for safe exiting and for panic control in buildings subject to occupancy by large numbers of persons, such as hotels, theaters, sports arenas, health care facilities, and similar institutions. Emergency systems may also provide power for such functions as ventilation where essential to maintain life, fire detection and alarm systems, elevators, fire pumps, public safety communications systems, industrial processes where current interruption would produce serious life safety or health hazards, and similar functions.

(FPN No. 4): For specification of locations where emergency lighting is considered essential to life safety, see Life Safety Code, NFPA 101-2012.


700.2. Definitions

Emergency Systems. Those systems legally required and classed as emergency by municipal, state, federal or other codes, or by any governmental agency having jurisdiction. These systems are intended to automatically supply illumination, power or both, to designated areas and equipment in the event of failure of the normal supply or in the event of accident to elements of a system intended to supply, distribute, and control power and illumination essential for safety to human life.

Informational Note: Emergency systems are generally installed in places of assembly where artificial illumination is required for safe exiting and for panic control in buildings subject to occupancy by large numbers of persons, such as hotels, theaters, sports arenas, health care facilities, and similar institutions. Emergency systems may also provide power for such functions as ventilation where essential to maintain life, fire detection and alarm systems, elevators, fire pumps, public safety communications systems, industrial processes where current interruption would produce serious life safety or health hazards, and similar functions.

Relay automatic Load Control. A device used to set normally dimmed or normally-off switched emergency lighting equipment to full power illumination levels in the event of a loss of the normal supply by bypassing the dimming/switching controls, and to return the emergency lighting equipment to normal status when the device senses the normal supply has been restored.

Informational Note: See ANSI/UL 924, Emergency Lighting and Power Equipment, for the requirements covering automatic load control relays.

700.3. Tests and Maintenance.

(A) Conduct or Witness Test. The authority having jurisdiction shall conduct or witness a test of the complete system upon installation and periodically afterward.

(B) Test Periodically. Systems shall be tested periodically on a schedule acceptable to the authority having jurisdiction to ensure the systems are maintained in proper operating condition.

(C) Battery Systems Maintenance. Where battery systems or unit equipment are involved, including batteries used for starting, control, or ignition in auxiliary engines, the authority having jurisdiction shall require periodic maintenance.

(D) Written Record. A written record shall be kept of such tests and maintenance.

(E) Testing Under Load. Means for testing all emergency lighting and power systems during maximum anticipated load conditions shall be provided.

For information on testing and maintenance of emergency power supply systems (EPS), see NFPA 110-2013, Standard for Emergency and Standby Power Systems.

700.4. Capacity.

(A) Capacity and Rating. An emergency system shall have adequate capacity and rating for all loads to be operated simultaneously. The emergency system equipment shall be suitable for the maximum available fault current at its terminals.

(B) Selective Load Pickup, Load Shifting, and Peak Load Shaving. The alternate power source shall be permitted to supply emergency, legally required standby, and optional standby system loads where the source has adequate capacity or where automatic selective load pickup and load shedding is provided as needed to ensure adequate power to (1) the emergency circuits; (2) the legally required standby circuits; and (3) the optional standby circuits, in that order of priority.

The alternate power source shall be permitted to be used for peak load shaving, provided the above conditions are met.

Peak load shaving operation shall be permitted for satisfying the test requirement of Section 700.3(B), provided all other conditions of Section 700.3 are met. A portable or temporary alternate source shall be available whenever the emergency generator is out of service for major maintenance or repair.

700.5. Transfer Equipment.

(A) General. Transfer equipment, including automatic transfer switches, shall be automatic and identified for emergency use and approved by the authority having jurisdiction. Transfer equipment shall be designed and installed to prevent the inadvertent interconnection of normal and emergency sources of supply in any operation of the transfer equipment. Transfer equipment and electric power production systems installed to permit operation in parallel with the normal source shall meet the requirements of article 705.

(B) Bypass Isolation Switches. Means shall be permitted to bypass and isolate the transfer equipment. Where bypass isolation switches are used, inadvertent parallel operation shall be avoided.

(C) Automatic transfer switches shall be electrically operated and mechanically held. Automatic transfer switches, rated 1000 VAC and below, shall be listed for emergency system use.

(D) Use. Transfer equipment shall supply only emergency loads.

700-6. Signals. Audible and visual signal devices shall be provided, where practicable, for the following purposes described in 700.6(A) through (D).

(A) Derangement. To indicate derangement of the emergency source.

(B) Carrying Load. To indicate that the battery is carrying load.

(C) Not Functioning. To indicate that the battery charger is not functioning.

(D) Ground Fault. To indicate a ground fault in solidly grounded wye emergency systems of more than 150 volts to ground and circuit protective devices rated 1000 amperes or more. The sensor for the ground-fault signal devices shall be located at, or ahead of, the
National Electrical Code

main system disconnecting means for the emergency source, and
the maximum setting of the signal devices shall be for a ground-fault
current of 1200 amperes. Instructions on the course of action to be
taken in event of indicated ground fault shall be located at or near the
sensor location.
Informational Note: For signals for generator sets, see NFPA 110-2013,
Standard for Emergency and Standby Power Systems

700.7. Signs.
(A) Emergency Sources. A sign shall be placed at the service entrance
equipment indicating type and location of on-site emergency power sources.
Exception: A sign shall not be required for individual unit equipment as
specified in Section 700-12(F).
(B) Grounding. Where removal of a grounding or bonding connection in
the normal power equipment interrupts the grounding electrode
conductor connection to the alternate power source(s) grounded
conductor, a warning sign shall be installed at the normal power source
equipment stating:

WARNING
SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE(S) IS ENERGIZED.
The warning sign(s) or label(s) shall comply with 110.21(B).

700.8
Emergency Sources. A listed SPD shall be installed in or on all
emergency systems switchboards and panelboards.

II. CIRCUIT WIRING
700-10. Wiring, Emergency System.
(A) Identification. All boxes and enclosures (including transfer
switches, generators, and power panels) for emergency circuits shall
be permanently marked so they will be readily identified as a component
of an emergency circuit or system.
(B) Wiring. Wiring of two or more emergency circuits supplied from
the same source shall be permitted in the same raceway, cable, box,
or cabinet. Wiring from an emergency source distribution overcurrent
protection to emergency loads shall be kept entirely independent of all
other wiring and equipment, unless otherwise permitted in 700.10(B)
(1) through (5):
(1) Wiring from the normal power source located in transfer equipment
enclosures.
(2) Wiring supplied from two sources in exit or emergency luminaires
(3) Wiring from two sources in a listed load control relay supplying exit
or emergency luminaires, or in a common junction box, attached to exit
or emergency luminaires
(4) Wiring within a common junction box attached to unit equipment,
containing only the branch circuit supplying the unit equipment and the
emergency circuit supplied by the unit equipment.
(5) Wiring from an emergency source to supply emergency and other
loads in accordance with 700.10(B)(5)a, b, c, and d as follows:
a. Separate vertical switchgear sections or separate vertical
switchboard sections, with or without a common bus, or individual
disconnects mounted in separate enclosures shall be used to
separate emergency loads from all other loads.
b. The common bus of separate sections of the switchgear, separate
sections of the switchboard, or the individual enclosures shall be
permitted to be supplied by single or multiple feeders without
overcurrent protection at the source.
Exception to (5)b: Overcurrent protection shall be permitted at the
source or for the equipment, provided the overcurrent protection
complies with the requirements of 700.28.
c. Emergency required and optional standby circuits shall not originate
from the same vertical switchgear section, panel board enclosure,
or individual disconnect enclosure as emergency circuits.
d. It shall be permissible to utilize single or multiple feeders to supply
distribution equipment between an emergency source and the point
where the emergency loads are separated from all other loads.
(C) Wiring Design and Location. Emergency wiring circuits shall be
designed and located to minimize the hazards that might cause failure
due to flooding, fire, icing, vandalism, and other adverse conditions.
(D) Fire Protection. Emergency systems shall meet the following
additional requirements (D)(1) through (D)(3) in assembly occupancies
for not less than 1000 persons or in buildings above 23 m (75 ft) in height.
(1) Feeder-circuit wiring shall meet one of the following conditions:
(1) Be installed in spaces or areas that are fully protected by an
approved automatic fire suppression system.
(2) Be listed electrical circuit protective system with a minimum 2-hour
fire rating Informational note: UL guide information for electrical
circuit protective systems (FHIT) contains information on proper
installation requirements to maintain the fire rating
(3) Be protected by a listed thermal barrier system for electrical system
components with a minimum 2-hour fire rating.
(4) Be protected by a listed fire-rated assembly that has a minimum
fire rating of 2 hours and contains only emergency wiring circuits
(5) Be encased in a minimum of 50 mm (2 in) of concrete
(2) Feeder-Circuit Equipment. Equipment for feeder circuits (transfer
switches, transformers, panel boards) shall be either located in spaces
fully protected by approved automatic fire suppression systems (including sprinklers and carbon dioxide systems) or in spaces with a
2-hour fire resistance rating.
(3) Generator Control Wiring. Control conductors installed between
the transfer equipment and the emergency generator shall be kept entirely
independent of all other wiring and shall meet the conditions of 700.10(D)
(1)

III. SOURCES OF POWER
700.12. General Requirements. Current supply shall be such that, in
the event of failure of the normal supply to, or within, the building or group of
buildings concerned, emergency lighting, emergency power, or both will
be available within the time required for the application but not to exceed
10 seconds. The supply system for emergency purposes, in addition to the
normal services to the building and meeting the general requirements
of this section, shall be one or more of the types of systems described in
700.12(A) through (D) below. Unit equipment in accordance with Section
700.12(E) shall satisfy the applicable requirements of this article.
In selecting an emergency source of power, consideration shall be given
to the occupancy and the type of service to be rendered, whether of
minimum duration, as for evacuation of a theater, or longer duration, as
for supplying emergency power and lighting due to an indefinite period
of current failure from trouble either inside or outside the building.
Equipment shall be designed and located to minimize the hazards that
might cause complete failure due to flooding, fires, icing, and vandalism.
Equipment for sources of power as described in Sections 700.12(A)
through (E) where located within assembly occupancies for greater
than 1000 persons or in buildings above 23 m (75 ft) in height with any
of the following occupancy classes: assembly, educational, residential,
detention and correctional, business, and mercantile, shall be installed
either in spaces fully protected by approved automatic fire suppression
systems (sprinklers, carbon dioxide systems, and so forth), or in spaces
with a 1-hour fire rating.
Informational note No. 1: For definition of Occupancy Classification,
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(A) Storage Battery. Storage batteries used as source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for a period of 1 1/2 hours minimum, without the voltage applied to the load falling below 87 1/2 percent of normal. Batteries, whether of the acid or alkali type, shall be designed and constructed to meet the requirements of emergency service and shall be compatible with the charger for that particular installation.

For a sealed battery, the container shall not be required to be transparent. However, for the lead acid battery that requires water additions, transparent or translucent containers shall be furnished. Automotive-type batteries shall not be used.

An automatic battery charging means shall be provided.

(B) Generator Set.

(1) Prime Mover-Driven. For a generator set driven by a prime mover acceptable to the authority having jurisdiction and sized in accordance with Section 700-4. Means shall be provided for automatically starting the prime mover on failure of the normal service and for automatic transfer and operation of all required electrical circuits. A time-delay feature permitting a 15-minute setting shall be provided to avoid retransfer in case of short-time reestablishment of the normal source.

(2) Internal Combustion Engines as Prime Movers. Where internal combustion engines are used as the prime mover an on-site fuel supply shall be provided with an on-premise fuel supply sufficient for not less than 2 hours full-demand operation of the system. Where power is needed for the operation of the fuel transfer pumps to deliver fuel to a generator set dry tank, this pump shall be connected to the emergency power system.

(3) Dual Supplies. Prime movers shall not be solely dependent upon a public utility gas system for their fuel supply or municipal water supply for their cooling systems. Means shall be provided for automatically transferring from one fuel supply to another where dual fuel supplies are used.

Exception: Where acceptable to the authority having jurisdiction, the use of other than on-site fuels shall be permitted where there is a low probability of a simultaneous failure of both the off-site fuel delivery system and power from the outside electrical utility company.

(4) Where a storage battery is used for control or signal power, or as the means of starting the prime mover, it shall be suitable for the purpose and shall be equipped with an automatic charging means independent of the generator set. Where the battery charger is required for the operation of the generator set, it shall be connected to the emergency system. Where power is required for the operation of dampers used to ventilate the generator set dry tank, this pump shall be connected to the emergency power system.

(5) Auxiliary Power Supply. Generator sets that require more than 10 seconds to develop power shall be permitted as an auxiliary power supply energizes the emergency system until the generator can pick up the load.

(6) Outdoor Generator Sets. Where an outdoor housed generator set is equipped with a readily accessible disconnecting means in accordance with 445.18, and the disconnecting means is located within sight of the building or structure supplied, an additional disconnecting means shall not be required where ungrounded conductors serve or pass through the building or structure. Where the generator supply conductors terminate at a disconnecting means in or on a building or structure, the disconnecting means shall meet the requirements of 225.36.

Exception: For installations under single management where conditions of maintenance and supervision ensure that only qualified persons will monitor and service the installation and where documented safe switching procedures are established and maintained for disconnection, the generator set disconnecting means shall not be required to be located within sight of the building of structure served.

(C) Uninterruptible Power Supplies. Uninterruptible power supplies used to provide power for emergency systems shall comply with the applicable provisions of Sections 700-12(A) and (B).

(D) Separate Service. Where acceptable to the authority having jurisdiction as suitable for use as an emergency source of power, an additional service shall be permitted. This service shall be in accordance with the applicable provisions of Article 230 and following additional requirements.

(1) Separate overhead service conductors, service drops, underground service conductors, or service laterals shall be installed.

(2) The service conductors for the separate service shall be installed sufficiently remote electrically and physically from any other service conductors to minimize the possibility of simultaneous interruption of supply.

(E) Fuel Cell System. Fuel Cell Systems used as a source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for not less than 2 hours of full demand operation.

(F) Unit Equipment

(1) Components of Unit Equipment. Individual unit equipment for emergency illumination shall consist of the following:

   (1) A rechargeable battery
   (2) A battery charging means
   (3) Provisions for one or more lamps mounted on the equipment, or shall be permitted to have terminals for remote lamps, or both and
   (4) A relaying device arranged to energize the lamps automatically upon failure of the supply to the unit equipment.

(2) Installation of Unit Equipment. Unit equipment shall be installed in accordance with 700.12(F)(2)(1) through (6).

   (1) The batteries shall be of suitable rating and capacity to supply and maintain at not less than 87-1/2 percent of the nominal battery voltage for the total lamp load associated with the unit for a period of at least 1-1/2 hours, or the unit equipment shall supply and maintain not less than 60 percent of the initial emergency illumination for a period of at least 1-1/2 hours. Storage batteries, whether of the acid or alkali type, shall be designed and constructed to meet the requirements of emergency service.

   (2) Unit equipment shall be permanently fixed in place (i.e., not portable) and shall have all wiring to each unit installed in accordance with the requirements of any of the wiring methods in Chapter 3. Flexible cord and plug connection shall be permitted, provided that the cord does not exceed 3 ft (900 mm) in length.

   (3) The branch circuit feeding the unit equipment shall be the same branch circuit as that serving the normal lighting in the area and connected ahead of any local switches.

   Exception: In a separate and uninterrupted area supplied by a minimum of three normal lighting circuits, a separate branch circuit for unit equipment shall be permitted if it originates from the same panelboard as that of the normal lighting circuits and is provided with a lock-on feature.

   (4) The branch circuit that feeds unit equipment shall be clearly identified at the distribution panel.

   (5) Emergency luminaire's (illumination fixtures) that obtain power from a unit equipment and are not part of the unit equipment shall be wired to the unit equipment as required by Section 700-10 and by one of the wiring methods of Chapter 3.
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IV. Emergency System Circuits for Lighting and Power

700.15. Loads on Emergency Branch Circuits. No appliances and no lamps, other than those specified as required for emergency use, shall be supplied by emergency lighting circuits.

700.16. Emergency Illumination. Emergency illumination shall include all required means of egress lighting, illuminated exit signs, and all other lights specified as necessary to provide required illumination. Emergency lighting systems shall be designed and installed so that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave in total darkness any space that requires emergency illumination.

Where high-intensity discharge lighting such as high- and low-pressure sodium mercury vapor, and metal halide is used as the sole source of normal illumination, the emergency lighting system shall be required to operate until normal illumination has been restored.

Where an emergency system is installed, emergency illumination shall be provided in the area of the disconnecting means required by 225.31 and 230.70, as applicable, where the disconnecting means are installed indoors.

Exception: Where alternative means that ensure the emergency lighting illumination level is maintained shall be permitted.

700.17. Branch Circuits for Emergency Lighting. Branch circuits that supply emergency lighting shall be installed to provide service from a source complying with Section 700-12 when the normal supply for lighting is interrupted. Such installations shall provide either one of the following:

(1) An emergency lighting supply, independent of the normal lighting supply, with provisions for automatically transferring the emergency lights upon the event of failure of the normal lighting branch circuit

(2) Two or more branch circuits supplied from separate and complete systems with independent power sources. One of the two power sources and systems shall be part of the emergency system and the other shall be permitted to be part of the normal power source and system. Each system shall provide sufficient power for emergency lighting purposes.

Unless both systems are used for regular lighting purposes and are both kept lighted, means shall be provided for automatically energizing either system upon failure of the other. Either or both systems shall be permitted to be a part of the general lighting of the protected occupancy if circuits supplying lights for emergency illumination are installed in accordance with other sections of this article.

700.18. Circuits for Emergency Power. For branch circuits that supply equipment classed as emergency, there shall be an emergency supply source to which the load will be transferred automatically upon the failure of the normal supply.

700.19. Multiwire Branch Circuits. The branch circuit serving emergency lighting and power circuits shall not be part of a multiwire branch circuit.

V. CONTROL—EMERGENCY LIGHTING CIRCUITS

700.20. Switch Requirements. The switch or switches installed in emergency lighting circuits shall be arranged so that only authorized persons will have control of emergency lighting.

Exception No. 1: Where two or more single-throw switches are connected in parallel to control a single circuit, at least one of these switches shall be accessible only to authorized persons.

Exception No. 2: Additional switches that act only to put emergency lights into operation but not disconnect them shall be permissible.

Switches connected in series or 3- and 4-way switches shall not be used.

700.21. Switch Location. All manual switches for controlling emergency circuits shall be in locations convenient to authorized persons responsible for their actuation. In facilities covered by Articles 518 and 520, a switch for controlling emergency lighting systems shall be located in the lobby or at a place conveniently accessible thereto.

In no case shall a control switch for emergency lighting be placed in a motion-picture projection booth or on a stage or platform.

Exception: Where multiple switches are provided, one such switch shall be permitted in such locations where arranged so that it can energize the circuit only, but cannot deenergize the circuit.

700.22. Exterior Lights. Those lights on the exterior of a building that are not required for illumination when there is sufficient daylight shall be permitted to be controlled by an automatic light-actuated device.

700.23 Dimmer and Relay Systems. A dimmer or relay system containing more than one dimmer or relay and listed for use in emergency systems shall be permitted to be used as a control device for energizing emergency lighting circuits. Upon failure of normal power, the dimmer or relay system shall be permitted to selectively energize only those branch circuits required to provide minimum emergency illumination. All branch circuits supplied by the dimmer or relay system cabinet shall comply with the wiring methods of Article 700.

700.24 Directly Controlled Luminaires. Where emergency illumination is provided by one or more directly controlled luminaires that respond to an external control input to bypass normal control upon loss of normal power, such luminaires and external bypass controls shall be individually listed for use in emergency systems.

700.25 Automatic Load Control Relay. If an emergency lighting load is automatically energized upon loss of the normal supply, a listed automatic load control relay shall be permitted to energize the load. The load control relay shall not be used as transfer equipment.

VI. OVERCURRENT PROTECTION

700-26. Accessibility. The branch-circuit overcurrent devices in emergency circuits shall be accessible to authorized persons only.

700-27. Ground-Fault Protection of Equipment. The alternate source for emergency systems shall not be required to have ground-fault protection of equipment with automatic disconnecting means. Ground-fault indication of the emergency source shall be provided in accordance with 700.6(D) if ground-fault protection of equipment with automatic disconnecting means is not provided. Exception: Selective coordination shall not be required between two overcurrent devices located in series if no loads are connected in parallel with the downstream device.

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7.8 ILLUMINATION OF MEANS OF EGRESS.

7.8.1 General.

7.8.1.1* Illumination of means of egress shall be provided in accordance with Section 7.8 for every building and structure where required in Chapters 11 through 43. For the purposes of this requirement, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and exit passageways leading to a public way.

7.8.1.2 Illumination of means of egress shall be continuous during the time that the conditions of occupancy require that the means of egress be available for use, unless otherwise provided in 7.8.1.2.2.

7.8.1.2.1 Artificial lighting shall be employed at such locations and for such periods of time as are necessary to maintain the illumination to the minimum criteria values herein specified.

7.8.1.2.2 Unless prohibited by Chapters 11 through 43, automatic lighting control devices shall be permitted to temporarily turn off the illumination within the means of egress, provided that each lighting control device complies with all of the following:

1. In new installations, the lighting control device is listed.
2. The lighting control device is equipped to automatically energize the controlled lights upon loss of normal power and is evaluated for this purpose.
3. Illumination timers are provided and are set for a minimum 15-minute duration.
4. The lighting control device is activated by any occupant movement in the area served by the lighting units.
5. In new installations, the lighting control device is activated by activation of the building fire alarm system, if provided.
6. The lighting control device does not turn off any lights relied upon for activation of photoluminescent exit signs or path markers.
7. The lighting control device does not turn off any battery equipped emergency luminaires, unit equipment, or exit signs.

7.8.1.2.3* Energy-saving sensors, switches, timers, or controllers shall be approved and shall not compromise the continuity of illumination of the means of egress required by 7.8.1.2.

7.8.1.3* The floors and other walking surfaces within an exit and within the portions of the exit access and exit discharge designated in 7.8.1.1 shall be illuminated as follows:

1. During conditions of stair use, the minimum illumination for new stairs shall be at least 10 ft-candle (108 lux), measured at the walking surfaces.
2. The minimum illumination for floors and other walking surfaces, other than new stairs during conditions of stair use, shall be to values of at least 1 ft-candle (10.8 lux), measured at the floor.
3. In assembly occupancies, the illumination of the walking surfaces of exit access shall be at least 0.2 ft-candle (2.2 lux) during periods of performances or projections involving directed light.
4. The minimum illumination requirements shall not apply where operations or processes require low lighting levels.

7.8.1.4* Required illumination shall be arranged so that the failure of any single lighting unit does not result in an illumination level of less than 0.2 ft-candle (2.2 lux) in any designated area.

7.8.1.5 The equipment or units installed to meet the requirements of Section 7.10 also shall be permitted to serve the function of illumination of means of egress, provided that all requirements of Section 7.8 for such illumination are met.

7.8.2 Sources of Illumination.

7.8.2.1* Illumination of means of egress shall be from a source considered reliable by the authority having jurisdiction.

7.8.2.2 Battery-operated electric lights and other types of portable lamps or lanterns shall not be used for primary illumination of means of egress. Battery-operated electric lights shall be permitted to be used as an emergency source to the extent permitted under Section 7.9.

7.9 EMERGENCY LIGHTING.

7.9.1 General.

7.9.1.1* Emergency lighting facilities for means of egress shall be provided in accordance with Section 7.9 for the following:

1. Buildings or structures where required in Chapters 11 through 43
2. Underground and limited access structures as addressed in Section 11.7
3. High-rise buildings as required by other sections of this Code
4. Doors equipped with delayed-egress locks
5. Stair shafts and vestibules of smokeproof enclosures, for which the following also apply:
   a. The stair shaft and vestibule shall be permitted to include a standby generator that is installed for the smokeproof enclosure mechanical ventilation equipment.
   b. The standby generator shall be permitted to be used for the stair shaft and vestibule emergency lighting power supply.
6. New access-controlled egress doors in accordance with 7.2.1.6.2.

7.9.1.2 For the purposes of 7.9.1.1, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of 7.9.1.1, exit discharge shall include only designated stairs, ramps, aisles, walkways, and escalators leading to a public way.

7.9.1.3 Where maintenance of illumination depends on changing from one energy source to another, a delay of not more than 10 seconds shall be permitted.

7.9.2 Performance of System.

7.9.2.1 Emergency illumination shall be provided for a minimum of 1-1/2 hours in the event of failure of normal lighting.

7.9.2.1.1 Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 ft-candle (10.8 lux) and, at any point, not less than 0.1 ft-candle (1.1 lux), measured along the path of egress at floor level.

7.9.2.1.2 Illumination levels shall be permitted to decline to not less than an average of 0.6 ft-candle (6.5 lux) and, at any point, not less than 0.06 ft-candle (0.65 lux) at the end of 1-1/2 hours.

7.9.2.1.3 The maximum-to-minimum illumination shall not exceed a ratio of 40 to 1.

7.9.2.3 Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 ft-candle (10.8 lux) and, at any point, not less than 0.1 ft-candle (1.1 lux), measured along the path of egress at floor level. Illumination levels shall be permitted to decline to not less than an average of 0.6 ft-candle (6.5 lux) and, at any point, not less than 0.06 ft-candle (0.65 lux) at the
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end of 11/2 hours. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

7.9.2.2 New emergency power systems for emergency lighting shall be at least Type 10, Class 1.5, Level 1, in accordance with NFPA110, Standard for Emergency and Standby Power Systems.

7.9.2.3* TThe emergency lighting system shall be arranged to provide the required illumination automatically in the event of any interruption of normal lighting due to any of the following:

1. Failure of a public utility or other outside electrical power supply
2. Opening of a circuit breaker or fuse
3. Manual act(s), including accidental opening of a switch controlling normal lighting facilities

7.9.2.4 Emergency generators providing power to emergency lighting systems shall be installed, tested, and maintained in accordance with NFPA 110, Standard for Emergency and Standby Power Systems. Stored electrical energy systems, where required in this Code, other than battery systems for emergency luminaires in accordance with 7.9.2.5, shall be installed and tested in accordance with NFPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems.

7.9.2.5 Unit equipment and battery systems for emergency luminaires shall be listed to ANSI/UL 924, Standard for Emergency Lighting and Power Equipment.

7.9.2.6* Existing battery-operated emergency lights shall use only reliable types of rechargeable batteries provided with suitable facilities for maintaining them in properly charged condition. Batteries used in such lights or units shall be approved for their intended use and shall comply with NFPA 70, National Electrical Code.

7.9.2.7 The emergency lighting system shall be either continuously in operation or shall be capable of repeated automatic operation without manual intervention.

7.9.3 Periodic Testing of Emergency Lighting Equipment.

7.9.3.1 Required emergency lighting systems shall be tested in accordance with one of the three options offered by 7.9.3.1.1, 7.9.3.1.2, or 7.9.3.1.3.

7.9.3.1.1 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

1. Functional testing shall be conducted monthly, with a minimum of 3 weeks and a maximum of 5 weeks between tests, for not less than 30 seconds, except as otherwise permitted by 7.9.3.1.1(2).
2. The test interval shall be permitted to be extended beyond 30 days with the approval of the authority having jurisdiction.
3. Functional testing shall be conducted annually for a minimum of 1-1/2 hours if the emergency lighting system is battery powered.
4. The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.1(1) and (3).
5. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

7.9.3.1.2 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

1. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
2. Not less than once every 30 days, self-testing/self-diagnostic battery-operated emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.
3. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall indicate failures by a status indicator.
4. A visual inspection shall be performed at intervals not exceeding 30 days.
5. Functional testing shall be conducted annually for a minimum of 11/2 hours.
6. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 11/2-hour test.
7. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

7.9.3.1.3 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

1. Computer-based, self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
2. Not less than once every 30 days, emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.
3. The emergency lighting equipment shall automatically perform annually a test for a minimum of 11/2 hours.
4. The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.3(2) and (3).
5. The computer-based system shall be capable of providing a report of the history of tests and failures at all times.

7.10 MARKING OF MEANS OF EGRESS.

7.10.1 General.

7.10.1.1* Where Required. Means of egress shall be marked in accordance with Section 7.10 where required in Chapters 11 through 43.

7.10.1.2 Exits.

7.10.1.2.1* Exits, other than main exterior exit doors that obviously and clearly are identifiable as exits, shall be marked by an approved sign that is readily visible from any direction of exit access.

7.10.1.2.2* Horizontal components of the egress path within an exit enclosure shall be marked by approved exit or directional Exit Signs where the continuation of the egress path is not obvious.

7.10.1.3 Exit Door Tactile Signage. Tactile signage shall be provided to meet all of the following criteria, unless otherwise provided in 7.10.1.4:

1. Tactile signage shall be located at each exit door requiring an Exit Sign.
2. Tactile signage shall read as follows: EXIT.

7.10.1.4 Existing Exemption. The requirements of 7.10.1.3 shall not apply to existing buildings, provided that the occupancy classification does not change.

7.10.1.5 Exit Access.

7.10.1.5.1 Access to exits shall be marked by approved, readily visible signs in all cases where the exit or way to reach the exit is not readily apparent to the occupants.

7.10.1.5.2* New sign placement shall be such that no point in an exit access corridor is in excess of the rated viewing distance or 100 ft (30 m), whichever is less, from the nearest sign.
7.10.1.6* Floor Proximity Exit Signs. Where floor proximity Exit Signs are required in Chapters 11 through 43, such signs shall comply with 7.10.3, 7.10.4, 7.10.5, and 7.10.6 for externally illuminated signs and 7.10.7 for internally illuminated signs. Such signs shall be located near the floor level in addition to those signs required for doors or corridors. The bottom of the sign shall be not less than 6 in. (150 mm), but not more than 18 in. (455 mm), above the floor. For exit doors, the sign shall be mounted on the door or adjacent to the door, with the nearest edge of the sign within 4 in. (100 mm) of the door frame.

7.10.1.7* Floor Proximity Egress Path Marking. Where floor proximity egress path marking is required in Chapters 11 through 43, an approved floor proximity egress path marking system that is internally illuminated shall be installed within 18 in. (455 mm) of the floor. Floor proximity egress path marking systems shall be listed in accordance with ANSI/UL 1994, Standard for Luminous Egress Path Marking Systems. The system shall provide a visible delineation of the path of travel along the designated exit access and shall be essentially continuous, except as interrupted by doorways, hallways, corridors, or other such architectural features. The system shall operate continuously or at any time the building fire alarm system is activated. The activation, duration, and continuity of operation of the system shall be in accordance with 7.9.2. The system shall be maintained in accordance with the product manufacturing listing.

7.10.1.8 Visibility. Every sign required in Section 7.10 shall be located and of such size, distinctive color, and design that it is readily visible and shall provide contrast with decorations, interior finish, or other signs. No decorations, furnishings, or equipment that impairs visibility of a sign shall be permitted. No brightly illuminated sign (for other than exit purposes), display, or object in or near the line of vision of the required Exit Sign that could detract attention from the Exit Sign shall be permitted.

7.10.1.9 Mounting Location. The bottom of new egress markings shall be located at a vertical distance of not more than 6 ft 8 in. (2030 mm) above the top edge of the egress opening intended for designation by that marking. Egress markings shall be located at a horizontal distance of not more than the required width of the egress opening, as measured from the edge of the egress opening intended for designation by that marking to the nearest edge of the marking.

7.10.2 Directional Signs.

7.10.2.1* A sign complying with 7.10.3, with a directional indicator showing the direction of travel, shall be placed in every location where the direction of travel to reach the nearest exit is not apparent.

7.10.2.2 Directional Exit Signs shall be provided within horizontal components of the egress path within exit enclosures as required by 7.10.1.22.

7.10.3* Sign Legend.

7.10.3.1 Signs required by 7.10.1 and 7.10.2 shall read as follows in plainly legible letters, or other appropriate wording shall be used:

EXIT

7.10.3.2* Where approved by the authority having jurisdiction, pictograms in compliance with NFPA 170, Standard for Fire Safety and Emergency Symbols, shall be permitted.

7.10.4* Power Source. Where emergency lighting facilities are required by the applicable provisions of Chapters 11 through 43 for individual occupancies, the signs, other than approved self-luminous signs and listed photoluminescent signs in accordance with 7.10.7.2, shall be illuminated by the emergency lighting facilities. The level of illumination of the signs shall be in accordance with 7.10.6.3 or 7.10.7 for the required emergency lighting duration as specified in 7.9.2.1. However, the level of illumination shall be permitted to decline to 60 percent at the end of the emergency lighting duration.

7.10.5 Illumination of Signs.

7.10.5.1* General. Every sign required by 7.10.1.2, 7.10.1.5, or 7.10.8.1, other than where operations or processes require low lighting levels, shall be suitably illuminated by a reliable light source. Externally and internally illuminated signs shall be legible in both the normal and emergency lighting mode.

7.10.5.2* Continuous Illumination.

7.10.5.2.1 Every sign required to be illuminated by 7.10.6.3, 7.10.7, and 7.10.8.1 shall be continuously illuminated as required under the provisions of Section 7.8, unless otherwise provided in 7.10.5.2.2.

7.10.5.2.2* Illumination for signs shall be permitted to flash on and off upon activation of the fire alarm system.

7.10.6 Externally Illuminated Signs.

7.10.6.1* Size of Signs.

7.10.6.1.1 Externally illuminated signs required by 7.10.1 and 7.10.2, other than approved existing signs, unless otherwise provided in 7.10.6.1.2, shall read EXIT or shall use other appropriate wording in plainly legible letters sized as follows:

(1) For new signs, the letters shall be not less than 6 in. (150 mm) high, with the principal strokes of letters not less than 3/4 in. (19 mm) wide.
(2) For existing signs, the required wording shall be permitted to be in plainly legible letters not less than 4 in. (100 mm) high.
(3) The word EXIT shall be in letters of a width not less than 2 in. (51 mm), except the letter I, and the minimum spacing between letters shall be not less than 3/8 in. (9.5 mm).
(4) Sign legend elements larger than the minimum established in 7.10.6.1.1 through (3) shall use letter widths, strokes, and spacing in proportion to their height.

7.10.6.1.2 The requirements of 7.10.6.1.1 shall not apply to marking required by 7.10.1.3 and 7.10.1.7.

7.10.6.2* Size and Location of Directional Indicator.

7.10.6.2.1 Directional indicators, unless otherwise provided in 7.10.6.2.2, shall comply with all of the following:

(1) The directional indicator shall be located outside of the EXIT legend, not less than 3/8 in. (9.5 mm) from any letter.
(2) The directional indicator shall be of a chevron type, as shown in Figure 7.10.6.2.1.
(3) The directional indicator shall be identifiable as a directional indicator at a distance of 40 ft (12 m).
(4) A directional indicator larger than the minimum established for compliance with 7.10.6.2.1(3) shall be proportionately increased in height, width, and stroke.
(5) The directional indicator shall be located at the end of the sign for the direction indicated.
7.10.6.2.1 Chevron Type Indicator.

7.10.6.2.2 The requirements of 7.10.6.2.1 shall not apply to approved existing signs.

7.10.6.3* Level of Illumination. Externally illuminated signs shall be illuminated by not less than 5 ft-candles (54 lux) at the illuminated surface and shall have a contrast ratio of not less than 0.5.

7.10.7 Internally Illuminated Signs.

7.10.7.1 Listing. Internally illuminated signs shall be listed in accordance with ANSI/UL 924, Standard for Emergency Lighting and Power Equipment, unless they meet one of the following criteria:

1) They are approved existing signs.
2) They are existing signs having the required wording in legible letters not less than 4 in. (100 mm) high.
3) They are signs that are in accordance with 7.10.1.3 and 7.10.1.6.

7.10.7.2* Photoluminescent Signs. The face of a photoluminescent sign shall be continually illuminated while the building is occupied. The illumination levels on the face of the photoluminescent sign shall be in accordance with its listing. The charging illumination shall be a reliable light source, as determined by the authority having jurisdiction. The charging light source, shall be of a type specified in the product markings.

7.10.8 Special Signs.

7.10.8.1 Sign Illumination.

7.10.8.1.1 Where required by other provisions of this Code, special signs shall be illuminated in accordance with 7.10.5, 7.10.6.3, and 7.10.7.

7.10.8.1.2 Where emergency lighting facilities are required by the applicable provisions of Chapters 11 through 43, the required illumination of special signs shall additionally be provided under emergency lighting conditions.

7.10.8.2 Characters. Special signs, where required by other provisions of this Code, shall comply with the visual character requirements of ICC/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities.

7.10.8.3* No Exit.

7.10.8.3.1 Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identified by a sign that reads as follows:

NO EXIT

7.10.8.3.2 The NO EXIT sign shall have the word NO in letters 2 in. (51 mm) high, with a stroke width of 3/8 in. (9.5 mm), and the word EXIT in letters 1 in. (25 mm) high, with the word EXIT below the word NO, unless such sign is an approved existing sign.

7.10.8.4 Elevator Signs. Elevators that are a part of a means of egress (see 7.2.13.1) shall have both of the following signs with a minimum letter height of 5/8 in. (16 mm) posted in every elevator lobby:

1) *Signs that indicate that the elevator can be used for egress, including any restrictions on use
2) *Signs that indicate the operational status of elevators

7.10.8.5* Evacuation Diagram. Where a posted floor evacuation diagram is required in Chapters 11 through 43, floor evacuation diagrams reflecting the actual floor arrangement and exit locations shall be posted and oriented in a location and manner acceptable to the authority having jurisdiction.

7.10.9 Testing and Maintenance.

7.10.9.1 Inspection. Exit Signs shall be visually inspected for operation of the illumination sources at intervals not to exceed 30 days or shall be periodically monitored in accordance with 7.9.3.1.3.

7.10.9.2 Testing. Exit Signs connected to, or provided with, a battery-operated emergency illumination source, where required in 7.10.4, shall be tested and maintained in accordance with 7.9.3.

NFPA 101® Life Safety Code®
2015 Edition

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**Limited warranty**

1.1 Lightalarms® 6, 12 and 24 volt Emergency Lighting Unit Equipment (excluding lamps and fuses) and Exit Signs are fully warranted to be free of defects in material and workmanship under normal use for a period of three years from date of installation (see Paragraph 2.1). (For MR16 LED light source, see Paragraph 3.3)

1.2 Lightalarms® 6, 12 and 24 volt Emergency Lighting Unit Equipment (excluding lamps and fuses) and Exit Signs listed below are fully warranted to be free of defects in material and workmanship under normal use for a period of five years from date of installation (see Paragraph 2.1). (For MR16 LED light source, see Paragraph 3.3)

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*Maximum Storage life. Must Be Recharged If Not Placed in Service Or Battery Warranty Void*

2.1 The full warranty period begins on the date of installation or 90 days from date of shipment, whichever date is earlier.

2.2 Should a defect appear in the equipment or batteries listed in Paragraphs 1.1–1.4 above within the specified full warranty period, Lightalarms® will repair or replace equipment without charge (see Paragraph 3.3). Such repair or replacement shall be the purchaser’s exclusive remedy.

2.3 The Pro Rata Warranty Period for batteries begins on the date the full warranty period ends.

2.4 A battery determined to be defective during the Pro Rata Warranty Period shall be repaired or replaced at a cost equal to the net price in effect at the time, reduced by the percentage obtained in multiplying 10% by the number of full years remaining in the total warranty period. Such repair or replacement at this adjusted price shall be the purchaser’s exclusive remedy.

3.1 All warranties are subject to proper installation and maintenance in accordance with the instructions supplied.

3.2 Any material deemed defective must be returned, freight prepaid, to the factory for evaluation (see Paragraph 5.1–5.3). Any changes in circuitry or components by other than authorized Lightalarms® personnel or its service companies will void the warranty.

3.3 All warranties are limited to the repair and/or replacement or parts or equipment, which, upon examination at our plant, are determined to be defective and in our judgement are subject to repair or replacement under warranty. Replacement of lamps and fuses is not included in the warranty except for MR16 LED lamps which are warranted to be free of defects in material and workmanship under normal use for a period of five (5) years when purchased and used with Lightalarms® Battery Units, Combination Units or Remotes. The full warranty period begins on the date of installation or ninety (90) days from the date of shipment, whichever date is earlier.

3.4 If new replacement parts are shipped before defective goods are received for evaluation, the replacement parts will be invoiced at the net price in effect at that time. These charges will be credited if, upon receipt and evaluation of goods, a defect is determined. Only replacement parts will be shipped under these circumstances, if field replacement is possible. Lightalarms® FACTORY ONLY RESERVES THE RIGHT TO SHIP NEW UNIT EQUIPMENT FOR REPLACEMENT PURPOSES. Units returned after installation cannot be restored to 100% saleable condition.

4.1 In no event shall Lightalarms® be liable for backcharges of any kind, including, without limitation, labor charges for field repair or late penalties.

4.2 This warranty does not cover damages caused by improper maintenance of installation or damage due to installation in areas with other than normal temperatures and environmental conditions per application specifications. Lightalarms® assumes no responsibility for any damage to people, property, apparatus or otherwise resulting from improper installation or maintenance of its Emergency Lighting Unit Equipment.

4.3 This warranty does not cover damages caused by abuse, fire or Act of God.

4.4 In no event shall Lightalarms® be liable for incidental or consequential damages.

4.5 The foregoing warranty is in lieu of all other warranties, expressed or implied, or merchantability, fitness for a particular purpose or any other thing. Except as stated in this warranty, Lightalarms® shall not be liable for any defects in, or breach of any contract relating to, the quality of performance of Lightalarms® Equipment under any theory of law including, without limitation, contract, negligence, strict liability or misrepresentation.

4.6 Lightalarms® warranty coverage shall not apply to any equipment of another manufacturer used in conjunction with Lightalarms® Equipment.

4.7 Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This written warranty gives you specific legal rights and you may also have other rights which vary from state to state.

5.1 No returned defective materials will be accepted without a Returned Goods Authorization issued in writing by an authorized Lightalarms® employee.

5.2 Purchaser is responsible for secure packing of returned materials to provide best possible assurance against damage in shipment.

5.3 Defective batteries of any kind must not be returned to Lightalarms® factory without strict adherence to special instructions for handling and shipping. WARNING Never ship a refillable wet battery in any type of emergency lighting equipment. Failure to adhere to this policy will void warranty.

5.4 Defective goods returned to the factory must be shipped prepaid. COLLECT RETURNED SHIPMENT WILL BE REFUSED. Freight charges to return repaired equipment or ship replacement equipment to the purchaser to be paid by Lightalarms®. Factory will return repaired goods via same shipping method as received.

FAILURE TO COMPLY WITH ANY OF THE STIPULATIONS SET FORTH WILL VOID THE WARRANTY. ANY EXCEPTIONS TO THE FOREGOING WARRANTY MUST BE REQUESTED AND ACCEPTED IN WRITING PRIOR TO SHIPMENT. LIGHTALARMS® EQUIPMENT NOT LISTED IN PARAGRAPHS 1.1–1.4 IS WARRANTED AS DESCRIBED ON ITS INDIVIDUAL DATA SHEET WITH THE STIPULATIONS AS STATED IN PARAGRAPHS 2.1–5.4.
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