Lighting the Way to Safety Since 1953.

Since the introduction of our first product manufactured in 1953 for the specific code-driven New York City market place, Lightalarms has evolved into a leading designer and manufacturer of emergency lighting systems that are specified and installed throughout the United States.

With over fifty years of experience successfully meeting the demands and rigid code compliances of New York City, the Lightalarms product line is driven by stringent quality control standards, and innovative lamp and board designs. In addition to state-of-the-art design and manufacturing, our newly renovated North American production facility offers the fastest product delivery available in the industry today.

A member of the Thomas & Betts family of companies since November 1998, our ongoing commitment is to provide products of the highest quality at competitive prices.

In this catalog, we are proud to present the complete range of Lightalarms emergency lighting equipment, products we believe are amongst the finest available anywhere in the world. Please visit our website – www.lightalarms.com.

Thank you for your continued support.

Phillip A. Morreo
Vice President, Sales
National Accounts and Strategic Planning

New Products

■ Severe Series - Class I Division 2

■ Mini-Phanton Series

■ Simplicity Economizer Series

■ Grande Series

■ MC Series

■ MA Series

■ Quikie II Series QLX-2MRS

■ Quikie II Series LCA-2MRS

Table of Contents

■ Pulse Type Circuitry

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

120/277 Volt Input

Capability to operate with 120 volt or 277 volt input.

Fused Output Circuit for Units with Remote Capacity

Emergency units up to 54 watts have a single fused output circuit. Units over 54 watts have two fused output circuits supplied standard.

Dual Diagnostic Indicator Lights

Dual indicators, red and amber continuously monitor the condition of the battery, charge circuit and presence of AC.

Temperature Compensation

At high ambient temperatures, batteries need less charge voltage to recharge. At cold temperatures, batteries require a higher charge to maintain full capacity. The PulseType charger automatically adjusts the charge voltage to precisely what the batteries require at a given temperature.

Sealed Relay

Sealed relay protects against environmental contaminants.

Low Voltage Battery Disconnect

The lighting load is disconnected from the battery at 87.5% of nominal battery voltage. This prevents deep discharge damage to the battery.

Brownout Protection

Emergency lamps energized when AC voltage falls to approx. 80% of nominal voltage, the level at which most fluorescent and HID fixtures extinguish.

Battery Lockout

This labor saving feature prevents the battery from discharging when the unit is installed to a non-energized circuit. The battery is electronically locked out until the unit is energized with AC power. Contractors do not have to return to a job site to connect batteries when the building's main power is turned on. They can install the unit and connect the battery in one convenient operation.

Reverse Polarity Protection

A polarized plug is used to connect the battery to the circuit board, thus preventing damage from occurring to the system.

Current Limited Output

Extends battery life by preventing overheating and battery gassing during recharge.

■ Improved Diagnostics

By incorporating our most popular standard 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 an equipment 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
- ID includes audio and visual service alarms
- IDNA 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.

▫ FEATURES

Battery Failure

(Red) Illuminates if the battery is shorted or battery voltage drops below preset value. Will also detect incorrect battery (ie. 6Vdc vs. 12Vdc)

Battery Disconnect

(Red) Illuminates if the battery circuit is open.

Charger Failure

(Red) Illuminates when charger is not functioning properly by monitoring the charger current.

Lamp Failure

(Red) Illuminates when one or more emergency lamps fail. Also monitors remote lamps.

Service Alarm

(Red) Illuminates when a fault is detected that requires a qualified service technician.

AC-On

(Green) Lit when line voltage is present.

Charger On

(Amber) Illuminates when charger is recharging the battery.

Alarm Silence / Manual Test Switch

Button is used to acknowledge and silence audible alarms.

Also functions as a manual test switch to simulate a power failure.

Self Testing

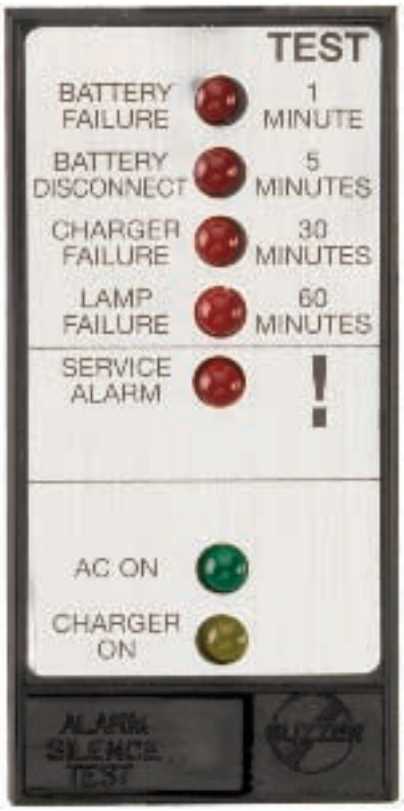
Unit tests itself every thirty days for a minimum 30 seconds, thirty minutes on the sixth month and ninety minutes annually.

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* (*5 min., or *10 min., or *15 min.)



■ Popular Options

Lightalarms life safety equipment is available with a range of options that can be added to enhance performance, simplify testing or adapt equipment for use in specific environments. Please refer to individual product pages to verify availability of individual options on specific equipment.

Voltmeter

Option provides a visual indication, in the test mode, of the unit's battery voltage. The good/check meter face allows maintenance personnel to recognize charger and battery function.

Add Suffix: -V

Ammeter

Option provides an indication of charge current when the unit is in the equalize mode.This verifies charger capability and the current acceptance of the battery.

Add Suffix: -A

Dual Circuit (Exit Signs)

Option provides two A.C. input circuits to permit 2 separate A.C. 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 built in heads.

Add Suffix: -DS

Photocell Test Switch

Test battery unit by pointing a flashlight at a photocell mounted on the bottom of a battery unit.

Add Suffix: -PTS

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: -TD* (*5 minutes or *10 minutes or *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

Thermal Jacket (Temperature Control Heater)

Option to be used in areas where temperature may drop below 0°C (32°F). The thermostat will activate the heating pad at 0°C and will cut off at 16°C (61°F). The heating pad is rated at 50 watts. Contact factory for temperature limitations.

Add Suffix: -H1 (120V) -H2 (277V)

Self-Test/Diagnostic Feature (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.

Add Suffix: -D

Self-Test/Diagnostic Feature (For Battery Units) see page 5

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

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

Decorative Series

POWER CONSUMPTION CHART

AC Input	Maximum		Stand-By*	
	Input Current	Input Power	Input Current	Input Power
120 Vac	0.25 A	30W	0.1 A	11W
120 Vac	0.12 A	30W	0.05 A	11W

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

UNIT RATING CHART

Model	Watts to 87.5% of rated battery voltage*			
	1½ hrs.	2 hrs.	4 hrs.	8 hrs.
PHM40, PHN40	40	30	24	-
PHM70, PHN70	70	50	40	24
PHM100, PHN100	100	70	50	40

** National Electrical Code Specification*

OPTIONS

(Add Suffix to Model No.) **Suffix**

Damp location listing (available on all models except PHN100)..... **DL**

Improved diagnostic (audible) ..... **ID**

Improved diagnostic (non-audible) ..... **IDNA**

Time delay (T1=5,T2=10, or T3=15 minutes)..... **T_***

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

ACCESSORIES (order as a separate item)

Remote test switch (Metal Faceplate): ..... PSW

Remote test switch (Plastic Faceplate): PSW-1

New and Improved Design

THE UNSEEN SOLUTION

Virtually Invisible Emergency Lighting

The Phantom Series is architecturally designed for unobtrusive use in walls with cavity (dry walls with 4-inch studs) or un-insulated ceilings with horizontal beams or T-bar structures. In normal conditions (stand-by) the unit is completely concealed in the wall or ceiling. In case of power failure the door of the unit rotates open 180° and exposes the emergency lights (two high-efficiency MR16 lamps) to illuminate the path of egress.

Once AC power returns or at the end of discharge period, the lights turn off and the door rotates closed automatically, driven by a patent-pending, energy storage circuit. If needed the backbox can be shipped separately.

For remote head, please refer to page 98.

FEATURES

Reliability

Each unit is fully computer-tested and aligned mechanically for optimum operation. The electrical parts (motor, electronic circuitry) carry a five-year warranty.

Unit Data

The normally exposed parts of the unit (flat door and frame) are covered with a high-quality, powder coated textured off-white finish, which integrates well with most wall and ceiling paints. The surface finish can also be customized on site with paint, wallpaper or other coverings. The self-powered battery unit is contained in a heavy-duty galvanized steel back-box, concealed in the wall or ceiling and includes a combined test switch and pilot light, accessible through the frame. Special bar hangers for installation in sheet rock or T-bar ceilings are included in the package. 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. Each unit comes standard with two (2) MR-16 halogen lamps, of specified power ranging from 12W to 50Watts each.

PulsePlus Battery Charger

The charger circuitry offers a 120/277 Vac 60 Hz, 0.25/0.12 Amp, automatic charger, built around a micro-controller integrated circuit. Circuit standard features: current limiting, temperature-compensated cut-off voltage, brown-out transfer, low-voltage battery disconnect and battery lockout (Prevents activation in the d.c. mode until initial a.c. activation).

Power Requirements

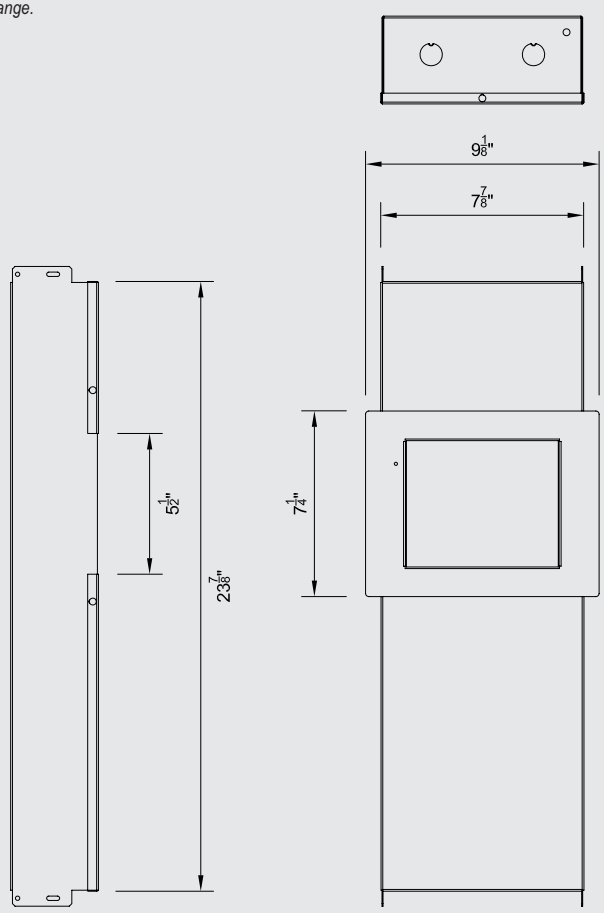
120/277Vac, 60Hz, 0.25/0.12 Amp

IMPROVED DIAGNOSTIC (Optional)

This micro-controller circuitry is optional on all self-powered battery units. This circuitry is programmed to ensure the equipment readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, the pilot light located on the front of the unit, will change color from solid green to a flashing red light, indicating a fault. A detailed diagnostic legend is available on the door back side and provides fault identification (battery, charger circuitry, lamps) for the maintenance personnel. The self-test feature will simulate a power loss for minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.

DIMENSIONS

Dimensions are approximate and subject to change.



Charger & Battery Compartment:
For use in walls or ceilings with a cavity, not for use in block walls or solid ceilings.

ORDERING FORMAT

Battery Unit

PH	M	100	-2(20)	DL
Series	**Battery Type**	**Unit Capacity**	**LampWattage**	**Options**
	M= Lead-Calcium **N**= Nickel-Cadmium	**40**= 12V, 40W **70**= 12V, 70W **100**= 12V, 100W	**-2(12)**= 12W, MR16 each head **-2(20)**= 20W, MR16 each head **-2(35)**= 35W, MR16 each head **-2(50)**= 50W, MR16 each head **-2 (20H)**= 20W, MR16 high lumen output **-2 (35H)**= 35W, MR16 high lumen output **-2 (50H)**= 50W, MR16 high lumen output	**ID**= improved diagnostic, audible **IDNA**= improved diagnostic, non-audible **T1**= time delay 5 minutes **T2**= time delay 10 minutes **T3**= time delay 15 minutes **DL**= damp Location* **X**= Backbox Shipped separate **DL Damp Location option is available on all models except PHN100.*

Generator Unit

PHG	1	-2	(20)
Series	**Input Voltage**	**# of Lamp**	**LampWattage***
PHG	**1**= 120 Vac, 60 HZ **2**= 277 Vac, 60 HZ	**-2**= Two lamp	**(12)**= 12W, each head **(20)**= 20W, each head **(35)**= 35W, each head **(50)**= 50W, each head **(20H)**= 20W, MR16 high lumen output **(35H)**= 35W, MR16 high lumen output **(50H)**= 50W, MR16 high lumen output

Mini-Phantom Series

The Next Generation of concealed emergency lighting: smaller size, full retrofit, impressive illumination of the egress.

Evaluated to UL 924 Standard

The **Mini-Phantom Series** from **Lightalarms** is the next generation of concealed emergency lighting equipment, specially designed for retrofitting in finished walls with a cavity (dry-walls with 4-inch studs). In normal conditions (stand-by) the unit is completely concealed in the wall.

POWER CONSUMPTION CHART

Model	AC Input	Maximum		Stand-By (Ni-Cd, NiMH)*	
		Input Current	Input Power	Input Current	Input Power
MPH_40	120 Vac	0.25 A	30 W	0.1 A	11 W
	277 Vac	0.12 A	30 W	0.05 A	11 W
MPHG	120 Vac	0.95 A	110 W**	-	-
	277 Vac	0.45 A	110 W**	-	-

** Stand-by power consumption is 50% lower for Lead-Calcium batteries*
*** Maximum power when equipped with 2 x 50W lamps (generator unit)*

UNIT RATING CHART

Model	Watts to 87.5% of rated battery voltage*			
MPH_40	1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
	40	30	24	-

** National Electrical Code Specification*

OPTIONS

(Add Suffix to Model No.) **Suffix**

Damp location listing (available on all models except PHN100)..... **DL**

Improved diagnostic (audible) ..... **ID**

Improved diagnostic (non-audible) ..... **IDNA**

Time delay (T1=5,T2=10, or T3=15 minutes)..... **T_***

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

FEATURES

Reliability

Each unit is fully computer-tested and aligned mechanically for optimum operation. The electrical parts (motor, electronic circuitry) carry a five-year warranty.

Unit Data

The normally exposed parts of the unit (flat door and frame) are covered with a high-quality, powder coated textured off-white finish, which integrates well with most wall and ceiling paints. The surface finish can also be customized on site with paint, wallpaper or other coverings. The self-powered battery unit is contained in a heavy-duty galvanized steel back-box, concealed in the wall or ceiling and includes a combined test switch and pilot light, accessible through the frame. 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. Each unit comes standard with two (2) MR-16 halogen lamps

PulsePlus Battery Charger

The charger circuitry offers a 120/277 Vac 60 Hz, 0.25/0.12 Amp, automatic charger, built around a micro-controller integrated circuit. Circuit standard features: current limiting, temperature-compensated cut-off voltage, brown-out transfer, low-voltage battery disconnect and battery lockout (Prevents activation in the d.c. mode until initial a.c. activation).

Power Requirements

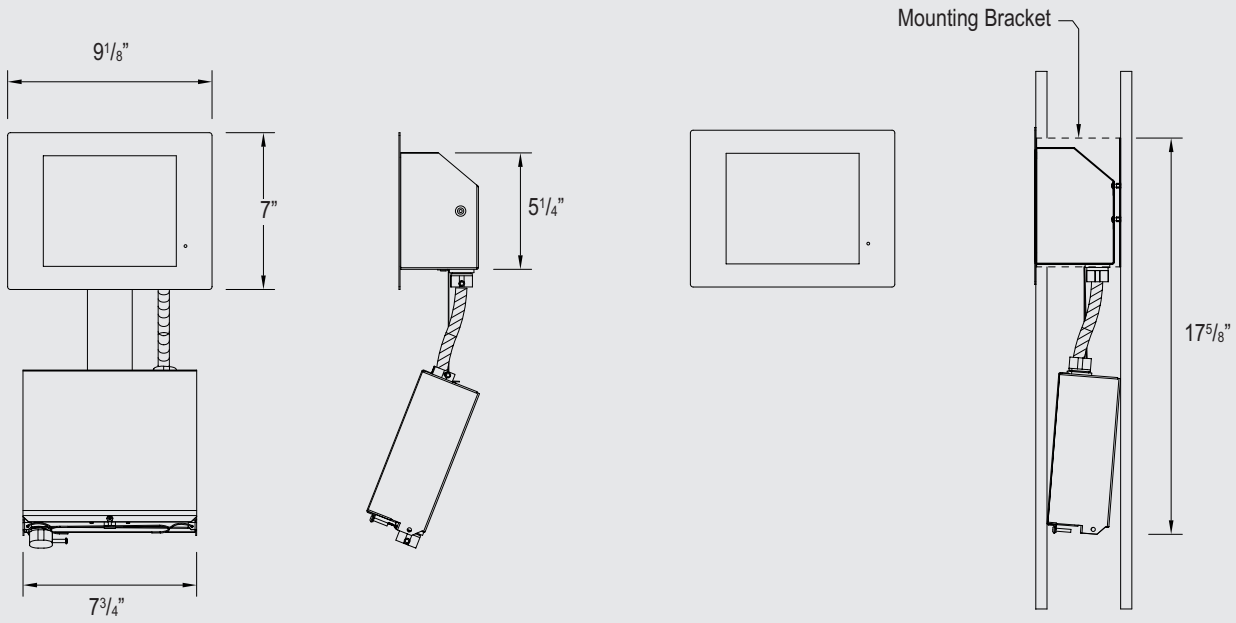
120/277Vac, 60Hz, 0.25/0.12 Amp

IMPROVED DIAGNOSTIC (Optional)

This micro-controller circuitry that will ensure the equipment readiness and reliability by continuously monitoring every critical function of the unit. If a component failure occurs, the pilot light located on the front of the unit, will change color from green to red and will flash indicating a fault. A detailed diagnostic legend shall be available on the back side of the door and shall provide fault identification (battery, charger circuitry, lamps) for the maintenance personnel. The self-test shall simulate a power loss for minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.

DIMENSIONS

Dimensions are approximate and subject to change.



Complete Unit

Installed Unit

ORDERING FORMAT

	MPH	M	40	-2(20)	DL
Battery Unit	**Series**	**Battery type**	**Unit Capacity**	**Lamp Wattage (12V MR16)**	**Options**
	MPH	**M**= Lead-Calcium **N**= Nickel-Cadmium **H**= Nickel-Metal Hydride	**40**= 12V, 40 watts	**-2 (12)**= 12 watts each head **-2 (20)**= 20 watts each head **-2 (20H)**= 20 watts, high lumen output	**ID**= improved diagnostic **IDNA**= improved diagnostic, non-audible **T1**= time delay 5 min **T2** = time delay 10 min **T3** = time delay 15 min **DL**= damp location *(only MPHN40, MPHH40)*

	Series	Battery type	Unit Capacity	AC input	Lamp Wattage (12V MR16)	Options
Generator Unit	**MPH**	**G**= Remote AC generator	**Blank**= max. 100W	**1**= 120 Vac **2**= 277 Vac	**-2 (12)**= 12 watts each head **-2 (20)**= 20 watts each head **-2 (35)**= 35 watts each head **-2 (50)**= 50 watts each head **-2 (20H)**= 20 watts, high lumen output **-2 (35H)**= 35 watts, high lumen output **-2 (50H)**= 50 watts, high lumen output	**DL**= damp location

Camray Series

A combination of Style & Performance

The Camray Series combines the photometrical performance to a visually appealing design.

An efficient reflector combined with two Xenon lamps deliver an incredible center-to-center spacing.

The die-cast aluminum housing is offered in a wide range of colors to complement any interior. It will blend with the most sophisticated decor.

With it's fully gasket housing, the **Camray Series** is also ideal for extreme outdoor environments.

Designed to meet the needs of architects and designers without sacrificing safety, this fixture is available in a widerange of colors to complement any interior.

FEATURES

Reliability

The **Camray Series** comes complete with a 3-year full warranty (excluding lamps and fuses).

Unit Data

The **Camray** units are made of durable cast aluminum housing, finish with textured polyester powder coat paint. Four colors are available: off white, black, platinum gray and dark bronze. The vacuum-plated die-cast reflector will last over time. The lens is made of an impact and UV resistant polycarbonate.

Units can be installed on various J-box with the universal mounting pattern. It can also be surface mount using the rigid conduit entry provision on the top of the unit.

Lamp information

The **Camray** units are furnished with two high-output Xenon lamps. These lamps, combined with a patent pending reflector, deliver an incredible center-to-center spacing. The reflector has been designed to provide an evenly distributed illumination pattern for corridors, up to 6' wide.

Charger

All self-powered battery units come with a 120/277Vac, 60Hz., dual input voltage. Chargers also include low voltage disconnect to prevent deep discharge, battery lockout to prevent battery drain prior to energizing the utility power, brownout protection which will automatically switch unit into emergency mode if the utility power sages below 80% of nominal and battery reverse polarity protection.

Lead-Calcium Models are equipped with the Pulse Plus circuitry that will promote long reliable battery life and excellent performance. This current limiting charger will minimize energy consumption.

Nickel Metal Hydride Models are equipped with the non-audible version of the Improved Diagnostics circuit. It will also monitor and indicate any of the following failures: battery disconnect, battery, charger and lamp failures. The unit will perform a periodical self-test, of minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.

Controls or electrical

- Lead-Calcium Models: green LED indicates AC power is on.
- Nickel Metal Hydride Models: bi-color LED indicates battery state of charge, test activation and four-state diagnostic status.
- Test switch allows for quick operational check of the entire system.

Power Requirements

120/277Vac, 60Hz, 0.11/0.05 Amp

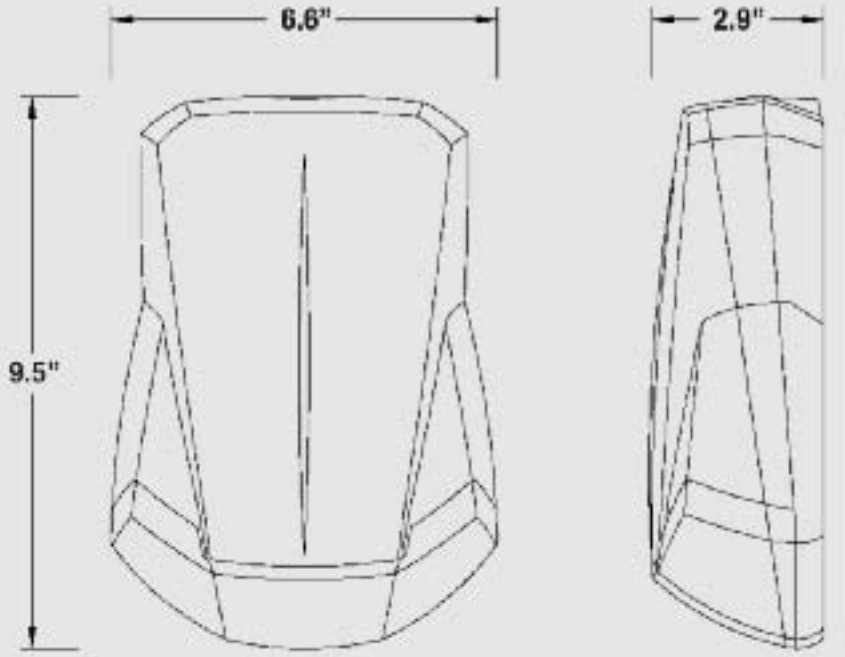
OPTIONS

The **Camray Series** is offered in five different configurations. It can be used in a wide range of applications, environments:

- CAM Remote head: UL listed for damp, wet and cold locations. Operating temperature: –40 °C to +60 °C (–40°F to +140°F) See page 98.
- CAML Regular interior package: cost efficient solution equipped with Lead-Calcium battery.
- CAMN Exterior package: designed for a wide range of temperature. UL listed for wet and cold location. Equipped with NiMH battery. Operating temperature: –20 °C to +40 °C (–4°F to + 104°F)
- CAMN2 High output package: ideal for interior applications where the photometrical performance the 10W Xenon lamps is required. Equipped with NiMH battery, UL listed for operating temperature: +20 °C to +30 °C (+68°F to +86°F)

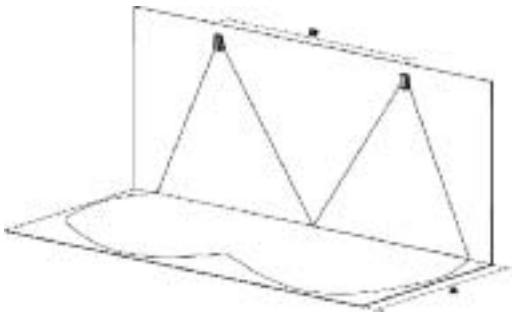
DIMENSIONS

Dimensions are approximate and subject to change.



ISO CURVE

Lamp Type	Mounting height	Center-to-center	
		A=3'	A=6'
2 X 6W	7.5'	B=28'	B=19'
	8.5'	B=25'	B=18'
2 X 10W	7.5'	B=30'	B=28'
	8.5'	B=34'	B=30'



Note: *Photometric results shown are based on a simulation using the AGI32 software with a 1 foot-candle average and 0.1 foot-candle minimum with a 40:1 maximum ratio. Lightalarms assumes no responsibility for local requirements or specific project variable. This is a guideline to be used as a design aid, not guarantee of any code compliance.*

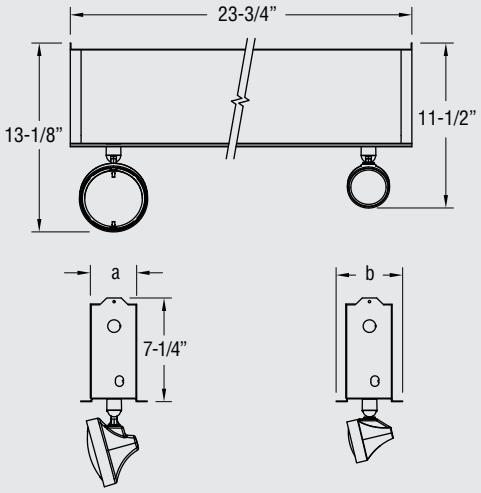
ORDERING FORMAT

CAML	/LX6	-OW	T1
Series	**Lamp Wattage***	**Color**	**Options**
CAML= 6V - 12W, lead calcium (+20'C to +30'C) std charger **CAMN**= 6V - 12W, NiMH (-20'C to +40'C) comes standard with IDNA **CAMN2**= 6V - 20W, NiMH (+20°C to +30°C) comes standard with IDNA	**/LX6**= 6V-6W **/LX10**= 6V 10W**	**-OW**= off white **-B**= black **-DB**= dark bronze **-PG**= Platinum gray	**-T1**= 5 minutes **-T2**= 10 minutes **-T3**= 15 minutes
	**Xenon wedge base T3-1/4* ***Only available in CAMN2.*	*other colors availible. consult the factory.*	*Note: time-delay available only with IDNA CAMN and CAMN2 units.*
			Limited Warranty *LD-CA battery 3 years* *NiMH battery 5 years*

TBR Series

DIMENSIONS

Dimensions are approximate and subject to change.



ELF645 ELF2 / ELF3

Cabinet	a	b
S	3-1/4"	4-5/8"
L	5-5/8"	7-1/8"

UNIT RATING CHART

Volts	Model # (Unit/Lamp Suffix)	*Watts to 87½% of Rated Battery Voltage				Watts/ Head	Cabinet Size
		1½ hrs	2 hrs	3 hrs	4 hrs		
6	2TBRC1/L9	27	20	14	10	9	S
	2TBRC2/L9	54	36	25	18	9	S
	2TBRC3/L9	81	48	33	24	9	L
12	2T12BRC2/L9	54	36	25	18	9	S

** National Electrical Code Specification*

ACCESSORIES

(Order as a separate item)

Remote Test Switch (Metal faceplate).....**PSW**
Remote Test Switch (Plastic faceplate).....**PSW1**

ORDERING FORMAT

2	TBR	C	1	/L9	-V
No. of Heads	**Series**	**Battery Type**	**Capacity Indicator**	**Lamp Suffix** 6V 9W Incandescent	**Option** Voltmeter

6 or 12-Volt Decorative Style T-Bar Unit
Maintenance-Free Lead-Calcium or Nickel-Cadmium Battery
UL Listed

The **TBR Series** battery units are designed for T-Bar ceiling grid installation. This slim-line, unobtrusive unit is ideally suited for any commercial location where there is limited wall space and where the greater directional flexibility of ceiling-mounted heads is needed to provide greater distribution.

FEATURES

Reliability

The **TBR Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The TBR Cabinet is constructed of rugged steel with corrosion-resistant undercoating. Fixtures, cabinet and mounting brackets are available in mist white and black. Battery and charger are concealed above the ceiling level in the unit cabinet. The back box has a removable panel allowing easy access to battery and circuitry. Units mount quickly and easily in standard T-Bar grids without additional hardware. The TBR unit has provisions for mounting up to three lamp heads.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 9 watt high intensity wedge base incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109.*

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates the state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac, 60Hz, 0.3/0.15 Amp

Head & Lamp Type Options

No heads **0**
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps .....**/ELF 645**
Bi-Pin Halogen lamps.....**/ELF 2**
MR16 lamps up to 20 watts .....**/ELF 3**
MR16 lamps .....**/DR1130**

OPTIONS

(Add Suffix to Model No.)	**Suffix**
Black Housing and Heads	**-B**
Ammeter or Voltmeter (choose only one)	**-A* or -V***
Improved Diagnostics (audible)	**-ID**
Improved Diagnostics (non-audible)	**-IDNA**
Time Delay (specify 5, 10 or 15 minutes)	**-TD****
Nickel-Cadmium Battery	**-N**

**Not available with diagnostic option*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*

RD Series

6 or 12-Volt Decorative Style Recessed Unit

Maintenance-Free Lead-Calcium or Nickel-Cadmium Battery

UL Listed

The **RD Series** battery units are designed for fully recessed installation in walls or ceilings. Models are available with two ELF645 heads standard, or two ELF2, ELF3 or DR1130 heads optional, to accent any décor.

FEATURES

Reliability

The **RD Series** has a three-year fully warranty (excluding lamps).

Unit Data

The RD Series Cabinet is constructed of 20-gauge steel with an off-white baked enamel finish. Fixtures, cabinet and mounting brackets are available in mist white and black. Mounting brackets are included for installation in grid type suspended ceilings. Adjustable bar hangers are included, although this unit can be framed into sheet rock ceilings, studs or joints as well.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 9 watt high intensity wedge base incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109.*

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac, 60Hz, 0.3/0.15 Amp

Head & Lamp Type Options

No heads **0**
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps ..... **/ELF 645**
Bi-Pin Halogen lamps..... **/ELF 2**
MR16 lamps up to 20 watts ..... **/ELF 3**
MR16 lamps ..... **/DR1130**

OPTIONS

(Add Suffix to Model No.)	Suffix
Black	-B
Ammeter or Voltmeter (choose only one)	-A* or -V*
Improved Diagnostics (audible)	-ID
Improved Diagnostics (non-audible)	-IDNA
Time Delay (specify 5, 10 or 15 minutes)	-TD**
Non-Standard Input Voltage	Specify

**Not available with diagnostic option*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*

ACCESSORIES

(Order as a separate item)
Wire Guard (DR1130, ELF2, ELF3 or ELF645 heads) **WG6-L**
Remote Test Switch (Metal faceplate) ..... **PSW**
Remote Test Switch (Plastic faceplate)..... **PSW1**

UNIT RATING CHART

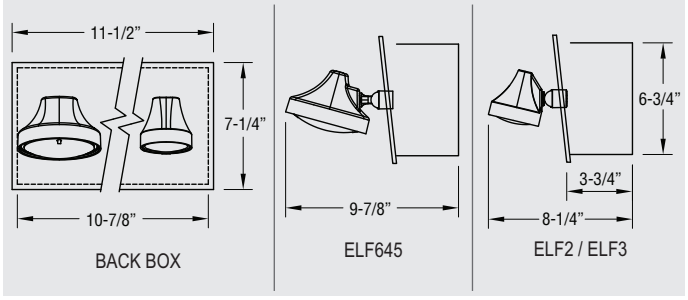
Standard lamp is 6 or 12 volt 9 watt wedge base.

UNIT EQUIPMENT - NO REMOTE CAPABILITY							
Sealed Maintenance-Free Battery Types	D.C. Voltage	Model Number		*Watts to 87½% of Rated Battery Voltage			
		ELF-645 Lamps Heads	ELF-2 Lamp Heads	1½ hrs.	2 hrs.	3 hrs.	4 hrs.
Nickel-Cadmium Δ	6	2RD6C1	2RD6C1/ELF2	18	12	10	-
Long-Life Lead Δ	6	2RD6E1	2RD6E1/ELF2	18	11	8	-
Lead-Calcium Δ	6	2RD6M1	2RD6M1/ELF2	18	12	9	-
UNIT EQUIPMENT - WITH REMOTE CAPABILITY							
Nickel-Cadmium Δ	6	2RD6C2	2RD6C2/ELF2	25	18	12	9
Δ	12	2RD12C3	2RD12C3/ELF2	36	21	15	12
Δ	6	2RD6E2	2RD6E2/ELF2	27	19	14	10
Long-Life Lead Δ	6	2RD6E3	2RD6E3/ELF2	36	24	17	13
Δ	12	2RD12E3	2RD12E3/ELF2	36	24	17	13
Δ	6	2RD6M2	2RD6M2/ELF2	27	18	14	10
Lead-Calcium Δ	6	2RD6M3	2RD6M3/ELF2	36	25	20	14
Δ	12	2RD12M3	2RD12M3/ELF2	36	25	20	14

**National Electrical Code Specification* *Δ = Improved Diagnostics Available*

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

For standard units without options only order Heads Series, Battery, Capacity and Lamps

2	RD	12	C	1	/L9	-TD
No. of Heads*	**Series**	**DC Battery Backup**	**Battery Type**	**Capacity Indicator**	**Lamp Suffix****	**Option**
			Ni-Cad		12V 9W Incandescent	Time Delay

** Includes Standard Lamp.* ** *see lamp data sheet for other lamp wattages.*

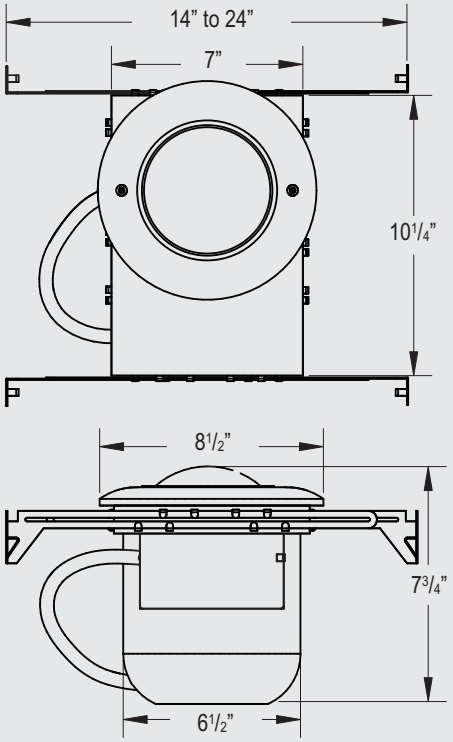
605P1 Series

6 Volt Decorative Recessed Gimbal
Maintenance-Free, Lead-Calcium, Long Life
Lead or Nickel-Cadmium Battery
UL Listed

The **605P1 Series**, a classic top-hat style unit with gimbal mounted lamp, fully recesses into ceiling with only the lens and trim visible. Ideal for low ceilings and blends inconspicuously with existing recessed lighting schemes.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT RATING CHART

Volts	Model Number	Battery Type	*Watts to 87½% of Rated Battery Voltage			
			1½ hrs.	2 hrs.	3 hrs.	4 hrs.
NO REMOTE CAPABILITY						
6	LS605P1-HB	Lead-Calcium	10	-	-	-
6	605E1/LH5-R	Long-Life Lead	9	-	-	-
WITH REMOTE CAPABILITY						
6	605C1/LH5-R	Nickel-Calcium	18	12	9	-
6	605E2/LH5-R	Long-Life Lead	18	11	8	-

National Electrical Code Specification

FEATURES

Reliability

The **605P1 Series** has a three-year full warranty (excluding lamps).

Unit Data

All components are contained in drawn steel box. The upper side of the recessed steel housing contains the battery and charger. The lower portion of the housing will contain an 8 watts halogen lamp with a horizontal rotation of 358° and vertical angle adjustable to ±42°. Standard finish of trim is mist-white plastic. NYC approved version will include a metal trim and gimbal assembly, also finished in mist-white. The LED pilot light and test switch are located on the side of the lamp ring.

The 605P1 Series comes standard with a slide out chassis and two quick-connect plugs to make installation and servicing easy. Adjustable hanger bars are supplied with each unit.

Lamp

Furnished with one 6 volt, 10 watt high intensity halogen lamp.

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Combination AC-ON/charge monitor LED
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Black Housing and Gimbal	**-B**
NYC Approved Version	**-M ***

**Includes metal trim and gimbal assembly.*

ACCESSORIES

(Order as a separate item)

Remote Test Switch (Metal faceplate).....**PSW**
Remote Test Switch (Plastic faceplate).....**PSW1**

ORDERING FORMAT

605	E1	/LH5	-R	-M
Series	**Battery Type Capacity** (see chart)	**Lamp Suffix**	**Recessed**	**Option** NYC Approved

RSTH Decorative Series

6 Volt Self-Powered Recessed Down Light

Maintenance-Free, Long Life Nickel-Cadmium Battery

Evaluated to UL 924 Standard

The **RSTH Decorative Series** integrates contemporary design elements with the latest in high-tech emergency lighting capabilities. This self-powered down light brings architects, designers and engineers a sleek, refreshing new take on emergency lighting solutions. Designed with clean, classic lines and available in a range of colors and tones to compliment any commercial or high-end interior where taste is a factor.

FEATURES

Reliability

The **RSTH Decorative Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

This internally self-powered recessed down light is constructed of a durable powder coated, die cast aluminum and uses a MR16 lamp source powered by a sealed Nickel-Cadmium battery. The RSTH is furnished with a metal, fully recessed back box to house the electronics, battery and wiring. The duration of operation provided by the Nickel-Cadmium battery is 90 minutes minimum, as required by NFPA101 Life Safety Code. Standard finish is white, but also available in black, brushed nickel, chrome and polished brass. Adjustable hanger bars are supplied with each unit.

Lamp

Furnished with one 6 volt, 6 watts MR16 halogen lamp. The Light source is fully adjustable by rotating the gimbal through 359° in azimuth and or positioning the lamp through 90° in pitch.

Charger

Dust tight relay automatically and instantly energizes lamp load upon failure of AC supply. Battery protection circuit automatically shuts down lamp load when battery reaches 87-1/2% of it's rated voltage. Charger is 100% solid state, includes auto-equalize, temperature compensation and is controlled by a 1% Zener reference.

Power Requirements

- 120V, 60 Hz, 0.046 A, 4.17W
- 277V, 60 Hz, 0.024 A, 4.76W

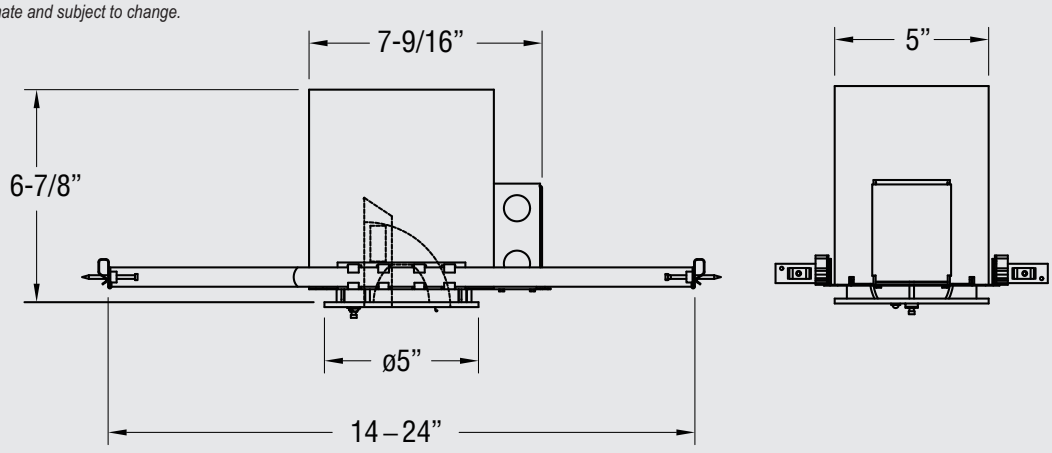
ACCESSORIES

(Order as a separate item)

Remote Test Switch (Metal faceplate).....**PSW**
Remote Test Switch (Plastic faceplate).....**PSW1**

DIMENSIONS

Dimensions are approximate and subject to change.



RSTH Decorative Series including back box

ORDERING FORMAT

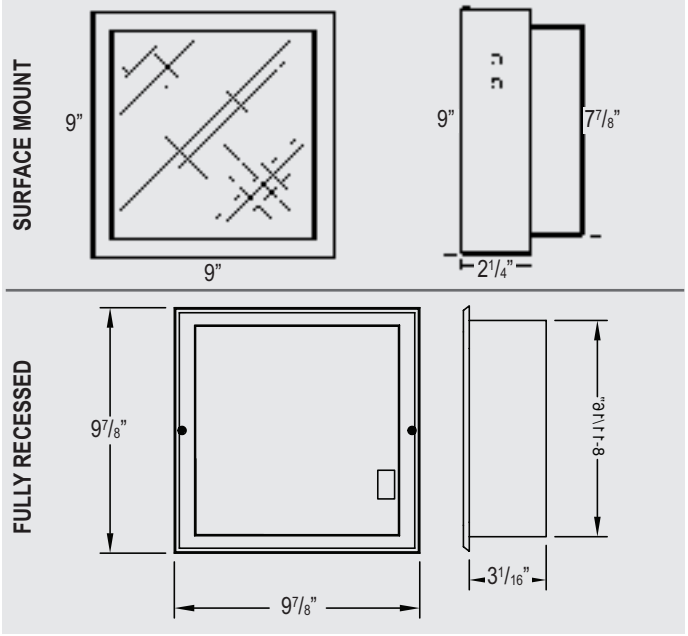
RSTH24	WH	SP	- U
Series	**Color** **WH**= White **BK**= Black **BN**= Brushed Nickel **CH**= Chrome **PB**= Polished Brass	**Emergency Back-up** **SP**= Self-Powered	**Model** **-U**= USA model

Replacement lamp number: 580.0074-L 6V 6W

Square-Lite SQ, SQ-D Series

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT RATING CHART

NO REMOTE CAPABILITY				
Volts	Model Number	Battery Type	*Watts to 87½% of Rated Battery Voltage	
			1½ hrs.	2 hrs.
6	SQG/LH7	Sealed Lead-Calcium	10	-
6	SQN/LH7	Nickel-Cadmium	10	-
WITH REMOTE CAPABILITY				
6	SQG-D/LH5	Sealed Lead-Calcium	24	18
6	SQN-D/LH5	Nickel-Cadmium	30	18

**National Electrical Code Specification*

ORDERING FORMAT

SQ	G	/LH7	-V
Series	**Battery Type**	**Lamp Suffix** 6V 10W Halogen	**Option** Voltmeter

6 Volt Decorative Style Equipment
Sealed Maintenance-Free Lead-Calcium or Nickel-Cadmium Battery
UL Listed

The **SQ**, **SQ-D Series** was designed for institutional and commercial environments where overall style of décor is essential, but directional lighting is not critical. The standard Square-Lite is available as surface mount, but optional mounting includes semi-recessed and fully recessed.

FEATURES

Reliability

The **Square-Lite "SQ" Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The Square-Lite unit is constructed of impact resistant, flame retardant, lightweight thermoplastic material in mist white color with a black back. A metal back box is provided where recessed installation is required. The all-metal fully recessed version is constructed of 20-gauge steel with a white baked enamel surface trim. All models are furnished with a specially designed reflector and prismatic lens. SQR conversion kit is available for semi-recessing into ceiling. FSQR, conversion kit available for fully recessed fixture. Bar hangers supplied with recessed kit. To order fully recessed metal fixture, please refer to Options.

Lamp

Furnished standard with one high efficiency tungsten halogen lamp (6 volt, 6, 8 or 10 watts). Provides a non-directional even light distribution with beam spread of more than 170°. The two-lamp option is available by specifying "-2" suffix (see Options).

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates the state of charge of the battery.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.) **Prefix**
Fully Recessed Metal ..... **R ***
**Bar hangers included*

(Add Suffix to Model No.) **Suffix**
Improved Diagnostics (audible) ..... **-ID**
Improved Diagnostics (Non-audible)..... **-IDNA**
Ammeter or Voltmeter (choose only one) ..... **-A* or -V***
Two Lamps..... **-2**
Polycarbonate Lens ..... **-PL**
Time Delay (specify 5, 10 or 15 minutes) ..... **-TD_ ****
**Not available with diagnostic options*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*

ACCESSORIES

(Order as a separate item)
Wire Guard (For Semi-Recessed)..... **WG1-L**
Wire Guard (For Fully-Recessed) **WG11-L**
Semi-Recessed Conversion Kit ..... **SQR**
Full-Recessed Conversion Kit ..... **FSQR**
Matching style remote fixture, Model ELF644 available, see remote fixtures section.

Sunspec Series

Dual-Purpose Decorative Ceiling Luminaire

Sealed Maintenance-Free Long Life, Nickel-Cadmium Battery

Evaluated to UL 924 Standard

The **Sunspec Series**, with its sleek profile and circular shape, sets new standards for aesthetics and performance. The new generation of architectural emergency lighting fixtures that combines emergency mode operation with conventional, normally-on lighting.

FEATURES

Reliability

The Sunspec Series has a three-year full warranty (excluding lamps and fuses).

Unit Data

The unit opal diffuser is anti-corrosive, high-impact, injection-molded polycarbonate. The high temperature rated battery, the lamps and the electronic circuitry are installed on an innermetal chassis,which twists and locks into place for ease of installation and maintenance. The diffuser snaps into the thermoplastic back plate. Each unit is equipped with a dedicated connector for quick disconnect of the AC line. There are several trim assemblies and options available. The Sunspec Series can be surface-mounted or semi-recessed for ceiling and wall mount applications. The semi-recessed models are furnished standard with a bar hanger kit. The Sunspec Series is also available in AC-only for normal illumination, as well as with dual-mode illumination (emergency lighting and normal lighting).

Lamp

The standard unit will include two high-efficiency, 11 watts (950 lumens each) 2G7 base compact fluorescent lamps. Normally-on models will be powered by high efficiency, high frequency ballasts. Failure (absence) of one lamp will not affect the function of the second lamp. Emergency mode initial light output shall be at least 50% of rated lamp output lumen.

Charger

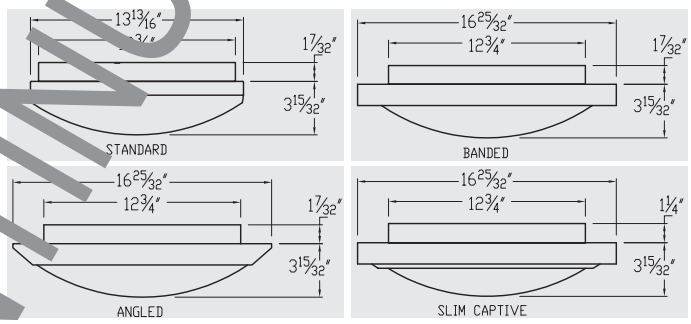
A new generation, solid state circuitry including battery charger and high frequency inverters to drive the compact fluorescent lamps. Failure (absence) of one lamp shall not affect the function of the second lamp. The battery unit will supply the rated load for a minimum of 90 minutes.

Power Requirements

- 120Vac, 60Hz, 0.06 Amps, 7 watts
- 277Vac, 60Hz, 0.03 Amps, 7 watts

DIMENSIONS

Dimensions are approximate and subject to change.



OPTIONS

(Add Suffix to Model No.)	Suffix
Improved Diagnostics Non-Audible	**-IDNA**
Damp Location (10°C to 40°C), (50°F to 104°F) normally-off only	**DL**
Semi-Recessed Mount	**SR***
Semi-Recessed T-Bar Mount	**RT***

**Note: Semi-Recessed is NI (Non Insulation)*

IMPROVED DIAGNOSTICS (optional)

The unit will come complete with a self-diagnostics micro-controller board. The unit shall self test for 1 minute every 30 days, 30 minutes on the 6th month and 90 minutes every 12 months.

ORDERING FORMAT

SUNS	M	SP	12	W	A	W		-IDNA
Series	**Unit Type**	**Emergency Back-up**	**Voltage/ Lamp Wattage**	**Body Color**	**Trim Type**	**Trim Color**	**Mounting Options**	**Options**
SUNS= Sunspec Fixture	**M**= Normally-On **NM**= Normally-Off	**SP**= Self-Powered	**12**= 120Vac, 2 x 11W, CFL **22**= 277Vac, 28W 2D, CFL **11**= 120Vac, 28W 2D **21**= 277Vac, 28W 2D	**W**= White **B**= Black	**Blank**= No Trim **A**= Angled **B**= Banded **SC**= Slim Captive	**W**= White **B**= Black **CH**= Polished Chrome **PB**= Polished Brass	**Blank**= Surface Mount **PD**= Pendant Mount **SR**= Semi-Recessed Mount* **RT**= Semi-Recessed T-Bar Mount **Note: Semi-Recessed is NI (Non Insulation)*	**-IDNA**= Improved Diagnostics Non-Audible

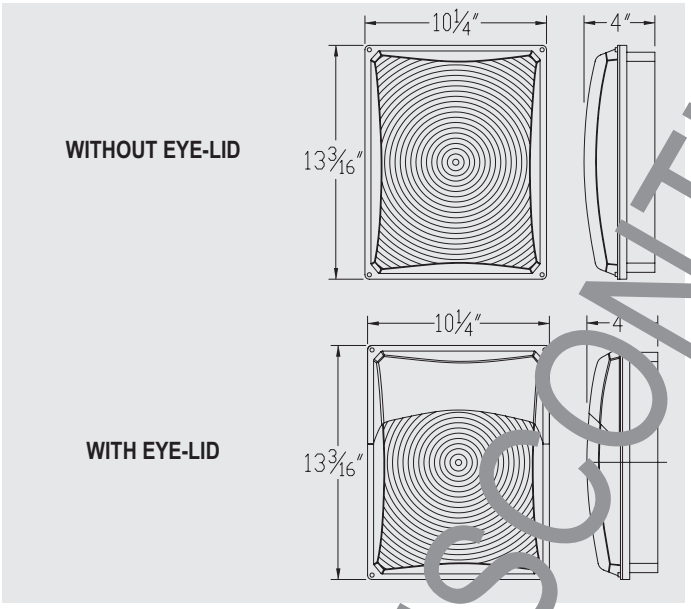
Gloweye Series

Dual-Purpose Decorative Wall or Ceiling Luminaire
Sealed Maintenance-Free long life, Nickel-Cadmium Battery
Evaluated to UL 924 Standard

The **Gloweye Series**, the new generation of architectural emergency lighting fixtures, combining emergency mode operation with conventional, normally-on lighting. Ideal for damp,wet and humid covered areas such as indoor swimming pools and garages. An attractive design combined with the strength of a weatherproof enclosure.

DIMENSIONS

Dimensions are approximate and subject to change.



IMPROVED DIAGNOSTICS (Optional)

The unit will come complete with a self-diagnostics micro-controller board. The unit shall self test for 1 minute every 30 days, 30 minutes on the 6thmonth and 90 minutes every 12 months.

FEATURES

Reliability

The **Gloweye Series** has a three year full warranty (excluding lamps and fuses).

Unit Data

The unit consists of a rectangular, injection-molded thermoplastic housing and is furnished standard with a clear prismatic polycarbonate diffuser. The diffuser is fixed onto the thermoplastic back plate with four screws. The nonobtrusive test switch, pilot light, lamps and battery are all concealed under the diffuser. Optional body and trim (eyelid) colors are available. This unit is Nema-3 rated for damp and/or wet location. Unit is offered with option of dual mode illumination, emergency lighting and normal illumination, as well as AC-only units.

Lamp

The standard unit will include two high-efficiency, 11 watts (950 lumens each) G7 base compact fluorescent lamps. Normally-on models will be powered by high efficiency, high frequency ballasts. Failure (absence) on one lamp will not affect the function of the second lamp. Emergency mode initial light output shall be at least 50% of rated lamp output lumen.

Charger

A new generation, solid state circuitry including battery charger and high frequency inverters to drive the compact fluorescent lamps. Failure (absence) of one lamp shall not affect the function of the second lamp. The battery unit will supply the rated load for a minimum of 90 minutes.

Power Requirements

- 120Vac, 60Hz, 0.06 Amps, 7 watts
- 277Vac, 60Hz, 0.03 Amps, 7 watts

OPTIONS

(Add Suffix to Model No.)	Suffix
Improved Diagnostics Non-Audible	**IDNA**
Opal Lens	**OP**
Damp Location (10°C to 40°C), (50°F to 104°F) normally-off only	**DL**
Vandal Resistant Screws	**VR**

ORDERING FORMAT

GLOW	M	SP	12	W	W	-IDNA
Series	**Unit Type**	**Emergency Back-up**	**Voltage/ Lamp Wattage**	**Body Color**	**Trim (Eye-Lid)**	**Options**
GLOW= Gloweye Fixture	**Blank**= AC Only **M**= Normally-On **NM**= Normally-Off	**SP**= Self-Powered	**12**= 120Vac, 2 x 11W, CFL **22**= 277Vac, 28W 2D, CFL **11**= 120Vac, 28W 2D **21**= 277Vac, 28W 2D	**W**= White **B**= Black **G**= Gray	**Blank**= No Eye-Lid ***W**= White Eye-Lid Cover ***B** =Black Eye-Lid Cover ***G**= Gray Eye-Lid Cover **Eye-Lid is suggested for wall mount applications*	**-IDNA**= Improved Diagnostics Non-Audible

Note: *Non-maintained= Normally-off Maintained= Normally-on*

Permanence Series

Dual-Purpose Decorative Wall or Ceiling Luminaire
Sealed Maintenance-Free long life, Nickel-Cadmium Battery
Evaluated to UL 924 Standard

The **Permanence Series** was designed for institutional and commercial environments where overall style of décor is essential, but directional lighting is not critical. The unit is available as surface mount, semi-recessed or fully recessed mount.

FEATURES

Reliability

The **Permanence Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The battery, lamps and the electronic circuitry are installed on an inner metal chassis, constructed of rugged 20-gauge steel.The front and side translucent diffusers aremade of injectionmolded, durable polycarbonate,which completely encompass the lamps,AC pilot light and test switch. Each unit is equipped with a dedicated connector for quick disconnect of the AC line. Choice of white, black or gray finishes. The Permanence Series can be surfacemounted or recessed for ceiling and wall-mount applications.The recessed models are furnished standard with steel trim plate. Permanence is offered with options of dual mode illumination, emergency lighting and normal illumination, as well as AC-only units.

Lamp Heads

The standard unit will include two high-efficiency, 11 watts (950 lumens each) compact fluorescent lamps or optional one PL 27 watt CFL. Normally on models will be powered by high efficiency, high frequency ballasts. Failure (absence) on one lamp will not affect the function of the second lamp. Emergency mode initial light output shall be at least 50% of rated lamp output lumen.

Charger

A new generation, solid state circuitry including battery charger and high frequency inverters to drive the compact fluorescent lamps. Failure (absence) of one lamp shall not affect the function of the second lamp. The battery unit will supply the rated load for a minimum of 90 minutes.

Power Requirements

- 120Vac, 60Hz, 0.06 Amps, 7 watts
- 277Vac, 60Hz, 0.03 Amps, 7 watts

OPTIONS

(Add Suffix to Model No.)	Suffix
Improved Diagnostics, Non-Audible	**IDNA**
Damp Location (10°C to 40°C), (50°F to 104°F), normally-off only	**DL**
Recessed Mount	**RM***
Recessed Mount T-Bar	**RT***

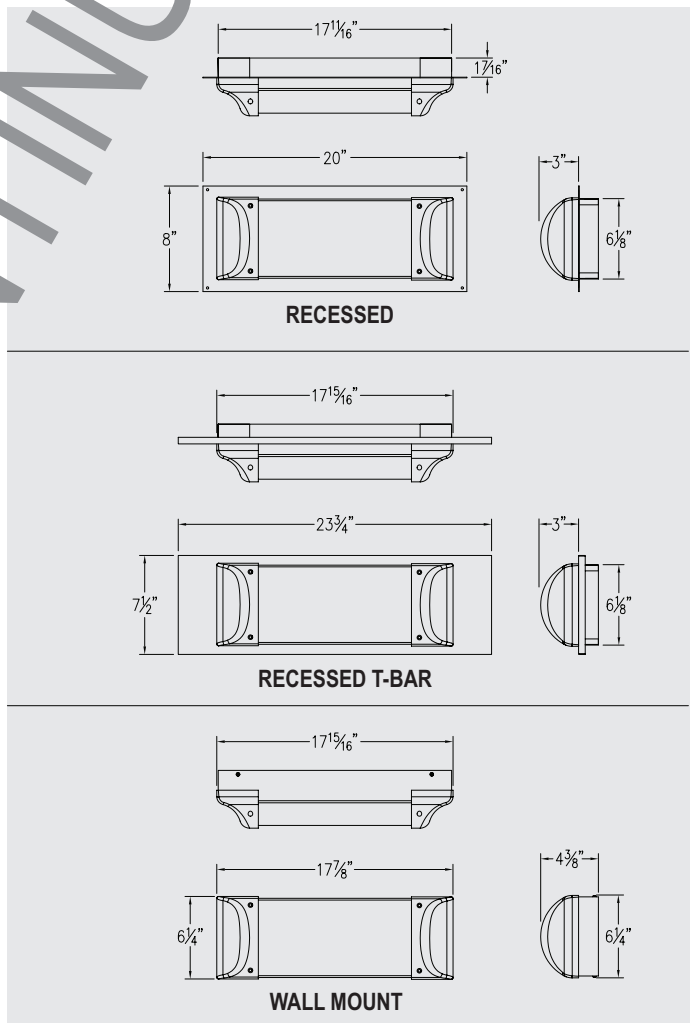
** Note: Recessed is NI (Non Insulation)*

IMPROVED DIAGNOSTICS (optional)

(The unit will come complete with a self-diagnostics micro-controller board. The unit shall self test for 1 minute every 30 days, 30 minutes on the 6th month and 90 minutes every 12 months.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

PER	M	SP	12	W		-IDNA
Series	**Unit Type**	**Emergency Back-up**	**Voltage/Lamp Wattage**	**Body Color**	**Mounting Options**	**Options**
PER= Permanence Fixture	**M**= Normally-On **NM**= Normally-Off	**Blank**= AC only **SP**= Self-Powered	**12**= 120Vac, 2 x 11W, CFL **22**= 277Vac, 28W 2D, CFL **11**= 120Vac, 28W 2D **21**= 277Vac, 28W 2D	**W**= White **B**= Black **G**= Gray	**Blank**= Surface Mount **RM**= Recessed Mount **RT**= Recessed Mount T-Bar	**-IDNA**= Improved Diagnostics Non-Audible

Notes

Commercial Battery Units

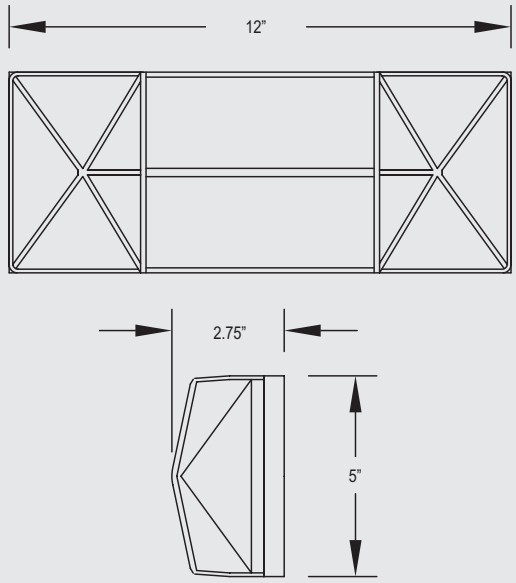
IC-2 Series

6 Volt Ultra-Slim Emergency Unit
Sealed Maintenance-Free Lead Calcium Battery
UL Listed
Damp Location Listed

The **IC-2 Series**, is an aesthetically attractive, economical unit ideal for commercial or institutional facilities. This unit offers reliable performance in a low profile, contemporary design.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

IC-2

Series

FEATURES

Reliability

The **IC-2 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The compact, ultra-slim housing and prismatic lenses are constructed of an injection-molded, tough thermoplastic body that will not scratch or corrode. It has a lightly textured "mist white" finish that blends well with any decor. All units come with a pre-wired AC to save time and installation costs. Simply wire the mounting plate to the building AC and secure. Then, using the AC quick connect plug, snap the housing onto the mounting plate and the unit is ready to be powered. Attractive and versatile, the IC-2 Series battery units can be mounted in any orientation on walls and ceilings.

Lamp

Standard with two 6-watt, high intensity, wedge base incandescent lamps.

Charger

- Automatic, temperature compensated, charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery.
- Automatic brownout protection.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.08/0.04 Amp

ACCESSORIES

(Order as a separate item)

Wire Guard **WG13-L**

UNIT RATING CHART

Volts	Model No.	*Watts to 87-1/2% of Rated Battery Voltage	
		1½ Hrs.	2 Hrs.
6	IC-2	12	8

** National Electrical Code Specification*

LCA-2SQ Series

6 Volt Thermoplastic Battery Unit
Damp Location Listing is standard on all models
Sealed Maintenance-Free Lead Calcium Battery
UL Listed

The **LCA-2SQ Series**, an extremely versatile unit, that can be wall or ceiling mounted. With the option of 11 watts remote capacity and standard damp location listing, this emergency lighting unit with adjustable heads is your solution for emergency lighting.

FEATURES

Reliability

The **LCA-2SQ Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Constructed of an injection-molded, UV stabilized, UL 94, 5VA flame rated thermoplastic housing and back plate. The sealed maintenance-free Lead-Calcium battery is designed to power 11 watts remote load or extended unit run time, if necessary (refer to options "R" to order). LCA-2SQ can be wall or ceiling mounted. Unit has universal knock-out pattern on the back plate that allows for junction box mounting. An innovative snap-together design allows for fast and easy installation.

Lamp

Furnished standard with two, 6 volt, 6 watts DC T5 wedge base lamps for emergency mode.

Charger

- 120/277Vac, 60Hz, 0.08/0.04 Amp
- LED indicator light and push button test switch
- Remote capacity – may power additional remote heads (up to 6V 11W)
- Low voltage battery disconnect
- All models are damp location listed

OPTIONS

(Add Suffix to Model No.)	**Suffix**
Remote Capacity (11 watts)	**-R***

**Do not exceed rated unit capacity*

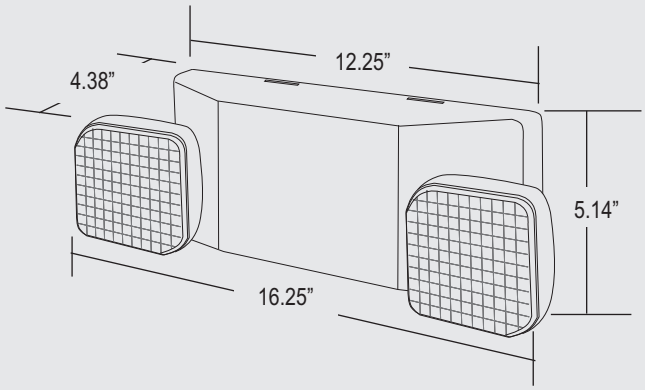
ACCESSORIES

(Order as a separate item)

Replacement Battery	**860.0018-L**
Replacement Lamp (standard)	**570.0012-L**
Wire Guard	**WG10-L**
Vandal Shield	**CPS**
Vandal Shield (NEMA-4X)	**CPS-4X**

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

LCA	-2SQ	R
Series	**Light Heads** **-2SQ**= 6V 6W Incandescent	**Capacity Indicator** **Blank**= No Remote Capacity **R**= 11W Remote Capacity* **Do not exceed rated unit capacity.*

LCA-2MRS Series

6 Volt Thermoplastic Battery Unit

Damp Location Listing is standard on all models

Sealed Maintenance-Free Lead Calcium Battery

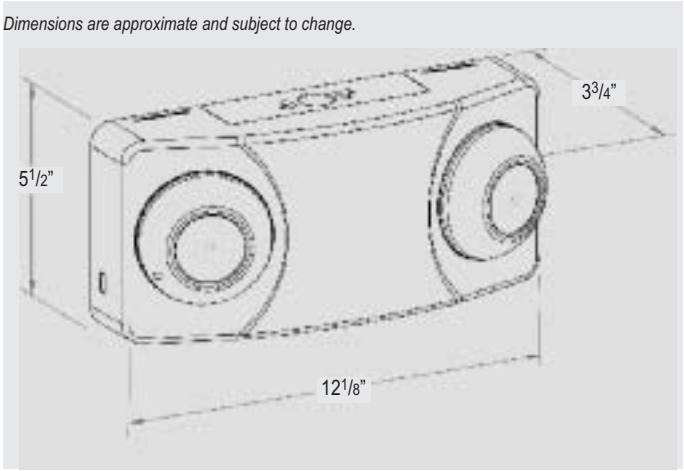
UL Listed

NEW IMPROVED LOOK!

The **LCA-2MRS** Series, is the perfect battery unit for use where style and design are required in an economical package.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

LCA	-2MRS	B
Series	**Light Heads**	**Colors**
	-2MRS= 6V 5W MR16 Halogen	**B**= Black

FEATURES

Reliability

The **LCA-2MRS Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The unit is completely self-contained and the housing is constructed of high impact, UL recognized, 94, 5VA thermoplastic. The compact design will allow for space restrictions often encountered. The snap together housing facilitates mounting in any orientation.

Lamps

Furnished with two 6 volt, MR16 glare free halogen lamp heads

Charger

- Automatic, temperature compensated, charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.

OPTIONS

(Add Suffix to Model No.)	**Suffix**
Black	**-B**

ACCESSORIES

(Order as a separate item)

Replacement Battery	**860.0018-L**
Replacement Lamp (standard)	**570.0012-L**
Wire Guard	**WG10-L**
Vandal Shield	**CPS**
Vandal Shield (NEMA-4X)	**CPS-4X**

Cavalier II (CA-2) Series

6 Volt Decorative Style Equipment
Maintenance-Free Sealed Lead-Calcium or Nickel-Cadmium Battery (optional)
UL Listed

The **Cavalier II (CA-2) Series**, is an aesthetically attractive, economical unit in a compact, contemporary design. It is ideal for commercial and institutional facilities.

FEATURES

Reliability

The **Cavalier II (CA-2) Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The housing is Injection molded from high impact, scratch and corrosion resistant thermoplastic and is available in an architecturally attractive mist white color. Optional Black housing is also available. The Cavalier II Series easily mounts to wall or ceiling with independent, universal mounting plate. AC and battery quick connect plugs simplify wiring for quick and easy installation. This unit is also suitable for damp locations.

Lamp

Furnished standard with two fully adjustable PAR 36 size lamp heads with high intensity incandescent lamps or optional halogen lamps.
CA-2 is available with optional 6 watts halogen lamp.
CA-3 is available with optional 6, 8 or 10 watts halogen lamp.

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

Combination test switch/charge monitor LED indicates battery is on charge and allows for periodic testing of the unit.

Power Requirements

Maximum 10 watts at 120/277Vac.

OPTIONS

(Add Suffix to Model No.)	Suffix
Black	-B
Self Diagnostics	-SD
Voltmeter (not available with diagnostics)	-V
3-Wire Cord & Plug (120V)	-3CP*
3-Wire Cord & Plug (277V)	-3CP-277*
6W halogen lamp	/LH4
8W halogen lamp	/LH5
10W halogen lamp	/LH7
Nickel-Cadmium battery	-N
Damp location listed	-DL

**Standard cord is 3 ft. custom lengths available.*

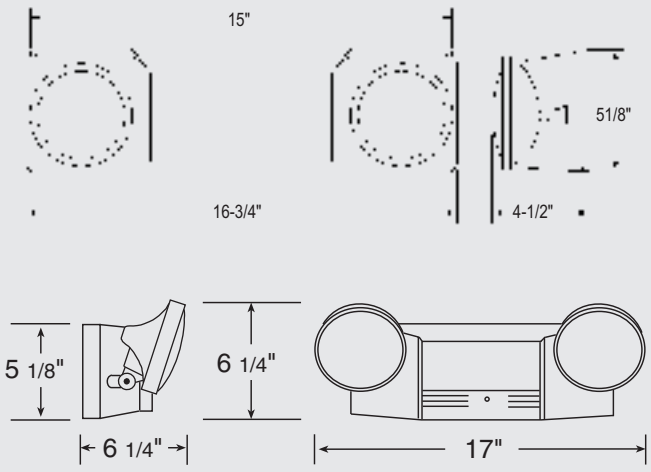
ACCESSORIES

(Order as a separate item)

Wire Guard (CA-2, CA-3)	WG16-L
Polycarbonate Shield	CPS
Poly. Weatherproof Shield	CPS-4X

DIMENSIONS

Dimensions are approximate and subject to change.



CAVALIER WITH HALOGEN LAMPS (CA-3)

UNIT RATING CHART

Volts	Model No.	*Watts to 87-1/2% of Rated Battery Voltage	
		1½ Hrs.	2 Hrs.
6	CA-2	12	8
	CA-3	20	15

** National Electrical Code Specification*

ORDERING FORMAT

CA	-2	-DL
Series	**Capacity Indicator**	**Option** **-DL**= Damp Location

DM, DS Series

6 or 12 Volt Thermoplastic Emergency Unit

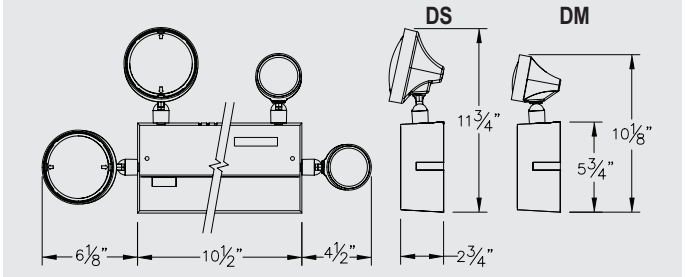
Sealed Maintenance-Free Lead Calcium Battery

UL Listed

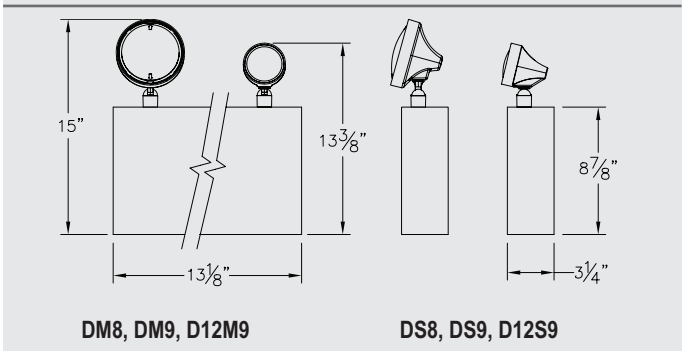
The **DM, DS Series**, is an excellent combination of economy and quality – the best offered in the industry. This unit is compact, lightweight and corrosion resistant.

DIMENSIONS

Dimensions are approximate and subject to change.



DM3, DM6, DM7 — DS3, DS6, DS7



DM8, DM9, D12M9 — DS8, DS9, D12S9

UNIT RATING CHART

Volts	Model No. (unit/Lamp Suffix)	*Watts to 87-1/2% of Rated Battery Voltage	
		1 1/2 Hrs.	2 Hrs.
6	2DS3/L5-M	12	8
	2DS6/L9-M	18	12
	2DS7/L9-M	27	21
	**2DS8/L9-M	36	24
	**2DS9/L9-M	54	41
12	**2D12S9/L9-M	54	41

*National Electrical Code Specification ** Utilize Large "A" Cabinet*
Use "M" instead of "S" for Mini Heads (ELF2 PAR18 size heads)

ORDERING FORMAT

2DS3	/L5	-M	-TD
Model Number	**Lamp Option** (6V 6W) Incandescent	**Colors**	**Option Time Delay**
For standard units without options only order Model #		*Options are added to units by listing suffix at end of model #*	

FEATURES

Reliability

The **DM, DS Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Construction consists of a compact, lightweight, corrosion resistant thermoplastic cabinet with a "mist white" finish. Meets UL 94, 5VA flame classification. Both cabinets (small and large) are designed with rear keyhole mounting slots on the back plates and mount directly to any standard 4" octagonal electric box. The 6 Volt, small cabinet (DS3, DS6, DS7) is programmable for either top or side mounting of lamp heads. A 7/8" conduit entry is provided on the left side of the cabinet. The large cabinet (DS8, DS9 and D12S9) has a removable front panel and provisions for mounting to up to 3 heads.

Lamp

Thermoplastic heads can be top or side mounted (on DM or DS3, 6 and 7 only) and easily moved to either location by contractor without re-wiring.

DM MODELS: PAR 18 size heads (ELF 2 head type).
2DM3 has 6W high intensity incandescent lamps. 2DM6, 7, 8, 9, 12 have 9W high intensity incandescent lamps.

DS MODELS: PAR 36 size heads (EFL645 head type). 2DS3 has 6W high intensity incandescent lamps. 2DS6, 7, 8, 9, 12 have 9W high intensity incandescent lamps.

Note: Tungsten halogen lamps optional.

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277 Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Black Housing and Heads (small cabinet only)	**-B**
Ammeter or Voltmeter (choose only one)	**-A or -V**
Time Delay (specify 5, 10 or 15 minutes)	**TD_**
3-Wire Cord and Plug	**-3CP***
3-Wire Cord and Plug (277V)	**-3CP-277***

Standard cord is 3 ft. custom lengths available.

ACCESSORIES

(Order as a separate item)

Wire Guard (Top mounted heads)	**WG1-L**
Wire Guard (Top mounted PAR 18 heads)	**WG10-L**
Wire Guard (Top mounted PAR 36 heads)	**WG4-L**
Vandal Resistant Cover	**CPS***
Vandal Resistant NEMA-4X Cover	**CPS-4X***

MC Series

6 or 12 Volts Emergency Unit

Sealed Maintenance-Free Lead Calcium or Nickel-Cadmium Battery

UL Listed

The Lightalarms **MC Series** emergency battery unit incorporates performance and labor-saving features, normally found only in higher capacity units, in a economical compact housing design.

The **MC Series** is ideally suited for commercial applications where space, performance and ease of installation are required.

FEATURES

Reliability

The **MC Series** has a three year full warranty (excluding lamps and fuses).

Unit Data

Compact steel cabinet with corrosion-resistant undercoating standard color is "mist white", black available as an option. The MC Series has rear keyhole mounting slots and is designed to mount directly to any standard 4" junction box.

Lamp

Standard unit furnished with two, Par 18 size heads constructed of impact resistant, flame retardant thermoplastic heads complete with 6-watt, MR16 halogen lamps. Also available up to 20W(MH20) high output illumination.

Solid State Charger

- Automatic, temperature compensated type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.
- Optional Improved Diagnostics comes with a micro controller based pulse type charges.

Power Requirements

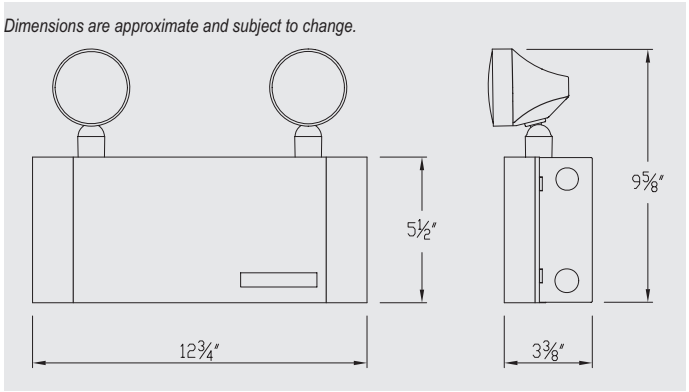
120/277Vac 60Hz, 0.3/0.15 Amp.

POWER CONSUMPTION

Model #	AC Input	Maximum	
		Input Current	Input Power
MC	120 Vac	0.20 A	24 W
	277 Vac	0.08 A	24 W
MC12	120 Vac	0.24 A	30 W
	277 Vac	0.12 A	30 W

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT RATING CHART

Battery Type	Volts	Model #	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	MCG	18	12	10	-
		MCG1	20	15	12	-
		MCG2	27	18	15	9
		MCG3	30	20	18	10
		MCG4	36	27	20	12
		MCG5	40	30	24	15
	12	MC12G1	36	27	20	12
		MC12G2	40	30	24	15
Nickel-Cadmium	6	MCN1	20	18	12	-
	12	MC12N1	36	24	15	12
		MC12N2	50	36	24	18

** National Electrical Code Specification*

ORDERING FORMAT

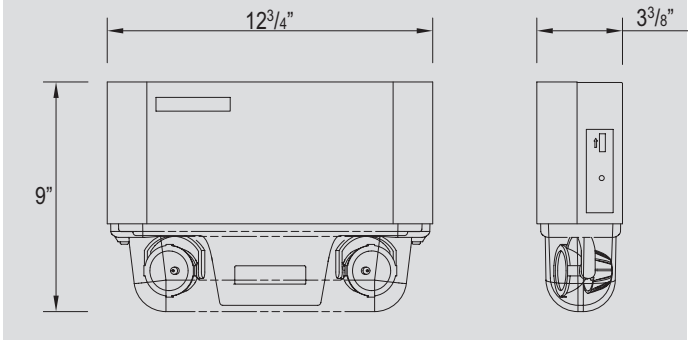
2	MCG4	/ELF3	-M6	-M	-ID
Number of Heads	**Series/D.C. Voltage/Capacity**	**Head style**	**Lamp type**	**Color**	**Options**
0= no heads **2**= Two Heads	**MCG**= 6V - 18W, lead calcium **MCG1**= 6V - 20W, lead calcium **MCG2**= 6V - 27W, lead calcium **MCG3**= 6V - 30W lead calcium **MCG4**= 6V - 36W lead calcium **MCG5**= 6V - 40W lead calcium* **MC12G1**= 12V - 36W, lead calcium **MC12G2**= 12V - 40W, lead calcium **MCN1**= 6V - 20W, Ni-cad **MC12N1**= 12V - 36W, Ni-cad **MC12N2**= 12V - 50W, Ni-cad	**/ELF3**= mini plastic MR16	**-M5**= MR16 6V 5W **-M6**= MR16 6V 6W **-M10**= MR16 6V 10W **-M12**= MR16 12V 12W **-M20**= MR16 12V 20W **-MH20**=12V 20W High Output	**-M**= mist white enamel finish **-B**= black enamel finish	**-ID**= improved diagnostics **-IDNA**= improved diagnostics non-audible

** Not available with ID/IDNA Option*

MA Series

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT RATING CHART

Battery Type	Volts	Model #	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	MAG	18	12	10	-
		MAG1	20	15	12	-
		MAG2	27	18	15	9
		MAG3	30	20	18	10
		MAG4	36	27	20	12
		MAG5	40	30	24	15
	12	MA12G1	36	27	20	12
		MA12G2	40	30	24	15
Nickel-Cadmium	6	MAN1	20	18	12	-
	12	MA12N1	36	24	15	12
		MA12N2	50	36	24	18

** National Electrical Code Specification*

6 and 12 Volts Steel Emergency Unit

Sealed Maintenance-Free Lead Calcium or Nickel-Cadmium Battery

UL Listed

The decorative Lightalarms **MA Series** combine a contemporary design with state-of-the-art path of egress illumination. Designed to meet the needs of the interior design professionals while providing an impressive performance in a compact housing.

FEATURES

Reliability

The **MA Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The Lightalarms **MA Series** shall include a metal cabinet made of steel with anti-corrosion undercoating and a lower compartment containing two emergency heads with adjustable swivels and long-life MR-16 halogen lamps.

Lamp

The emergency heads shall be installed at the bottom of the unit, providing an illumination in any downwards direction and shall require no tool for adjusting or aiming. The emergency heads shall be protected by a shock-absorbent, transparent polycarbonate cover. The cover shall be fixed on the equipment cabinet with two vertical screws. The standard lamp shall be a 6V or 12V MR16 halogen lamp. Also available up to 20W(MH20) high output illumination.

Solid State Charger

- Automatic, temperature compensated type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.
- Optional Improved Diagnostics comes with a micro controller based pulse type charges.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

POWER CONSUMPTION

	AC Input	Maximum	
		Input Current	Input Power
MA	120 Vac	0.20 A	24 W
	277 Vac	0.08 A	24 W
MA12	120 Vac	0.24 A	30 W
	277 Vac	0.12 A	30 W

ORDERING FORMAT

2	MCG4	-M6	-M	-ID
Number of Heads	**Series/D.C. Voltage/Capacity**	**Lamp type**	**Color**	**Options**
2= Two Heads	**MAG1**= 6V-20W, lead calcium **MAG3**= 6V-30W, lead calcium **MAG5**= 6V-40W lead calcium* **MA12G2**= 12V-40W, lead calcium **MAN1**= 6V-20W, nickel cadmium **MA12N1**= 12V-36W, nickel cadmium **MA12N2**= 12V-50W, nickel cadmium ** Not available with ID or IDNA Options*	**-M5**= MR16 6V 5W **-M6**= MR16 6V 6W **-M10**= MR16 6V 10W **-M12**= MR16 12V 12W **-M20**= MR16 12V 20W **-MH20**=12V 20W High Output	**-M**= mist white enamel finish **-B**= black enamel finish	**-ID**= improved diagnostics **-IDNA**= improved diagnostics non-audible

MG, MN Series

6 or 12 Volt Steel Emergency Unit
Sealed Maintenance-Free Lead Calcium or Nickel-Cadmium Battery
UL Listed

The MG, MN Series battery unit incorporates a complete range of high performance and labor saving features normally found only in higher voltage units. The compact housing design meets most requirements for moderate loads. The MG, MN Series is a reliable, economic unit for all public areas.

FEATURES

Reliability
The MG, MN Series has a three-year full warranty (excluding lamps and fuses).

Unit Data
Compact steel cabinet with corrosion-resistant undercoating – standard color is "mist white", black available as an option. The hinged front panel provides access to the battery and charger for ease of installation and maintenance. The MG, MN Series has rear keyhole mounting slots and is designed to mount directly to any standard 4" junction box.

Lamp
Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 9 watt high intensity wedge base incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109*

Pulse Type Charger
- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls
- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements
120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

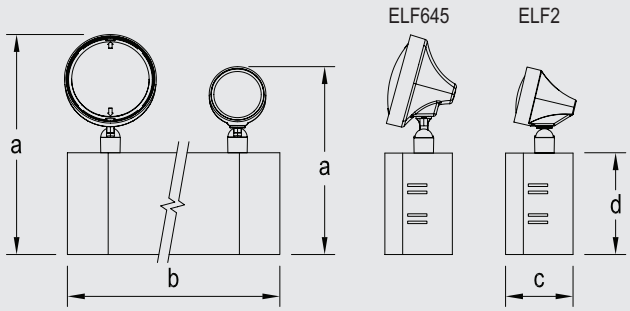
(Add Suffix to Model No.)	Suffix
Black Housing and Heads (Replace -M with -B)	-B
Ammeter and/or Voltmeter	-A* or -V*
Lamp Disconnect Switch	-DS**
Improved Diagnostics (audible)	-ID
Improved Diagnostics (non-audible)	-IDNA
Time Delay (specify 5, 10 or 15 minutes)	TD_**
Vandal Resistant Screws	-VR
Front Mounted Heads (for Low ceilings)	-FM
3-Wire Cord & Plug	-3CP***
3-Wire Cord & Plug (277V)	-3CP-277***
PAR18 Size Lamp Heads	/ELF2
DR1130 Decorative Heads (White)	D1130

** Not available with diagnostic option.*

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

DIMENSIONS

Dimensions are approximate and subject to change.



Cabinet	Dimensions			
	a	b	c	d
S	11-3/8" // 9-3/4"	11"	3-1/2"	5-1/4"
L	12-3/8" // 10-3/4"	12-1/2"	4"	6-1/4"

****Standard cord is 3 ft. custom lengths available.*

UNIT RATING CHART

	Volts	Model No. (unit / Lamp Suffix)	*Watts to 87½% of Rated Battery Voltage				Cabinet Size
			1½ hrs.	2 hrs.	3 hrs.	4 hrs.	
Lead-Calcium	6	2MG1/L9-M	27	18	14	-	S
	6	2MG2/L9-M**	54	37	28	21	L
	12	2M12G1/L9-M	36	25	20	14	S
	12	2M12G2/L9-M**	54	37	28	21	L
Nickel-Cadmium	6	2MN1/L9-M	25	18	12	-	S
	12	2M12N1/L9-M	36	21	15	12	S
	12	2M12N2/L9-M	50	36	25	18	S

**National Electrical Code Specification*
***Do not exceed unit rating in voltage or capacity.*

ORDERING FORMAT

2	MG	1	/L9	-M	-ID
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix** 6V 9W Incandescent	**Finish** Mist White	**Option**

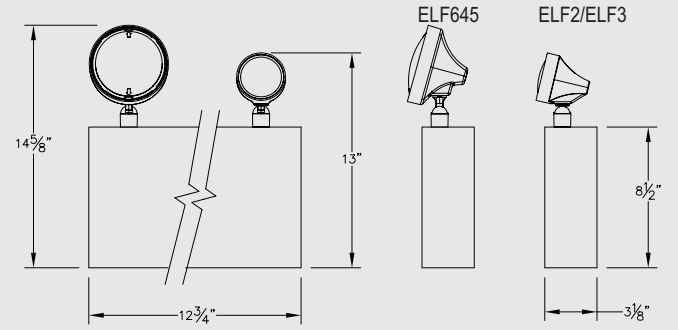
■ PG, P12G Series

6 or 12 Volt Steel Emergency Unit
Sealed Maintenance-Free Lead Calcium Battery
UL Listed

The **PG, P12G** Series battery units combine reliability, versatility, performance and cost-efficiency in an aesthetically pleasing design. Ideally suited for a range of commercial applications.

▫ DIMENSIONS

Dimensions are approximate and subject to change.



▫ ACCESSORIES

(Order as a separate item)

Wire Guard **WG2-L**

Mounting Platform ..... **MP-PQA**

▫ UNIT SELECTION CHART

Each unit furnished with two 9W High Intensity incandescent lamp.

Volts	Model No. (unit / Lamp Suffix)	*Watts to 87½% of Rated Battery Voltage			
		1½ hrs.	2 hrs.	3 hrs.	4 hrs.
6	2PG1/L9-M	18	15	-	-
	2PG2/L9-M	54	36	27	18
12	2P12G1/L9-M	54	36	27	18

**National Electrical Code Specification*

▫ ORDERING FORMAT

2	PG	1	/L9	-M	-DS
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**
			6V 9W Incandescent	Mist White	Disconnect Switch

▫ FEATURES

Reliability

The **PG Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Constructed of rugged steel with a corrosion-resistant undercoating, the PG Series cabinet has a removable front panel providing easy access allowing the unit to be mounted at ceiling height. Standard unit color is "mist-white", but black housing and heads are also optional. All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 9 watt high intensity wedge base incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109.*

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.25/0.12 Amp, 30 Watts (Max)

▫ Head & Lamp Type Options

No heads **0**

Three heads **3**

Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps ..... **/ELF 645**

Bi-Pin Halogen lamps ..... **/ELF 2**

MR16 lamps up to 20 watts ..... **/ELF 3**

MR16 lamps ..... **/DR1130**

▫ OPTIONS

(Add Suffix to Model No.)	Suffix
Black Housing and Heads	**-B**
Ammeter or Voltmeter (choose only one)	**-A* or -V***
Improved Diagnostics (audible)	**-ID**
Improved Diagnostics (non-audible)	**-IDNA**
Time Delay (specify 5, 10 or 15 minutes)	**TD_****
Nickel-Cadmium Battery	**-N**

**Not available with diagnostic option*

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

PN, P12N Series

6 or 12 Volt Steel Emergency Unit

Sealed Maintenance-Free Nickel-Cadmium Battery

UL Listed

The PN, P12N Series battery unit is a traditionally styled, high performance unit, designed for environments where lighting units may be exposed to fluctuations in temperature.

FEATURES

Reliability

The PN Series has a three-year full warranty (excluding lamps and fuses).

Unit Data

Constructed of rugged steel with a corrosion-resistant undercoating, the PN Series cabinet has a removable front panel providing easy access allowing the unit to be mounted at ceiling height. Standard unit color is "mist-white", but black housing and heads are also optional. All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. P12N complies with requirements of Federal Specifications W-L-305D Type 1, Class I, Style D.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 9 watt high intensity wedge base incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109.*

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.30/0.15 Amp

Head & Lamp Type Options

No heads **0**
Three heads **3**
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps ..... **/ELF 645**
Bi-Pin Halogen lamps ..... **/ELF 2**
MR16 lamps up to 20 watts ..... **/ELF 3**
MR16 lamps ..... **/DR1130**

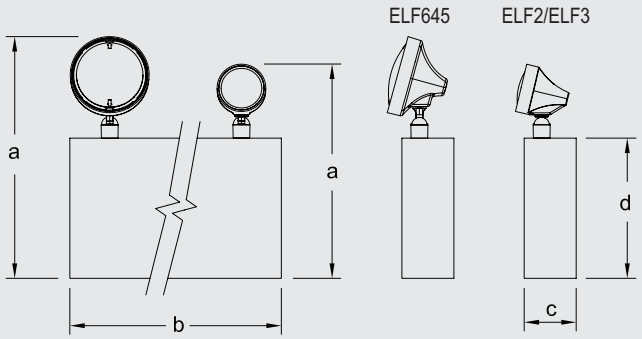
OPTIONS

(Add Suffix to Model No.)	Suffix
Black Housing and Heads	-B
Ammeter or Voltmeter (choose only one)	-A* or -V*
Improved Diagnostics (audible)	-ID
Improved Diagnostics (non-audible)	-IDNA
Time Delay (specify 5, 10 or 15 minutes)	TD_**
Nickel-Cadmium Battery	-N

**Not available with diagnostic option*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*

DIMENSIONS

Dimensions are approximate and subject to change.



Cabinet	Dimensions			
	a	b	c	d
A	14-5/8" // 13"	12-3/4"	3-1/8"	8-1/2"
B	16-3/8" // 14-3/4"	16-1/8"	5-7/16"	10-1/4"

ACCESSORIES

(Order as a separate item)

Wire Guard (A cabinet) **WG2-L**
Wire Guard (B cabinet) **WG3-L**
Mounting Platform ..... **MP-PQA**

UNIT SELECTION CHART

Each unit furnished with two 9W High Intensity incandescent lamp.

Volts	Model No. (unit / Lamp Suffix)	*Watts to 87½% of Rated Battery Voltage				Cabinet Size
		1½ hrs.	2 hrs.	3 hrs.	4 hrs.	
6	2PN1/L9-M	25	20	14	10	A
12	2P12N1/L9-M	50	36	25	18	A
	2P12N2/L9-M	72	60	50	38	B

**National Electrical Code Specification*

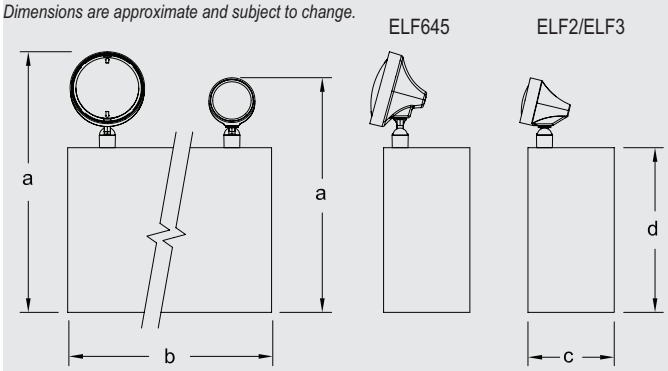
ORDERING FORMAT

2	P12N	2	/L9	-M	-v
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**
			6V 9W Incandescent	Mist White	Voltmeter

PQ, P12Q Series

DIMENSIONS

Dimensions are approximate and subject to change.



Cabinet	Dimensions			
	a	b	c	d
B	16-3/8" // 14-3/4"	16-1/8"	5-7/16"	10-1/4"
C	18-3/8" // 16-3/4"	16-1/2"	7-1/4"	12-1/4"

ACCESSORIES

(Order as a separate item)

Wire Guard **WG3-L**
Mounting Platform (C cabinet) .....**MP-PQB**
Mounting Platform (B cabinet) .....**MP-PQA**

UNIT SELECTION CHART

Each unit furnished with two 9W High Intensity incandescent lamp.

Volts	Model No. (unit / Lamp Suffix)	*Watts to 87½% of Rated Battery Voltage				Cabinet Size
		1½ hrs.	2 hrs.	3 hrs.	4 hrs.	
6	2PQ1/L25-M	50	36	24	18	B
	2PQ2/L25-M	100	75	50	36	B
	2PQ3/L25-M	200	175	100	72	C
12	2P12Q1/L25-M	100	75	50	36	B
	2P12Q2/L25-M	200	150	100	72	C

**National Electrical Code Specification*

ORDERING FORMAT

2	PQ	2	/L25	-M	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**
			6V 25W Incandescent	Mist White	Voltmeter

6 or 12 Volt Steel Emergency Unit
Sealed Maintenance-Free Lead Calcium Battery
UL Listed

The **PQ, P12Q Series** battery unit is an effective, functional unit designed with high capacity maintenance-free batteries for commercial, institutional or industrial environments requiring remote capability or extended emergency lighting time.

FEATURES

Reliability

The **PQ Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Constructed of rugged steel with a corrosion-resistant undercoating, the PQ Series cabinet has a removable front panel providing easy access allowing the unit to be mounted at various heights. Standard unit color is "mist-white", but black housing and heads are also optional. All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Model 2PQ2 complies with requirements of Federal Specifications W-L-305D Type 1, Class I, Style E.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 25 watt high intensity sealed beam incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

** Note: For optional lamp types and wattages refer to the lamp data chart on page 108-109.*

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.30/0.15 Amp

Head & Lamp Type Options

No heads **0**
Three heads **3**
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps .....**/ELF 645**
Bi-Pin Halogen lamps.....**/ELF 2**
MR16 lamps up to 20 watts .....**/ELF 3**
MR16 lamps .....**/DR1130**

OPTIONS

(Add Suffix to Model No.)	**Suffix**
Black Housing and Heads (Replace "-M" with -B)	**-B**
Improved Diagnostics (audible)	**-ID**
Improved Diagnostics (non-audible)	**-IDNA**
Ammeter or Voltmeter (choose only one)	**-A* or -V***
Lamp Disconnect Switch	**-DS****
Time Delay (specify 5, 10 or 15 minutes)	**-TD_****
Vandal Resistant Screws	**-VR**
3-Wire Cord and Plug	**-3CP*****
3-Wire Cord and Plug (277V)	**-3CP-277*****

**Voltmeter and ammeter not available with the disgnostic option.*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*
****Standard cord is 3 ft. custom lengths available.*

Industrial & Harsh Environment Battery Units

NEMA Enclosure Definitions

NEMA ENCLOSURES

Type 1 – Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dirt.

Type 2 – Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment, to provide a degree of protection against falling dirt, and to provide a degree of protection against dripping and light splashing of liquids.

Type 3 – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and that will be undamaged by the external formation of ice on the enclosure.

Type 3R – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, and snow; and that will be undamaged by the external formation of ice on the enclosure.

Type 3S – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and in which the external mechanism(s) remain operable when ice laden.

Type 4 – Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure.

Type 4X - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and corrosion; and that will be undamaged by the external formation of ice on the enclosure.

Type 5 - Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against settling airborne dust, lint, fibers and flyings; and to provide a degree of protection against dripping and light splashing of liquids.

Type 6 - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against hose-directed water and the entry of water during occasional temporary submersion at a limited depth; and that will be undamaged by the external formation of ice on the enclosure.

Type 6P - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against hose-directed water and the entry of water during prolonged submersion at a limited depth; and that will be undamaged by the external formation of ice on the enclosure.

Type 12 - Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against circulating dust, lint, fibers, and flyings; and against dripping and light splashing of liquids.

Type 12K - Enclosures constructed (with knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against circulating dust, lint, fibers, and flyings; and against dripping and light splashing of liquids.

Type 13 - Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, against circulating dust, lint, fibers, and flyings; and against the spraying, splashing, and seepage of water, oil, and noncorrosive coolants.

S12E Series

12 Volt Commercial/Industrial Emergency Unit
Sealed Maintenance-Free, Lead-Calcium Battery
UL Listed

The **S12E Series** battery unit is best suited for applications requiring high capacity maintenance-free batteries, multiple remote capabilities or extended operating times. The 12-volt battery allows for longer remote wiring runs.

FEATURES

Reliability
The **S12E Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data
The battery and all components are housed in a heavy-duty steel cabinet, with a removable front access panel for ease of installation and maintenance. The standard cabinet finish will be gray enamel, but "mist- white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting brackets and platforms are also available, see accessories.

Lamp
Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 12 volt 25 watt high intensity incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

Pulse Type Charger
- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls
- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements
120/277Vac 60Hz, 0.30/0.15 Amp

Head & Lamp Type Options

No heads 0
Three heads 3
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps .....**/ELF 645**
Bi-Pin Halogen lamps.....**/ELF 2**
MR16 lamps up to 20 watts .....**/ELF 3**
MR16 lamps .....**/DR1130**

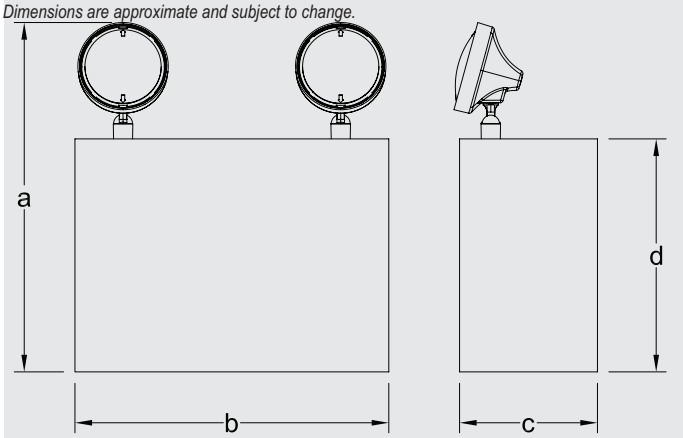
OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter (Not available with diagnostics)	-V
Ammeter (Not available with diagnostics)	-A
Lamp Disconnect Switch	-DS**
Time Delay (specify 5, 10 or 15 minutes)	-TD_**
Improved Diagnostics (audible)	-ID*
Improved Diagnostics(non-audible)	-IDNA*
3-Wire Cord & Plug	-3CP***
3-Wire Cord & Plug (277V)	-3CP-277***
Mist White Color (Replace -G with -M)	-M

**S12E4, S12E5 and S12E6*

DIMENSIONS

Dimensions are approximate and subject to change.



Cabinet	Dimensions			
	a	b	c	d
C	18-3/8"	16-1/2"	7-1/4"	12-1/4"
D	18-3/8"	27"	7-1/4"	12-1/4"

UNIT RATING CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*				Cabinet Size
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.	
12	2S12E4/L25-G	200	150	107	85	C
	2S12E5/L25-G	300	225	165	127	D
	2S12E6/L25-G	400	300	214	170	D

**National Electrical Code Specification*

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

****Standard cord is 3 ft. custom lengths available.*

ACCESSORIES

(Order as a separate item)

Wire Guard (S12E4) **WG3-L**
Wire Guard (S12E5/S12E6) **WG4-L**

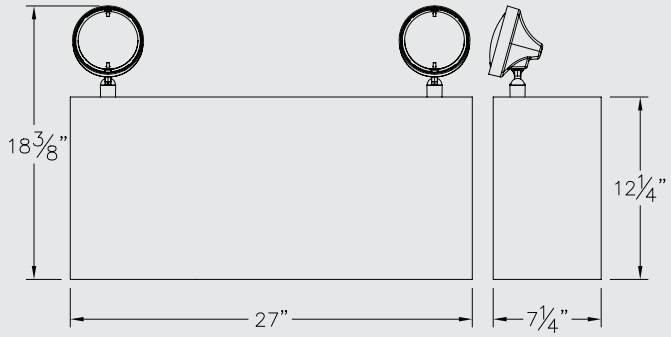
ORDERING FORMAT

2	S12E	4	/L25	-G	-V	-A
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**	**Option**
			12V 25W Incandescent	Gray Enamel	Voltmeter	Ammeter

S24E Series

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
24	S24E4/L28-G	400	300	120	60

**National Electrical Code Specification*

3-Wire Cord & Plug (277V).....**-3CP-277****

** Not required with ID option*

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

ACCESSORIES

(Order as a separate item)

ORDERING FORMAT

2	S24E	4	/L28	-G	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix** 24V 25W Incandescent	**Finish** Gray Enamel	**Option** Voltmeter

24 Volt Commercial/Industrial Emergency Unit

Sealed Maintenance-Free, Lead-Calcium Battery

UL Listed

The **S24E Series** battery unit is best suited for applications requiring high capacity maintenance-free batteries, multiple remote capabilities or extended operating times. The 24-volt battery allows for longer remote wiring runs.

FEATURES

Reliability

The **S24E Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The battery and all components are housed in a heavy-duty steel cabinet, with a removable front access panel for ease of installation and maintenance. The standard cabinet finish will be gray enamel, but "mist- white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting brackets and platforms are also available, see accessories.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 24 volt 25 watt high intensity incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

Head & Lamp Type Options

No heads **0**
Three heads **3**
Double contact bayonet base, Bi-Pin Halogen,
Wedge base, Sealed Beam Lamps .....**/ELF 645**
MR16 lamps up to 20 watts .....**/ELF 3**
MR16 lamps .....**/DR1130**

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter (Not available with diagnostics)	-V
Ammeter (Not available with diagnostics)	-A
Lamp Disconnect Switch	-DS*
Time Delay (specify 5, 10 or 15 minutes)	-TD_**
Improved Diagnostics (audible)	-ID
Improved Diagnostics (non-audible)	-IDNA
Mist White Color (Replace -G with -M)	-M
3-Wire Cord & Plug	-3CP**

SL Series

6 Volt Emergency Unit with Remote Capability
Long Life Wet Refillable Lead-Acid Battery
UL Listed

The **SL Series** battery unit is offered where a reliable, long-life, low-maintenance wet battery unit is required. This series was designed for remote capability and offers a selection of battery capacities.

FEATURES

Reliability
The **SL Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data
Battery and all components are housed in a heavy-duty steel cabinet, with a removable front panel for ease of installation and servicing. The front panel includes a view port for visual inspection of the battery, which is encased in a clean, smooth container of transparent high impact material. The standard cabinet finish will be gray enamel, but "mist- white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet.

Lamp
Standard SL Series units are furnished with two, Par 36 size, high impact mar-resistant thermoplastic heads with 25-watt high intensity incandescent lamps. The heads are fully adjustable horizontally and vertically. Optional lamps are available.

Pulse Type Charger
- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls
- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements
120/277Vac 60Hz, 0.30/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter (Not available with diagnostics)	-V
Ammeter (Not available with diagnostics)	-A
Lamp Disconnect Switch	-DS**
Time Delay (12 minutes)	-TD**
Improved Diagnostics	-ID**
Improved Diagnostics, Non-Audible	-IDNA**
3-Wire Cord & Plug	-3CP***
3-Wire Cord & Plug (277V)	-3CP-277***
Mist White Color (Replace -G with -M)	-M

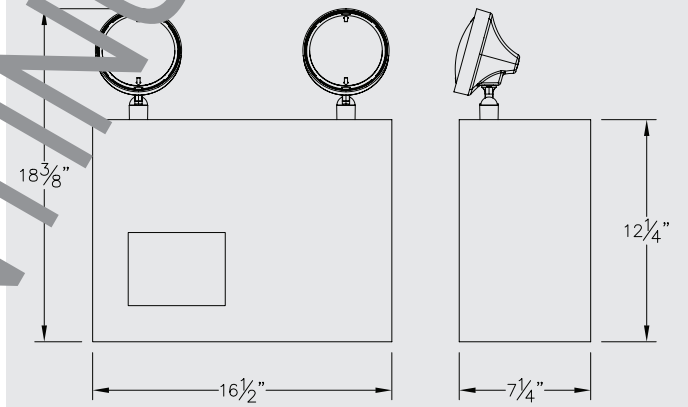
*2SL3 only **Not required with ID/IDNA option.
***Standard cord is 3 ft. custom lengths available.

ACCESSORIES

(Order as a separate item)	Suffix
Mounting Platform	MP-A
Mounting Bracket	MB-A
Wire Guard	WG3-L

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2SL3/L25-G	100	80	50	40
	2SL9/L25-G	200	150	125	100
	2SL105/L25-G	200	200	175	125

*National Electrical Code Specification

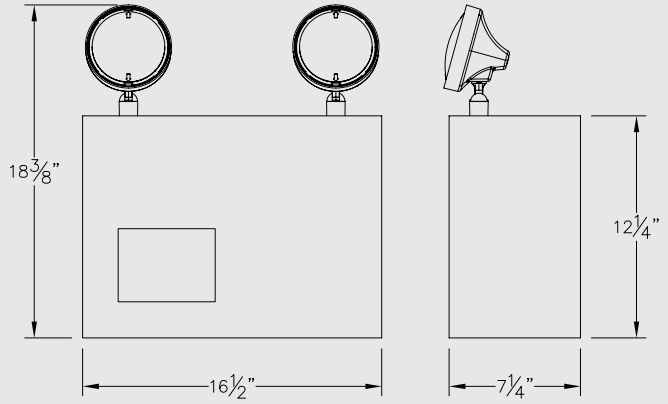
ORDERING FORMAT

2	SL	9	/25	-G	-V
No. of Heads	Series	Capacity Indicator	Lamp Suffix	Finish	Option
			6V 25W Incandescent	Gray Enamel	Voltmeter

SN Series

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2SN2/L25-G	50	45	25	18
	2SN3/L25-G	70	60	35	25
	2SN4/L25-G	100	80	50	35
	2SN6/L25-G	130	105	70	50
	2SN7/L25-G	160	130	80	60

National Electrical Code Specification

ORDERING FORMAT

2	SN	4	/L25	-G	-V
No. of Heads	Series	Capacity Indicator	Lamp Suffix	Finish	Option
			6V 25W Incandescent	Gray Enamel	Voltmeter

6 Volt Emergency Unit with Remote Capability
Long Life Wet Refillable Nickel-Cadmium Battery
UL Listed

The **SN Series** battery unit was designed for industrial locations requiring long lasting emergency light units. Unit is available in a wide range of capacities, and offers the special advantages of the Nickel-Cadmium battery, including excellent recharging capabilities.

FEATURES

Reliability

The **SN Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The battery and all components are housed in a heavy-duty steel cabinet, with a removable front panel for ease of installation and servicing. The front panel includes a view port for visual inspection of the battery. The 6-volt, five cell pocket-plate Nickel-Cadmium battery is housed in translucent plastic cell containers. The standard cabinet finish will be gray enamel, but "mist-white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting brackets and platforms are also available, see accessories.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 volt 25 watt high intensity incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents overdischarge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates sate of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allow for quick operational check of entire systems.

Power Requirements

120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Mist White Color (Replace "-G" with -M)	-M
Voltmeter	-V
Ammeter	-A
Lamp Disconnect Switch	-DS
Time Delay (specify 5, 10 or 15 minutes)	-TD_
3-Wire Cord & Plug	-3CP*
3-Wire Cord & Plug (277V)	-3CP-277*

Standard cord is 3 ft. custom lengths available.

ACCESSORIES

(Order as a separate item)	Suffix

S12L Series

12 Volt Emergency Unit with Remote Capability
Long Life Wet Refillable Lead-Acid Battery
UL Listed

The **S12L Series** battery unit was designed for industrial areas requiring high capacity units with multiple remote capabilities.

FEATURES

Reliability

The **S12L Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Battery and all components are housed in a heavy-duty steel cabinet, with a removable front panel for ease of installation and servicing. The front panel includes a view port for visual inspection of the battery, which is encased in a clean, smooth container of transparent high impact material. The standard cabinet finish will be gray enamel, but "mist- white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting platform is also available, see accesories.

Lamp

Standard **S12L Series** units are furnished with two, Par 36 size, high impact mar-resistant thermoplastic heads with 25-watt high intensity incandescent lamps. The heads are fully adjustable horizontally and vertically. Optional lamps are available.

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system

Power Requirements

120/277Vac 60Hz, 0.30/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter	-V
Ammeter	-A
Lamp Disconnect Switch	-DS
Time Delay (12 minutes)	-TD
3-Wire Cord & Plug	-3CP*
3-Wire Cord & Plug (277V)	-3CP-277*
Mist White Color (Replace -G with -M)	-M

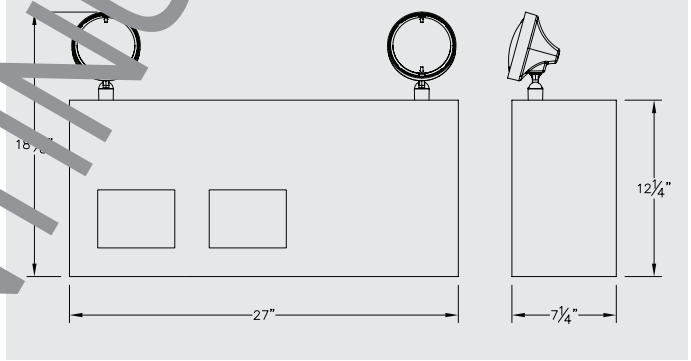
**Standard cord is 3 ft. custom lengths available.*

ACCESSORIES

(Order as a separate item)	Suffix
Wire Guard	WG4-L
Mounting Platform	MP12

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
12	2S12L9/L25-G	350	300	250	200
	2S12L105/L25-G	400	400	300	250

**National Electrical Code Specification*

ORDERING FORMAT

2	S12L	9	/L25	-V
No. of Heads	Series	Capacity Indicator	Lamp Suffix	Option
			12V 25W Incandescent	Voltmeter

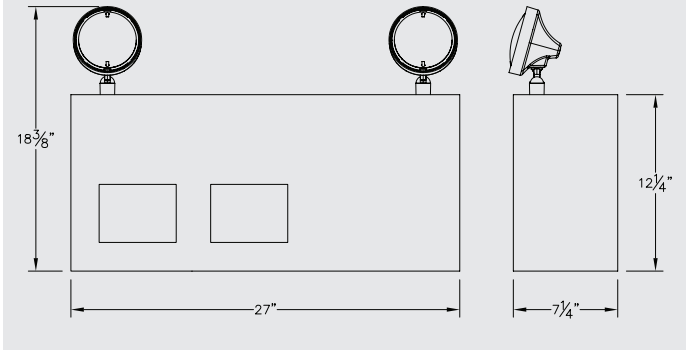
S12N Series

12 Volt Emergency Unit with Remote Capability
Long Life Wet Refillable Nickel-Cadmium Battery
UL Listed

The **S12N Series** battery units are excellent high capacity units – ideal where extended run times may be required or remote fixtures/exits will be connected. This unit will provide excellent performance over extended temperature ranges.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
12	2S12N2/L25-G	100	90	50	35
	2S12N3/L25-G	140	120	70	50
	2S12N4/L25-G	200	160	100	70
	2S12N6/L25-G	260	210	150	100
	2S12N7/L25-G	320	260	170	120

**National Electrical Code Specification*

ORDERING FORMAT

2	S12N	3	/L25	-G	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**
			12V 25W Incandescent	Gray Enamel	Voltmeter

FEATURES

Reliability

The **S12N Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

Battery and all components are housed in a heavy-duty steel cabinet, with a removable front panel for ease of installation and servicing. The front panel includes a view port for visual inspection of the battery, which is encased in a clean, smooth container of transparent high impact material. Gray enamel is the standard cabinet finish. All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting platform is also available, see accessories.

Lamp

Standard with two ELF645 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 12 volt 25 watt high intensity incandescent lamps*. Other lighting head styles are also available see options. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.30/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter	-V
Ammeter	-A
Lamp Disconnect switch	-DS
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Mist White Color (Replace -G with -M)	-M
3-Wire Cord & Plug	-3CP*
3-Wire Cord & Plug (277V)	-3CP-277*

**Standard cord is 3 ft. custom lengths available.*

ACCESSORIES

(Order as a separate item)

Wire Guard	WG4-L
Mounting Platform	MP12

S24N Series

24 Volt Commercial/Industrial Emergency Unit
Long-Life Wet Refillable Nickel-Cadmium Battery
UL Listed

The **S24N Series** battery unit is best suited for applications where extended run times are required, and/or remote fixtures or exits will be connected. Unit offers excellent recharging capabilities and superior performance over extended temperature ranges.

FEATURES

Reliability

The **S24N Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The battery and all components are housed in a heavy-duty steel cabinet, with a removable front access panel for ease of installation and maintenance. The standard cabinet finish will be gray enamel, but "mist- white" is also available (see options). All cabinets come standard with 7/8" conduit knockouts, rear keyhole mounting slots and provisions for mounting up to 3 heads on the cabinet. Mounting platform is also available, see accessories.

Lamp

Standard **S24N Series** units are furnished with two, Par 36 size, high impact mar-resistant thermoplastic heads with 25-watt high intensity incandescent lamps. The heads are fully adjustable horizontally and vertically. Optional lamps are available.

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter	-V
Ammeter	-A
Lamp Disconnect Switch	-DS
Time Delay (specify 5, 10 or 15 minutes)	-TD_
3-Wire Cord & Plug	-3CP*
3-Wire Cord & Plug (277V)	-3CP-277*

**Standard cord is 3 ft. custom lengths available.*

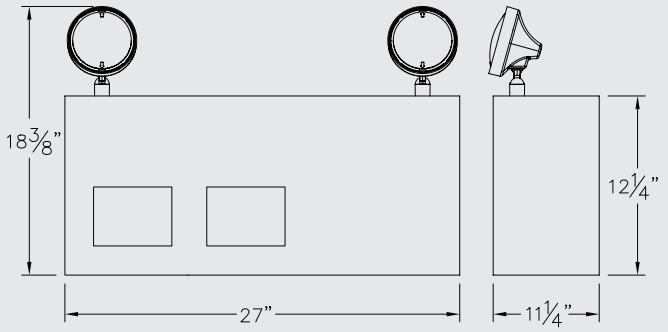
ACCESSORIES

(Order as a separate item)

Wire Guard	WG4-L
Mounting Platform	MP-12

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Watts to 87.5% of rated battery voltage*			
		1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
24	2S24N4/L28-G	400	300	120	60

**National Electrical Code Specification*

ORDERING FORMAT

2	S24N	4	/L28	-G	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Finish**	**Option**
			24V 25W Incandescent	Gray Enamel	Voltmeter

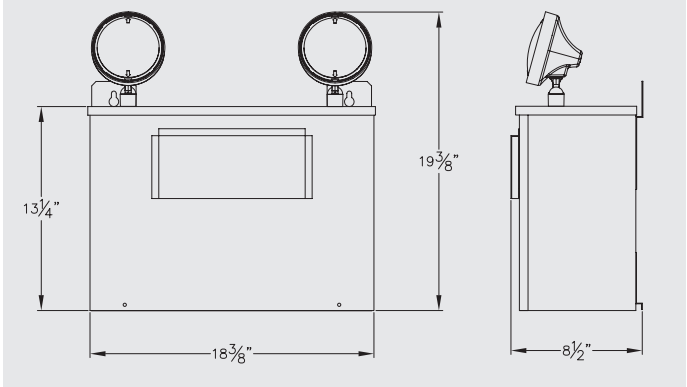
WP Series

6 or 12 Volt Weatherproof Emergency Unit
Maintenance-Free Lead-Calcium, Wet Refillable
Nickel-Cadmium Battery

The **WP Series** battery unit is designed with a special enclosure for applications where a weatherproof unit is required.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2SN2-WP/4510	Nickel-Cadmium	50	45	25	18
	2SN3-WP/4510		70	60	35	25
	2SN4-WP/4510		100	80	50	35
	2SN6-WP/4510		130	105	70	50
	2SN7-WP/4510		160	130	80	60
12	2S12E4-WP/4446	Sealed Lead-Calcium	200	150	100	75
	2S12E5-WP/4446		300	225	110	110
	2S12E6-WP/4446		400	300	150	150

**National Electrical Code Specification*

Note: *Above capacity ratings are subject to an ambient of 50 to 85 degrees. Extremes of temperatures beyond this range will have a detrimental effect on the specified ratings. For extreme cold, use of a thermal jacket is recommended.*

ORDERING FORMAT

2	SL	9	-WP	/4510	-G	-V
No. of Heads	**Series**	**Capacity Indicator**	**Weatherproof Enclosure Series**	**Lamp Suffix**	**Color**	**Option**
				6V 25W Incandescent	Gray	Voltmeter

FEATURES

Reliability

The **WP Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The housing is constructed of heavy-duty steel with front access to the battery and all components. The housing has a galvanized undercoating and baked gray enamel finish. Knockout and controls are concealed at bottom of housing. Welded mounting brackets are provided on top of case.

Lamp

Standard with two ELF647 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 25 watt high intensity incandescent lamps*. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Voltmeter	-V
Ammeter	-A
Thermal Jacket (120V Heater)	-H1
Thermal Jacket (277V Heater)	-H2
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Lamp Disconnect Switch	-DS
3-Wire Cord & Plug Kit	WP-3CP*
3-Wire Cord & Plug (277V) Kit	WP-3CP-277*

**Standard cord is 3 ft. custom lengths available.*

ACCESSORIES

(Order as a separate item)

Wire Guard **WG4-L**

FG, F12G Series

6, 12 or 24 Volt Weather and Corrosion-Resistant Emergency Unit
Sealed Maintenance-free Lead Calcium or Nickel-Cadmium Battery
UL Listed

The **FG Series** battery unit was designed for industrial applications, especially for installations in a corrosive atmosphere. This enclosure is fully gasketed and is furnished with stainless steel hardware.

FEATURES

Reliability
The **FG Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data
The housing is a molded gray high impact thermoplastic case, featuring oil, water and dust-tight construction, stainless steel hardware, single piece neoprene gasket and vented battery compartment. External mounting feet are provided. Conduit entry can be made with a punch, drill or hole saw.

Lamp
Standard with two ELF647 PAR36 high impact mar-resistant thermoplastic heads. Furnished with two 6 or 12 volt 25 watt high intensity incandescent lamps*. Do not exceed unit battery capacity.

For optional lamps types and wattages refer to the lamp data chart on page 108-109

Pulse Type Charger
- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls
- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements
120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Ammeter or Voltmeter (choose only one)	-A* or -V*
Improved Diagnostics (audible)	-ID
Improved Diagnostics (non-audible)	-IDNA
Time Delay (specify 5, 10 or 15 minutes)	-TD_**
Thermal Jacket (120V Heater)	-H1
Thermal Jacket (277V Heater)	-H2
Lamp Disconnect Switch	-DS**
Phototest Switch	-PTS
3-Wire Cord & Plug (120V)	-3CP***
3-Wire Cord & Plug (277V)	-3CP-277***

**Not available with diagnostic option.*
***(ID or IDNA) includes a Time Delay function, if needed it can be enabled/disabled in the field or it can be preset at the factory by including the suffix ID-TD_ or IDNA-TD_*
****Standard cord is 3 ft. custom lengths available.*

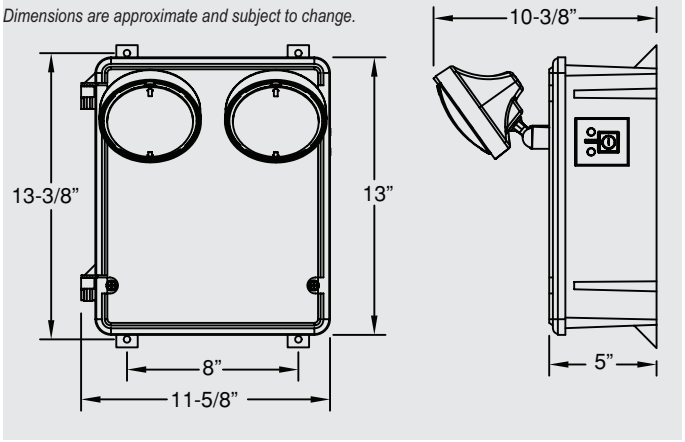
ACCESSORIES

(Order as a separate item)

Wire Guard **WG3-L**

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Each unit furnished with two 25W High Intensity incandescent lamp.

Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Watts to 87.5% of rated battery voltage*		
			1 1/2 hrs.	2 hrs.	3 hrs.
6	2FG1/4510	Sealed Maintenance-Free Lead-Calcium	50	36	25
	2FG2/4510		100	75	50
12	2F12G1/4446		50	36	25
	2F12G2/4446		100	75	50
12	2F12N1/4446	Nickel-Cadmium	50	36	18
	F12N2 - 12V 100W		100	75	50
24	2F24N2/L28		100	73	37

**National Electrical Code Specification*

ORDERING FORMAT

2	FG	1	/4510	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Option**
			6V 25W Incandescent	Voltmeter

Severe V Series

6 or 12 Volt Nema-4X Emergency Battery Unit
Sealed Maintenance-Free Lead-Calcium, Nickel Cadmium or Nickel Metal Hydride Battery
UL Listed
UL listed for wet and damp locations
(Ni-Cd battery; +10'C to +40'C) (+50'F to +104'F)
UL listed for cold weather
(-40'C to +40'C) (-40'F to + 104'F) - see options below

The **Severe V Series** was designed for use in commercial as well as industrial heavy-duty environments, such as hose-down areas, food-processing facilities, parking garages as well as harsh environments. This battery unit will deliver unsurpassed pathway illumination.

POWER CONSUMPTION CHART

AC Specification			
Unit Type	**Voltage**	**Current (Max.)**	**Effective Power**
Standard	120/277Vac, 60Hz	0.2/0.11 A	Less than 20W
Cold weather (option)	120/277Vac, 60Hz	0.7/0.40 A	Less than 100W

UNIT RATING CHART

Furnished standard with MR16 lamps.

UNIT EQUIPMENT - WITH REMOTE CAPABILITY				
Sealed Maintenance-Free Battery Types	**Watts to 87.5% of rated battery voltage***			
	1 1/2 hrs.	**2 hrs.**	**3 hrs.**	**4 hrs.**
Lead-Calcium	18	12	-	-
	24	16	12	-
	36	24	20	14
	54	36	27	20
Nickel-Cadmium**	24	18	12	-
	40	30	20	15
Nickel Metal Hydride**	60	45	30	20

*National Electrical Code Specification **Listed for Wet and Damp Location

FEATURES

Reliability

The **Severe V Series** battery unit has a three-year full warranty (excluding lamps and fuses).

Unit Data

The equipment is constructed of a fully gasketed die-cast aluminum back plate and an equipment frame of industrial grade thermoplastic with a gasket around the lens and canopy, specifically designed for harsh environments. The front of the unit is protected by a clear, heavy-duty, vandal-resistant UV stabilized polycarbonate, fixed with tamper-proof screws. Each battery unit comes standard with non-audible improved diagnostic charger board, 15 minute time delay and lamp disconnect as well as tamper-proof screws and bit. The housings are available in three colors, mist-white, black or grey. The standard unit can be wall mounted on a 4-inch junction box, although a universal bracket is available as an accessory for mounting on poles, beams or strut metal framing. Units with Nickel-Cadmium or Nickel Metal Hydride batteries are listed for damp and wet locations (+10°C to +40°C/+50°F to +104°F). For remote fixture, refer to Severe ELF650 Series in the Remote Fixtures section.

Light Source

Fully field adjustable lamp head assembly offers the choice of MR16 halogen lamps up to 12V, 20W-IR or high-efficiency, 4-watt, MR16 LED lamps. The unit supplies 90 minutes of emergency operation.

Charger

The **Severe V Series** Emergency Battery Unit is equipped with a fully automatic Improved Diagnostic Micro-controller based circuitry.* The Micro-controller tests, detects and indicates any malfunction or failure of the battery, charger circuitry, or lamps. An external LED signals a general service alarm, while four internal diagnostic LED's indicate the nature of failure. The board is factory preset to non-audible diagnostic and a 15 minutes time delay. These functions can be enabled or disabled during installation. The equipment comes standard with a dual voltage input of 120/277Vac.

**The unit will perform a periodical self-test, of minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually.*

OPTIONS

(Add Suffix to Model No.)	**Suffix**
Cold Weather Location (-40°C to +40°C) (-40°F to +104°F).....	**-CW4***

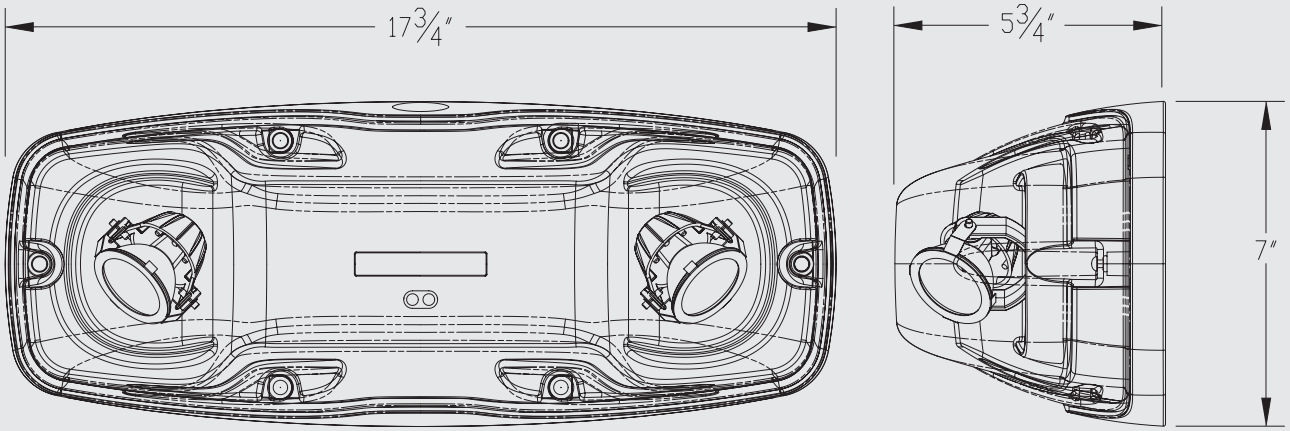
**Available on 2V12G1 (24W) and 2V12G2 (36W) Lead-Calcium Battery Unit Only.*

ACCESSORIES

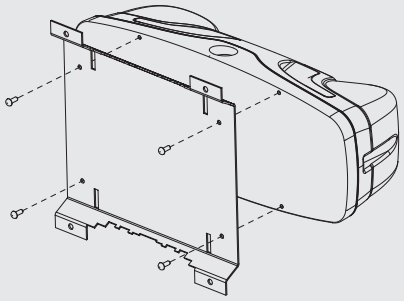
(Order as a separate item)

DIMENSIONS

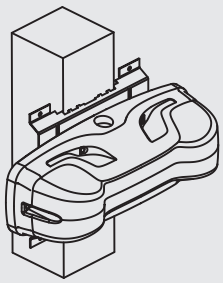
Dimensions are approximate and subject to change.



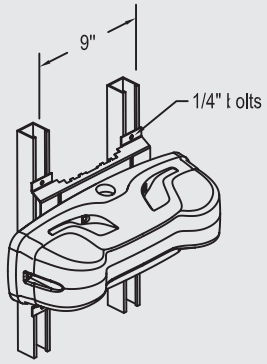
UNIVERSAL MOUNTING BRACKETS



PMK KIT (screws included)



Beam Mounting



Superstrut Mounting

ORDERING FORMAT

2	V12G2	/M12	-B	-D	
No. of Heads	**Series**	**Lamps**	**Color**	**Charger**	**Options**
2= 2 heads	**VG1**= 6V-18W, Lead-Calcium **V12G1**= 12V-24W, Lead-Calcium **V12G2**= 12V-36W, Lead-Calcium **V12G3**= 12V-54W, Lead-Calcium **V12N1**= 12V-24W, Nickel-Cadmium **V12N2**= 12V-40W, Nickel-Cadmium **V12H1**= 12V-60W, NIMH	**/L5**= LED 12V-4W **/M6**= 6V-6W, MR16 **/M12**= 12V-12W, MR16 **/MH20**= 12V-20W, MR16-IR	**-B**= Black **-G**= Gray **-M**= White	**-D**= Improved Diagnostic Non-Audible (Standard) **-DA**= Improved Diagnostic Audible **-NEX**= NEXUS system interface (CSA-US certified)	**Blank**= No Options **-CW4**= Cold Weather* (-40°C to +40°C) **Only Available with V12G1 & V12G2.*

SEVERE Series NEMA 4X

Severe XV NEMA-4X Exit Sign

Refer to page 80

Nema-4X Self-Powered LED Exit Sign

Standard with Diagnostic/Self-Test Feature

Sealed Maintenance-Free Nickel-Cadmium Battery

Standard Damp Location Listing (10°C - 40°C) (50°F-104°F)

UL Listed

The **Severe "XV" Series Exit** is housed in an industrial-grade polyvinyl chloride enclosure. This exit was designed specifically for harsh environments that would strain standard exit signage such as schools, transit platforms, parking garages, wet and cold locations as well as any location prone to vandalism.

Severe XV NEMA-4X Combination Exit Emergency Battery Unit

Refer to page 82

6 or 12 Volt Weather and Corrosion-Resistant Emergency Unit

Maintenance-Free Nickel Cadmium Battery

UL Listed

UL Listed for wet and damp locations
(+10°C to +40°C) (+50°F to +104°F)

The **Severe XV Combo Series** is designed and engineered with style in mind and sets new standards for emergency lighting in today's toughest environments. The Severe XV is suitable for industrial and commercial applications as well as all public facilities.

Severe ELF650 NEMA-4X Remote Fixture

Refer to page100

FEATURES

The Severe ELF650 Series Nema-4X rated remote fixtures have a fully gasketed cast aluminum back plate, with a clear UV and impact resistant cover. The remote delivers unsurpassed path of egress illumination. The ELF650 is available in single or double head models with the option of highly efficient MR16 lamps or the 5-watt, MR16 shape white LED. Easy lamp replacement, tool-less lamp aiming and easy installation on a four-inch octagonal box all make this remote the perfect choice for any environment. Comes standard with tamper-proof screws and bit. NSF Certified for food processing plants. Choice three colors,-white, black or gray.

ECN, E12CN, ENN, E12NN Series

6 or 12 Volt NEMA Industrial Emergency Unit
Sealed Maintenance-free Lead Calcium or Nickel-Cadmium Battery
Series meets requirements for operation under NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12 and 13 conditions

This NEMA Industrial emergency lighting unit series are designed for use in hostile environments where the presence of water, fibers, dirt, dust and corrosive gases can be potentially damaging to internal components

FEATURES

Reliability

The **ECN, ENN (6 volt), E12CN and E12NN (12 volt)** Series have a three-year full warranty (excluding lamps and fuses).

Unit Data

All units are housed in water and corrosion resistant cabinets constructed from glass-reinforced structural foam. Cabinets are silicone sealed and/or gasketed around all entryways, push-to-test switch is completely enclosed and corrosion resistant bushing is provided for field installed conduit entry. Breather devices allow for ventilation of battery gases without admitting damaging elements. All external hardware is stainless steel. A unique door-hinging device allows for removal of door panel or retention of the hinge by means of a small field adjustment.

Lamp

Units are equipped with a choice of standard incandescent or halogen sealed beam lamps. Lamps are housed in gray, industrial thermoplastic shells with matching swivels. Lamp housings are rain-tight and corrosion resistant. Wire connections are silicone sealed.

Pulse Type Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Voltmeter	-V
Ammeter	-A
Lamp Disconnect Switch	-DS
Thermal Jacket (120V Heater)	-H1
Thermal Jacket (277V Heater)	-H2
Cord & Plug Kit (120V)	WP-3CP*
Cord & Plug Kit (277V)	WP-3CP-277*

**Standard cord is 3 ft. custom lengths available.*

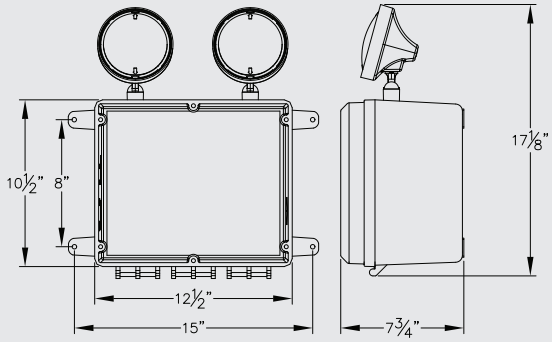
ACCESSORIES

(Order as a separate item)

Wire Guard **WG3-L**

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Battery Type	Volts	Model No. (Unit/Lamp Suffix)	Input Watts	Watts to 87.5% of rated battery voltage*			
				1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Sealed Lead-Calcium	6	2ECN25	18	25	20	15	12
		2ECN50	18	50	40	30	22
		2ECN100	40	100	75	50	36
Sealed Nickel-Cadmium		2ENN25	18	25	20	15	12
		2ENN50	18	50	40	28	22
Sealed Lead-Calcium	12	2E12CN50	18	50	40	30	22
Sealed Nickel-Calcium		2E12NN50	18	50	40	28	22

**National Electrical Code Specification*

LAMP SELECTION CHART

	DC Voltage	Lamp Wattage	Lumen Output	Lamp Type	Lamp Suffix (Add to Unit Model No.)
Use With 6-Volt ECN, ENN Series	6	8	180	Halogen	H7551
		18	220	Incand.	4014
		25	350	Incand.	4510
Use with 12-Volt E12CN, E12NN Serie	12	8	180	Halogen	H7555
		18	220	Incand.	4414
		25	350	Incand.	4446

ORDERING FORMAT

2	ECN	100	/H7551	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix**	**Option**
			6V 8W Halogen	Voltmeter

Notes

Industrial - Explosion Proof - Battery Units

Hazardous Locations Definitions

Hazardous areas are those in which a potential for explosion or fire exists, due to the presence of certain gases, liquid vapors, 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, prescribe the use of emergency lighting equipment. This equipment itself must not contribute to the ignition of flammable or explosive substances, present in the location. LightAlarms offers a complete line of emergency lighting equipment for use in hazardous locations.

Hazardous Location Classifications

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 with risk of 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 1 (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 2 (NEC-500- 5,6 & 7)	**Abnormal Situation:** Potentially hazardous material is expected to be safely confined 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, by the code A, B, C, and D. These materials are grouped according to the ignition temperature of the substance, its explosion force and other flammability characteristics.
Groups E F & G (NEC-500-3)	**Combustible dust in Class II locations** are classified according to ignition temperature and the conductivity of the hazardous substance.

Typical Class I Locations:

- Petroleum refineries, and gasoline storage and dispensing areas.
- Industrial firms that use flammable liquids in dip tanks for cleaning parts or other operations
- Petrochemical companies that manufacture chemicals from gas and oil.
- Dry cleaning plants where vapors from cleaning fluids can be present.
- Companies that have areas dedicated for spraying 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 NEC CODE.

EC, E12C, EN, E12N Series

6 or 12 Volt Emergency Lighting Unit
For Operation in Hazardous Areas
Class I, Division 2, Groups C & D
Class II, Division 2, Groups E & F
Sealed Maintenance-free Lead Calcium or
Nickel-Cadmium Battery
Series meets requirements for operation under
NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12 and 13 conditions

This Series of emergency lighting units are designed to meet the specific requirements of Division 2 Hazardous areas. Typical applications include any location where flammable materials are stored, handled or pumped, adjacent areas where separation could break down under abnormal conditions.

FEATURES

Reliability

The **EC, E12C, EN and E12N Series** have a three-year full warranty (excluding lamps and fuses).

Unit Data

All units are housed in water and corrosion resistant cabinets constructed from glass-reinforced structural foam. Cabinets fully sealed and gasketed and all external hardware is stainless steel. Door covers are hinged in such a way to permit either retention of the hinge when opened or complete removal of the door. All external electrical components, including test switch and indicator light, are explosion proof in design and exceed requirements for Division 2 areas. The battery compartment is vented by a one-way breather device to permit exhaust of battery gases and relief of internal pressure without admitting external moisture or corrosives.

Lamp

Units are equipped with a choice of standard incandescent or halogen sealed beam lamps. Lamps are housed in gray, industrial thermoplastic shells with matching swivels. Lamp housings are rain-tight and corrosion resistant. Wire connections are silicone sealed.

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements
120/277Vac 60Hz, 0.3/0.15 Amp

OPTIONS

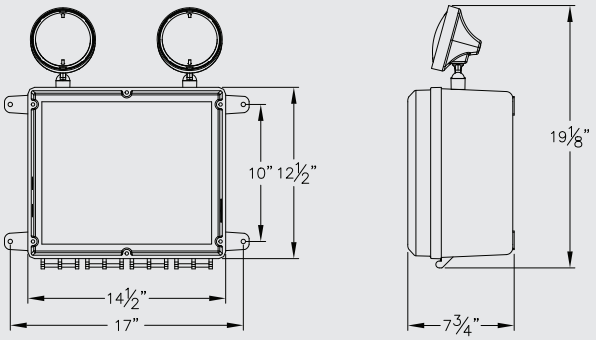
(Add Suffix to Model No.)	Suffix
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Shatter Resistant Lamp Coating	-FP

ACCESSORIES

(Order as a separate item)	Model
Wire Guard	WG3-L

DIMENSIONS

Dimensions are approximate and subject to change.



LAMP SELECTION CHART

	DC Voltage	Lamp Wattage	Lumen Output	Lamp Type	Lamp Suffix (Add to Unit Model No.)
Use With 6-Volt ECN, ENN Series	6	8	180	Halogen	H7551
		18	220	Incand.	4014
		25	350	Incand.	4510
Use with 12-Volt E12CN, E12NN Serie	12	8	180	Halogen	H7555
		18	220	Incand.	4414
		25	350	Incand.	4446

UNIT SELECTION CHART

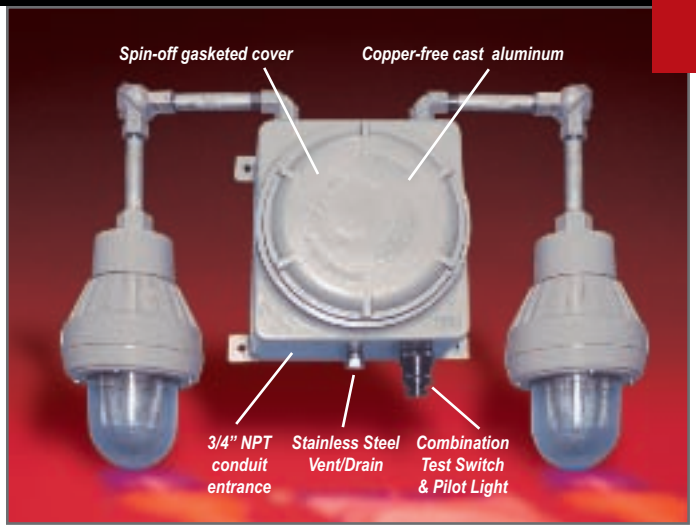
Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Input Watts	Watts to 87.5% of			
				1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2EC50	Sealed Lead-Calcium	18	50	40	30	22
	2EC100		60	100	75	50	36
	2EN25	Sealed NiCad	40	25	20	13	9
	2EN50		40	50	40	25	19
12	2E12C50	Sealed Lead-Calcium	18	50	40	30	22
	2E12C100		60	100	75	50	36
	2E12N50	Sealed NiCad	60	50	40	28	20

**National Electrical Code Specification*

ORDERING FORMAT

2	EC	100	/H7551	-TD
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix** 6V 8W Incandescent	**Option** Time Delay

EXP6N, EXP12N Series



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Input Watts	Watts to 87.5% of				
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.	8 hrs.
6	EXP6N18	18	18	12	-	-	-
	EXP6N25	25	25	18	9	9	-
	EXP6N36	36	36	21	12	12	6
	EXP6N50	50	50	36	18	18	10
12	EXP12N36	36	36	21	12	12	6
	EXP12N50	50	50	36	18	18	10
	EXP12N72	72	72	42	24	24	12

National Electrical Code Specification

ORDERING FORMAT

Example 1: System with 2 lamp fixtures only

EXP6N25	E402/LH7	2
6V Explosion-Proof Unit	Lighting Head with 10W Halogen Lamp	Number of Heads Attached to Cabinet

Example 2: System with 1 lamp fixture and 1 exit sign

EXP6N25	E402/LH7	TS	X402
6V Explosion-Proof Unit	Lighting Head with 10W Halogen Lamp	Transfer Switch	Single Face Exit

6 or 12 Volt Hazardous Location Emergency Unit
Sealed Maintenance-free Nickel-Cadmium Battery
For operation in Hazardous areas
Class I, Divisions 1 & 2, Groups C & D
Class II, Divisions 1 & 2, Groups E, F & G
Lighting Fixture and battery housing comply with NEC, OSHA and NEMA specifications for all above Classes and Groups

The **EXP Series** explosion proof lighting systems are completely self-contained and designed to allow safe operation of the battery and electronics in the classified areas specified above.

FEATURES

Reliability

The **EXP Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The EXP systems consist of a power unit and any combination of lighting fixture and/or exit sign. The entire system can be located within the hazardous area. Manufactured in accordance with UL 844, 1203 and 924, the EXP systems feature an explosion-proof cabinet and spin-off gasketed cover. Each piece is constructed of one-piece heavy gauge, corrosion resistant, copper-free cast aluminum, to prevent propagation of internally generated arcs into the hazardous atmosphere. A Silicone conformal coating on circuit board helps to protect the electronics against humidity.
The EXP series features a sealed maintenance-free Nickel-Cadmium battery with a long life, minimal gassing and superior resistance to temperature extremes.

Lamp

Series EXP systems are designed so that one or two explosion-proof fixtures can be mounted on the cabinet, in various configurations, i.e., one lamp and one exit fixture, two lamp fixtures, two exit fixtures, etc. Fixtures mounted on the cabinet are ordered as part of the system by catalog number. See "ordering format".
Lightalarms lamp fixtures are heavy cast aluminum with pyrex® lenses. Medium Screw Base are standard, Double Contact Bayonet Base and Halogen lamps are optional. For complete information refer to the Series EPF401 spec sheets. Pyrex® is a registered trademark of Corning Glass.
Lightalarms exit signs are a rectangular, heavy duty steel box with exit lettering on single face (X402) or double face (2X402). Exit signs are for DC or AC operation.
For complete information refer to the X402 Series.

Charger

Completely automatic, the charger will feature a solid state transfer and be capable of recharging the batteries in accordance with UL 924. The charger will provide a high charge rate immediately upon restoration of AC power and a trickle rate to maintain the battery charged. Charger shall be a constant current type.

Controls

Combination momentary test switch and AC-ON pilot light.

Power Requirements

Dual input voltage transformer, 120/277Vac 60Hz, 0.3/0.15 Amp (other voltages available on request)

OPTIONS

(Add Suffix to Model No.)	Suffix
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Transfer Switch option	-TS

LAMP SELECTION CHART

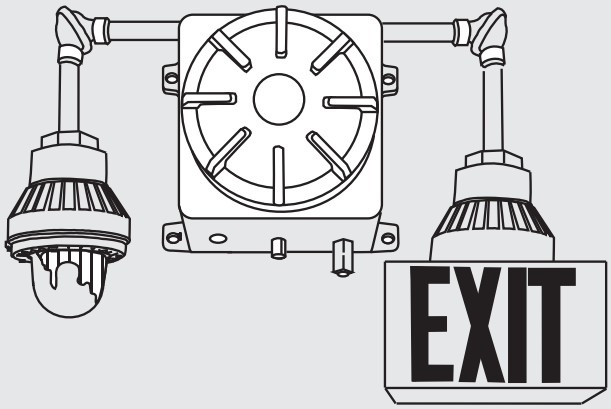
Lamp Type	Voltage	Lamp Wattage	Replacement Part #	Lamp Suffix (Add to Unit Model No.)
High Intensity Tungsten (HIT)	6V	9W	135	L9
	6V	18W	136	L18
	12V	9W	138	L9
	12V	18W	139	L18
	12V	25W	140	L25
BI-PIN Halogen	6V	6W	784	LH4
	6V	8W	785	LH5
	6V	10W	787	LH7
	6V	12W	786	LH6
	6V	15W	JC6V-15W	LH1
	12V	8W	774	LH8
	12V	12W	783	LH3

Note: *Units are supplied standard with appropriate wattage (HIT) high intensity tungsten lamps (unless otherwise specified). Alternate wattage lamps or halogen lamps may be substituted as required. For run times other than 90 minutes, refer to Unit Rating Chart.*

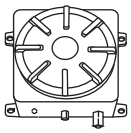
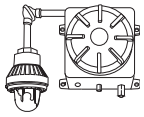
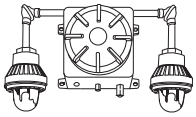
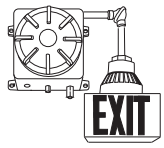
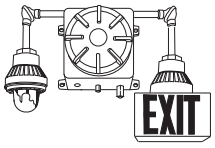
DIMENSIONS

Dimensions are approximate and subject to change.

Housing: 12" X 12" X 9-1/2". (4)
Mounting Lugs: 10" and 13-1/2" on center
Overall dimensions (including fixtures): 38" X 38" X 10"



STANDARD CONFIGURATIONS FOR EXP SERIES

Unit	Catalog Number	Description
 *(Remote capability)*	**EXP12N50** **EXP12N50-TS**	12 volt self-contained hazardous area emergency lighting power unit complete with battery and charger. 12V self contained hazardous area emergency lighting. power unit complete with battery charger and transfer switch.
	**EXP6N50E402/LH1** **EXP6N50E402/LH1-TS**	Single head unit with 6 volt, 15 watt Bi-Pin halogen lamp. Single head unit with 6V lamp shown with Transfer Switch option.
	**EXP6N50E402/L9-2** **EXP6N50E402/L9-TS-2**	6 volt self-contained hazardous area emergency lighting power units complete with battery and charger and two heads. Each fixture supplied with one 9 watt HIT lamp. 6V self contained hazardous area emergency lighting. Power unit complete with battery, charger, 2 heads and transfer switch. Each fixture supplied with one 9 watt HIT lamp.
	**EXP6N25TSX402R**	Self-contained unit with integral low voltage transfer panel (TS) to operate max. the 15W exit lamp in both normal and emergency modes. Suggested catalog number shown indicates single face exit with red stencil faceplate. For green, substitute G for R. For double face, substitute 2X402 for X402.
	**EXP6N50E402LH1TSX402R**	In addition to the max. 15W exit lamp which operates in both normal and emergency modes, greater emergency lighting can be achieved with (1) additional emergency lighting head. Each fixture supplied with one 6 volt, 15 watt (LH1) Bi-pin halogen lamp.

Note: *Above units are supplied with appropriate wattage (HIT) High Intensity Tungsten lamps (unless otherwise specified). Alternate wattages lamps or halogen lamps may be substituted as required. Exit provided with 25 watt lamps only.*

X402 Series

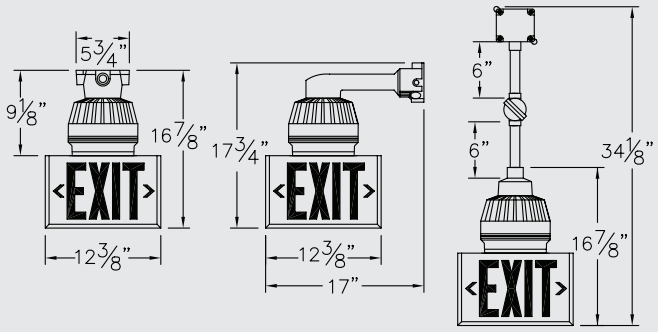
Explosion-Proof, Remote Exit Sign Fixture
For operation in Hazardous and/or Wet locations
AC or DC Operation
Class I, Divisions 1 & 2, Groups C & D (300W PS-25 max)
Class II, Divisions 1 & 2, Groups E, F & G (60W max)
Class III, Division 1 & 2 (150W max)
Lighting Fixture complies with NEC, OSHA and NEMA specifications for all above Classes and Groups and is UL listed for use in Paint Spray areas (75W max)

These Remote Emergency Exit signs are designed for mounting in locations that are remote from their power source.

DIMENSIONS

Dimensions are approximate and subject to change.

Ceiling Mount **Wall Mount** **Pendant Mount**



OPTIONS

(Add Suffix to Model No.) **Suffix**

Open face panels with special symbols or legends .....**Contact Factory**

3 sided exit face triangle **3F**

(Unbreakable 3 sided white acrylic triangle with easy mounting to regular explosion-proof lighting fixture. Open design permits full air circulation for cool operation and provides excellent down light. 6" high EXIT letters with red 3/4" stroke on white background meets all safety specification. Directional Arrows included).

Single Face Exit	=	X402W	or	X402C	or	X402P
Double Face Exit	=	2X402W	or	2X402C	or	2X402P

LAMP SELECTION CHART

Lamp Type	Voltage	Lamp Wattage	Lamp Type	Average Life (hours)	Suffix	Replacement Part #
Quartz Bi-Pin	6V	15W	JC-6V15W	2,000	6	580.0086
Medium Base	12V	25W	25A-12	1,000	12	570.0071
	24V		143A	1,000	24	570.0118
	120V		A19	2,500	120	570.0136

ORDERING FORMAT

2	X402	C	6	-R
# Faces	**Series**	**Mounting**	**Lamp Type**	**Letter**
Blank = 1	**X402**	**C** = ceiling	**6** = 6V-15W	**Color**
2 = double		**P** = pendant	**12** = 12V-25W	**-R** = red
		W = wall	**24** = 24V-25W	**-G** = green

FEATURES

Reliability

The **X402 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The **X402 fixtures** are manufactured of heavy cast aluminum with Pyrex** lenses. All attached hardware was designed for explosion-proof applications. The exit housing is heavy-duty steel box with a gray baked enamel finish. Stenciled exit lettering is available on one or two faces. The legend is available in red or green lettering and meets UL 924 with respect to brush stroke and width. All X402 series exit signs have extra large down-light openings. They can be wall, ceiling or pendant mount. **The X402 Series** of exit signs are designed for mounting in locations that are Remote from their Power source*. They are offered with 6, 12, and 24 Volt lamps for DC operation.

**If power source is installed outside hazardous areas, the length of connection wires should be carefully considered to assure that voltage of emergency power unit and wire size of connecting circuit are adequate to offset voltage drop in circuit.*

***Registered trademark of Corning Glass*

TRANSFER CIRCUIT

(not designed for hazardous areas)

TS panels is required for remote explosion-proof fixtures that are NORMALLY ON as constant operation fixtures.

Panels are available for 25, 50, 75, or 100 watt. Maximum load (6V max. 50W, 12V max. 100W, 24V max. 200W) .

To Order Model TS

To make the proper TS selection, the following information is required:

1) DC output voltage of emergency lighting system MUST be matched to DC input of TS panel load.

2) Number of fixtures to be connected to TS panel.

3) Total wattage of fixtures to be connected to TS panel.

NOTE: *For normally-on applications (e.g. exit signs) use only long-life lamp (XX) Series.*

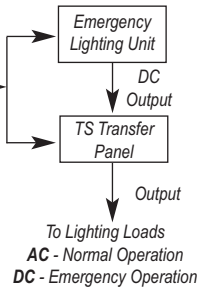
How to Order Transfer Panel

120 / 12 - TS - 50

AC Input **DC Output** **Model** **Watts**

(For multi-phase monitoring, contact factory)

AC Input assigned to same breaker (and/or phase)



Mounting

The transfer circuit is not designed for use in hazardous or explosive areas. The transfer circuit is to be mounted remotely from hazardous areas.

Electrical Specifications for Transfer Panel

Input Voltage: From AC - 120 Volt, 60Hz, 1 phase (other voltages available).
From DC - 6, 12, 24 or 120 Volt (select).

Output Voltage: Must be identical to DC Input Voltage

EPF401 Series

Explosion-Proof, Remote Lighting Fixture

For operation in Hazardous and/or Wet locations

AC or DC Operation

EPF401 Fixtures are designed for mounting in locations that are remote from their power source*. They are offered with 6, 12, and 24-volt lamps for DC operation. Lighting Fixture complies with NEC, OSHA and NEMA specifications for all above Classes and Groups and is UL listed for use in Paint Spray areas (75W max)

For AC or DC Operation

FEATURES

Reliability

The **EPF401 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The **EPF401 Series** fixtures are manufactured of heavy cast aluminum with Pyrex** lenses. All attached hardware was designed for explosion-proof applications. Single and double pendant mount fixtures include elbows, swivels, a conduit extension pipe (6 inch increments) and a combination explosion-proof junction box/mounting plate. They can be wall, ceiling or pendant mount. The EPF401 Series are designed for mounting in locations that are Remote from their Power source*. They are offered with 6, 12, and 24 Volt lamps for DC operation.

**If power source is installed outside hazardous areas, the length of connection wires should be carefully considered to assure that voltage of emergency power unit and wire size of connecting circuit are adequate to offset voltage drop in circuit.*

***Registered trademark of Corning Glass*

OPTIONS

(Add Suffix to Model No.)

Suffix

Angle Reflector Highly reflective white finish inside and out. Attaches to globe holder ring with four screws ..... AG

Dome Reflector Highly reflective white finish inside and out. Attaches to globe holder ring with four screws.....

Guard One-piece aluminum casting

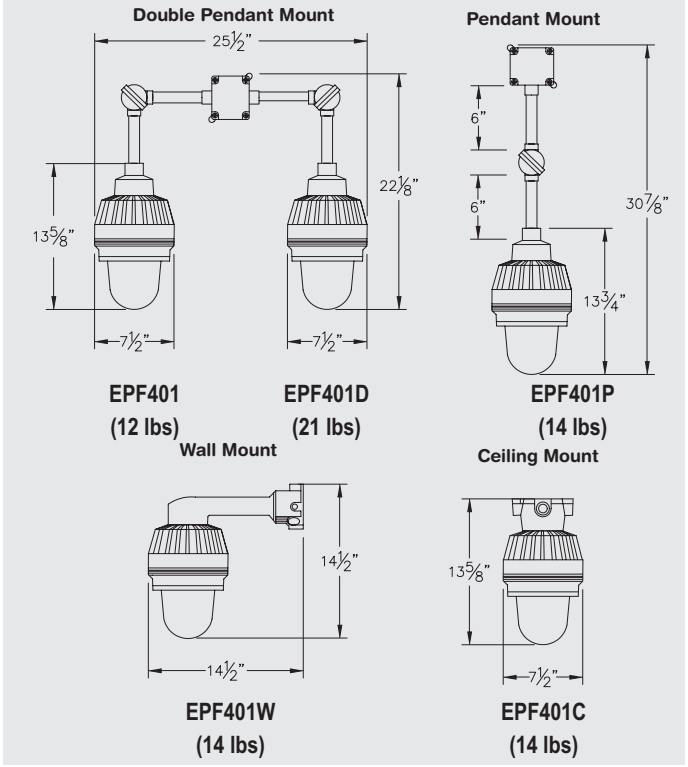
LAMP SELECTION CHART

Lamp Type	DC Voltage	Lamp Wattage	Replacement Part #	Lamp Suffix (Add to Unit Model No.)
High Intensity Tungsten (HIT)	6V	9W	135	L9
	6V	18W	136	L18
	12V	9W	138	L9
	12V	18W	139	L18
	12V	25W	140	L25
BI-PIN Halogen	6V	6W	784	LH4
	6V	8W	785	LH5
	6V	10W	787	LH7
	6V	12W	786	LH6
	6V	15W	JC6V-15W	LH1
	12V	8W	774	LH8
	12V	12W	783	LH3

Note: *Units are supplied standard with appropriate wattage (HIT) high intensity tungsten lamps (unless otherwise specified). Alternate wattage lamps or halogen lamps may be substituted as required. For run times other than 90 minutes, refer to Unit Rating Chart.*

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

EPF401	W	/L25	12
Model	**Wall mount**	**Lamp Suffix**	**Voltage**

Severe XVHZ

DIAGNOSTIC / SELF TEST FEATURE (STANDARD)

Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exit's readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single "Service Required" indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The self test will test the unit for the minimum 30 seconds each month, 30 minutes every 60 days and 90 minutes annually.

OPTIONS

Description	Suffix
Cold Weather (-20°C)(-4°F) (Self-Powered)	**-CW**

Accessories (order as a separate item)

Tamper-Proof Bit (extra)	**TBP**
Convert single to double face, red*	**DFKR**
Convert single face to double face, green*	**DFKG**

**In the field*

ACCESSORIES

(order as a separate item)

Tamper-Proof Bit. **690.0454-L**

Hazardous Location Exit Sign

Class I, Division 2 Compliant Exit Sign

The **XVHZ Series** of Exit signs has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **XVHZ Series** of Exits is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

Sealed Maintenance-Free Batteries
- Nickel-Cadmium

APPLICATIONS

- Manufacturing Plants, • Chemical Plants, Food Processing Areas,
- Paint Shops, • Moisture, Dirt or Dust Concerns, • Oil Refineries
- Wet or Corrosive Conditions,• Gas Stations

FEATURES

- CSA US listed for hazardous locations
- Evaluated to UL 844 standard for Class I Division 2, Groups A, B, C and D
- Evaluated to UL 924 and UL1598 standards
- Temperature Code: T6 (maximum 85°C - 185°F)
- Suitable for cold-weather: -20°C (self-powered with "CW" option) and -40°C (AC only)
- 120 to 277Vac two-wire universal AC-input
- Single face heavy-duty 1/8-inch thick aluminum back plate
- Energy Efficient: consumes less 2.5 Watts in any configuration
- Sealed faceplate constructed of heavy-duty, vandal-resistant polycarbonate
- Polyvinyl chloride frame, with built-in gasket to prevent water infiltration
- Exit sign module illuminated by long-life, energy-efficient LEDs
- Tamper-resistant, hermetically sealed magnetic test switch
- Self-test / self-diagnostic circuitry is standard on self-powered models
- Comes standard with industrial-grade, die-cast aluminum junction box
- ½ inch electrical conduit entry on both sides and at the top
- Each unit comes standard with one tamper-proof driver bit.

Reliability

The **XVHZ Series** has a 5-year full warranty.

Unit Data

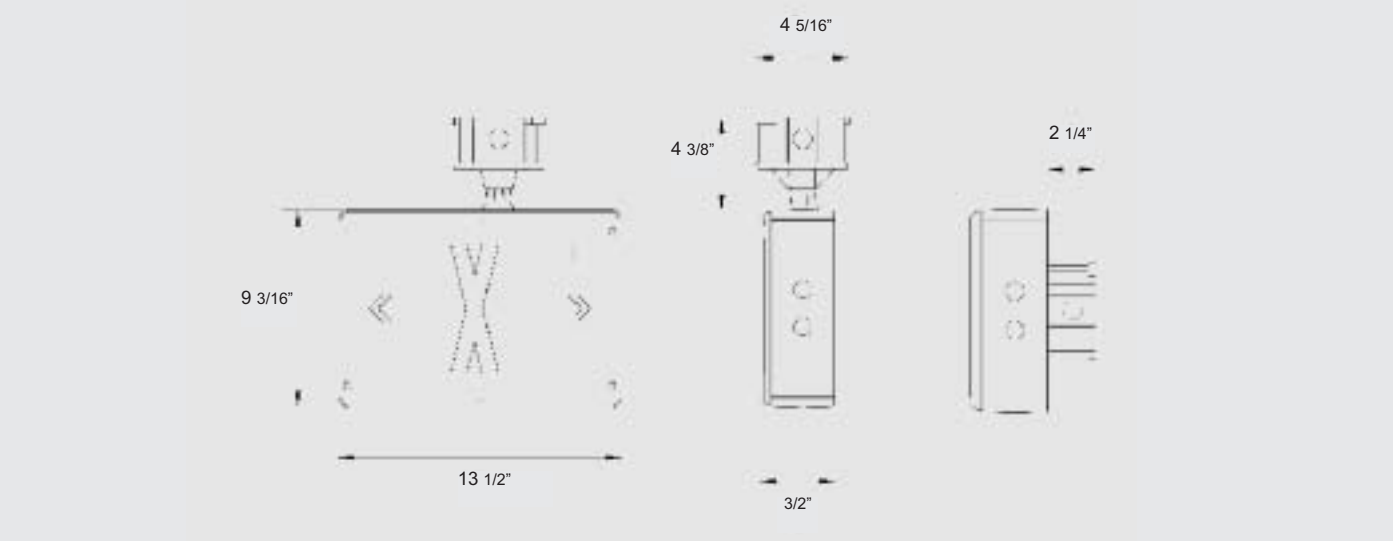
Will not dent, peel, rust or corrode. The sealed faceplate is constructed of heavy duty, vandal resistant polycarbonate and features an evenly illuminated legend. The fully gasketed faceplate is fastened with stainless steel tamper-resistant screws. Magnetically operated test switch. Models can be wall or ceiling mounted. Legend and chevron complies with UL and CSA requirements. **Severe XVHZ Series** signs are unaffected by the vibrations, ambient temperature swings and typical power surges detrimental to standard exit light sources.

HIGH PERFORMANCE CIRCUITRY

- Self Contained... Batteries & circuitry located inside the exit housing.
- Battery-operated units come standard with self-testing and diagnostic circuitry.
- Fully automatic charger is solid state.
- AC, AC/DC and Self-Powered Models have universal, 2-wire input 120V to 277Vac 50/60 Hz.
- Sealed, maintenance-free Nickel-Cadmium battery provides 90 minutes of emergency operation.
- Batteries recharge per UL924 requirements.

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION

Model	AC Specs		DC Specs	
AC-only red	120 to 277Vac	Less than 2 W	-	-
AC-only green	120 to 277Vac	Less than 1.5 W	-	-
Self-powered red	120 to 277Vac	Less than 2 W	Ni-Cd battery	Min. 90 minutes
Self-powered green	120 to 277Vac	Less than 2.5 W	Ni-Cd battery	Min. 90 minutes

ORDERING FORMAT

GG	XVEHZ	-2	-R	-D	-4X	CW
Colour of Body/Face **GG**= Gray/Gray	**Series** **XVHZ**= AC only **XVEHZ**= Self-powered (NiCad)	**Face(s)** **1**= single (Ceiling/Wall Mount) **2**= double (Ceiling Mount only	**Legend** **R**= Red **G**= Green	**Diagnostic** **D**= Improved Diagnostic* **NEX**= Nexus interface* *self-powered only	**Housing** **4X**= Suitable for Wet Locations	**Options** **CW**= Cold weather *(-20 deg.C for self-powered, -40 deg.C for ac/dc)*

Severe XVH

Hazardous Location Combination Exit Emergency Battery Unit

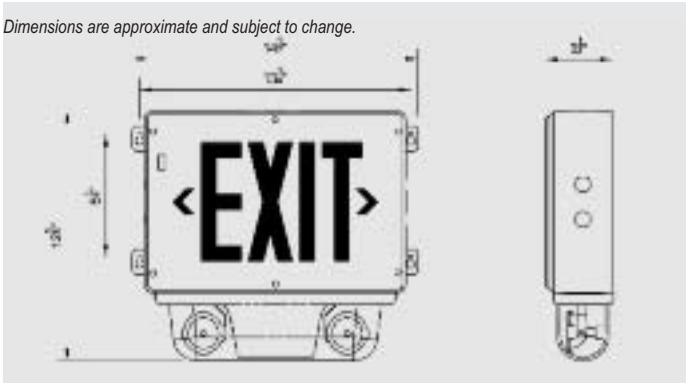
Class I, Division 2 Compliant Exit Sign

The **XVH Series** of Combination Exit Emergency Battery Unit has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **XVH Series** is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

Sealed Maintenance-Free Batteries
- Nickel-Cadmium
- Nickel-Metal Hydride

DIMENSIONS

Dimensions are approximate and subject to change.



DIAGNOSTIC / SELF TEST FEATURE (STANDARD)

Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exit's readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single "Service Required" indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The unit shall automatically self test for a minimum of 30 seconds every 30 days, 30 minutes in the 6th month and 90 minutes annually.

OPTIONS

Description	Suffix
Nexus Interface	**NEX**
Improved-Diagnostics (Non-Audible)	**D**
Improved-Diagnostics (Audible)	**DA**

Accessories (order as a separate item)

Tamper-Proof Bit (extra)	**TBP**

TEMPERATURE CODES

Lamp Rating	Temperature Code	Max. Temperature	Replacement part #
6V 10W	T3C	160°C	580.0079
12V 12W	T3A	180°C	580.0080
12V 20W	T2D	215°C	580.0068

Note: Use qualified replacement lamps to avoid risk of over-heating

APPLICATIONS

• Manufacturing Plants, • Chemical Plants, Food Processing Areas,
• Paint Shops, • Moisture, Dirt or Dust Concerns, • Oil Refineries
• Wet or Corrosive Conditions,• Gas Stations

FEATURES

- CSA US listed for hazardous locations
- Evaluated to UL 844 standard for Class I Division 2, Groups A, B, C and D
- Evaluated to UL 924 and UL1598 standards
- Polyvinyl chloride frame, with built-in gasket to prevent water infiltration
- Designed for wall-mount installation only
- Heavy-duty 1/8-inch thick aluminum back plate with key-holes for secure wall-mount installation
- Comes standard with industrial-grade, die-cast aluminum junction box
- Sealed faceplate constructed of heavy-duty, vandal-resistant polycarbonate
- Exit sign module illuminated by long-life, energy-efficient LEDs
- Two MR16 halogen lamps, shielded by a cast aluminum housing and a polycarbonate cover
- Sealed,maintenance-free Nickel-Cadmium or Nickel-Metal Hydride batteries
- Comes standard with self-test / self-diagnostic functions
- ½ inch electrical conduit entry on both sides and at the top

Reliability

The **Severe XVH Series** has a 5-year full warranty (excluding lamps and fuses).

Unit Data

The rugged PVC body will not dent, peel, rust or corrode. The sealed faceplate is constructed with a heavy duty, vandal-resistant polycarbonate cover and fastened with stainless steel tamper-resistant screws. The test switch is magnetically operated. Models are only wall mounted. The innovative, fully field adjustable lamp head assembly comes standards with a selection of MR16 lamps for optimum illumination over the path of egress.

Charger

Fully automatic pulse charger offers 120/277 Vac, 60 Hz., Current limiting, temperature compensated, short circuit proof, low voltage battery disconnect, brownout protection and standard solid state transfer features.

POWER CONSUMPTION

Model	AC Input	Maximum		Stand-by		Unit Power*			
	(Vac)	Current (A)	Power (W)	Current (A)	Power (W)	1.5	2hrs	3hrs	4hrs
XVH	120 / 277	0.15 / 0.07	16	0.09 / 0.03	8	20	15	-	-
XVH12N	120 / 277	0.30 / 0.08	29	0.13 / 0.05	10	24	18	12	-
XVH12H	120 / 277	0.30 / 0.08	29	0.13 / 0.05	10	40	30	20	12

*National Electrical Code Specification

ORDERING FORMAT

GG	XVH	R	D	/2	M10
Housing / Face Color **GG**= grey/grey	**Series** **XVH**= 6v20w, NICD **XVH12N**= 12v 24w, NICD **XVH12H**= 12v 40w, NIMH	**Legend Color** **R**= Red Legend **G**= Green Legend	**Diagnostic** **D**= Improved diagnostics Non-audible **DA**= Improved diagnostics - Audible **NEX**= Nexus system interface	**# of Heads** **/0**= 0 head* **/2**= Two heads ** A remote load must be attached.*	**Lamp/Wattage** **M10**= 6V - 10W MR16 **M12**= 12V - 12W MR16 **MH20**= 12V - 20W MR16 High output **No other lamp*

EL, E12L Series

6 or 12 Volt, Class I, Division 2 Emergency Unit

Sealed Maintenance-Free Lead Calcium battery

Ul Listed

This series of self-contained emergency lighting units are designed to meet the specific requirements of Class I, Division 2 hazardous areas, Groups A, B, C and D. Typical Applications: Manufacturing or Chemical Plants, Paint Shops, Wet or Corrosive Areas and Food Processing Areas*.

**Shatter resistant Teflon lamp coating optional.*

FEATURES

Reliability

The **EL, E12L Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

All units are housed in water and corrosion resistant cabinets constructed from glass reinforced structural foam and are fully sealed and gasketed. External electrical components, including text switch and indicator light, are explosion proof in design and exceed requirements for Class I, Division 2, Group A, B, C & D. The battery compartment is vented by a one-way breather device to permit exhaust of battery gases and relief of internal pressure without admitting external moisture or corrosives. For temperature codes, please contact factory.

Lamp

Units are equipped with a choice of standard incandescent or halogen sealed beam lamps. Lamps are housed in gray, industrial thermoplastic shells with matching swivels. Lamp housings are rain-tight and corrosion resistant. Wire connections are silicone sealed.

Pulse Type Charger

- Micro- controller based, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

- 120/277Vac 60Hz, 0.3/0.15 Amp
- Diagnostic feature: Red pilot light will flash in case of battery or lamp failure.

OPTIONS

(Add Suffix to Model No.)	Suffix
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Thermal Jacket (120 Volt Heater)	-H1
Thermal Jacket (277 Volt Heater)	-H2
Shatter Resistant Teflon Coated Lens	-FP*

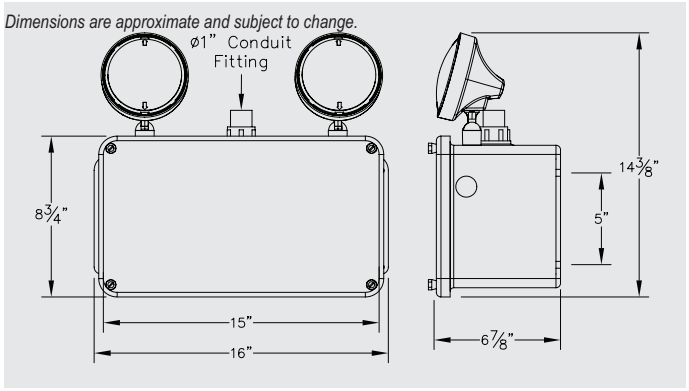
ACCESSORIES

LAMP SELECTION CHART

	DC Voltage	Lamp Wattage	Lumen Output	Lamp Type	Lamp Suffix (Add to Unit Model No.)
Use With 6-Volt 2EL24 Series	8	8	180	Halogen	H7551
	9	9	220	Incand.	7613
Use With 12-Volt 2E12L56 Series	8	8	350	Halogen	H7555
	12	12	180	Incand.	4044

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Input Watts	Watts to 87.5% of rated battery voltage*			
				1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2EL24	Lead-Calcium	24	24	18	10	6
12	2E12L56			56	37	21	12

**National Electrical Code Specification*

STANDARD FEATURE (all models)

Radius of Protection: 2 ft.
Normal Life Span: 1 yr.

VC2-1 Vapor Capsule

Stahlin Vapor Capsules contain a unique vapor phase inhibitor designed to protect metallic surfaces within an enclosure against airborne corrosion. By simply placing these self-contained capsules inside an enclosure the vapors readily permeate every point, passivating all metallic surfaces. When the capsule is removed from its sealed package, it begins to emit an invisible, non-toxic vapor which is diffused throughout the surrounding atmosphere until the air is saturated. The vapor then passivates the metal surfaces against atmospheric corrosion by reducing the electro-chemical activity on the metal surfaces.

ORDERING FORMAT

2	S12E	4	/H7551	-V
No. of Heads	**Series**	**Capacity Indicator**	**Lamp Suffix** 6V 8W Halogen	**Option** Time Delay

Severe ELF651 Series

Hazardous Location Remote Fixture

Class I, Division 2 Compliant Remote Fixtures

The **ELF651 Series** of Remote Fixture has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **ELF651 Series** of Remote Fixtures is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

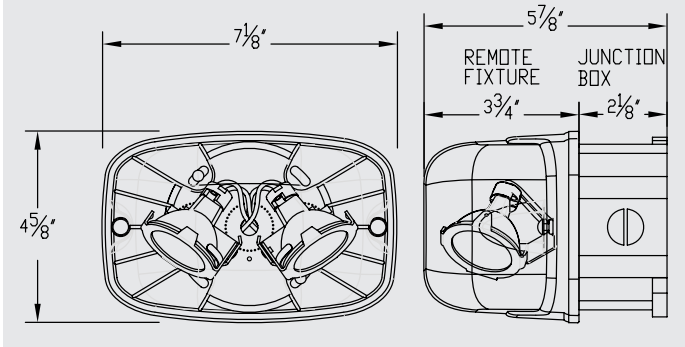
POWER AND TEMPERATURE RATINGS

Lamp Type	Input Voltage	Power (each of 2 lamps)	Temperature Code
MR16	6Volts	10 Watts	T3B (max. 165°C)
MR16	12, 24 Volts	12 Watts	T3B (max. 165°C)
MR16	12, 24, 120 Volts	20 Watts	T2C (max. 230°C)

Note: Use qualified replacement lamps to avoid risk of over-heating

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

ELF651	/M10	-M	6
Series	**Lamp Type/Wattage**	**Color**	**Voltage**
ELF651= Single **ELF651D**= Double	**/M10=** MR16 10Watts (6V only) **/M12**= MR16 12Watts (12V, 24V) **/M20**= MR16 20Watts (12V, 24V, 120V) **/MH20**= MR16-IR	**-G**= Gray	**6**= 6V **12**= 12V **24**= 24V **120**= 120Vac/Vdc

ELF647C Severe Series

DESCRIPTION: Class I Division 2, Group A, B, C and D Single lighting head with fully adjustable swivel - with gasketed aluminum canopy and junction box

FINISH: Black (-B), Gray (Blank)(standard)

MOUNTING: Standard with round plate for mounting directly to 4" outlet box

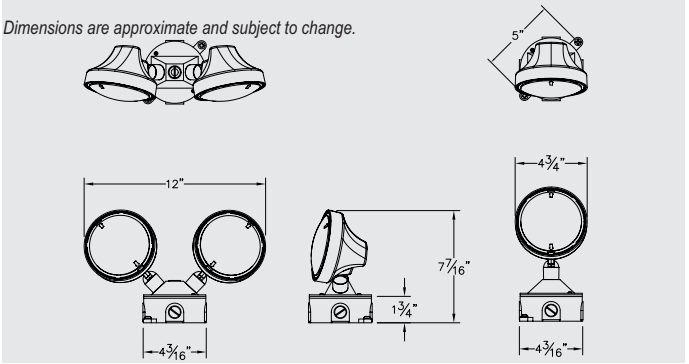
LAMPS:
- Wedge base incandescent
- Bi-PIN Halogen
- PAR36 sealed Beam

VOLTS: 6 or 12 volt

MAXIMUM WATTS:
12 watts per head

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

ELF647C	/M12	-M	12
Series	**Lamp Type/Wattage**	**Color**	**Voltage**
ELF647C= single head **EF647DC**= double head	For optional lamps types and wattages refer to the lamp data chart on page(108-109). (Maximum Watts 12 watts per head)	**-G**= blank **-B**= black	**6**= 6V **12**= 12V

Exit Series

Simplicity Series

Universal Mount
6" or 8" Die-Cast Aluminum Edge-Lit LED Exit Sign
Evaluated to UL 924 standard

The **Simplicity Series** combines a clean, modular design with state-of-the-art technology and ease of installation. Elegantly discreet, this designer series of exit signs will compliment the most prestigious interiors while providing mounting versatility and energy efficiency.

ACCESSORIES

(Order as a separate item)

Pendant, White .....PW-*
Pendant, Black.....PB-*

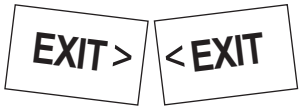
** Custom pendant length for dome and pyramid trims available, consult factory (12", 24", 36", etc).*

ARROW (CHEVRON) DESIGNATION

Chevron Right
(CR)

Chevron Left
(CL)

Single Face
Double Chevron
(1DC)
Double Face
Double Chevron
(2DC)



Double Face
Single Chevron (CLCR)
Represents each side of a double face panel.

**Wording and chevron's not to scale. Illustration purposes only.*

POWER CONSUMPTION CHART

Model	AC Specs		DC Specs	
AC-Only	120 to 277Vac	2W	-	-
AC/DC	120 to 277Vac	2W	6 to 48Vdc	Less than 2W
Self-Powered	120 to 277Vac	2.5W	NiCad Battery	Min. 90 minutes

FEATURES

Reliability

The **Simplicity Series** has a five-year full warranty.

Unit Data

The Simplicity Series is constructed of die-cast aluminum, making it lightweight yet rugged. A modular design and a universal back box allow for easy installation for all mounting applications.
The aesthetically pleasing trim plate design in your choice of either flat, dome or pyramid shape accents any décor perfectly. The die-cast aluminum trim ring used for recessed applications ensures a proper seal and will eliminate light leaks. Bar hangers are included with all edge-lit signs. Our LED edge-lit acrylic face panels are the pinnacle of the industry. State-of-the-art technology allows us to extrude the acrylic panels resulting in maximum clarity and illumination proven superior to molded panels. Furthermore, our precision etched letters further enhance clarity and illumination. Available in 6 or 8-inch "Red or Green" letters. The LED strip design allows for rotation for either ceiling or wall mounting. The LED strip light source offers unequaled energy efficiency with long life legend illumination. A Nickel-Cadmium battery illuminates the sign for a minimum of 90 minutes in emergency mode. AC-only signs come wired as AC/DC signs, which operate off a remote DC power source when AC power fails. DC input is a 2-wire, 6-48Vdc universal input.

Circuitry

Fully integrated circuitry includes a 2-wire 120-277Vac AC voltage input regulator, as well as an automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch.

Power Requirements

120/277Vac 50/60Hz. Energy Consumption: AC-only signs use less than 2 watts, self-powered signs use 2.5 watts for single and double-face signs.

DIAGNOSTIC/SELF-TEST FEATURE (optional)

The self-test/diagnostic feature continuously monitors the charger assembly, battery and LED assembly current. If a fault is indicated, the external service required indicator will illuminate. The internal fault indicators will then indicate the nature of the fault. The self-test/diagnostic will self test for a minimum 30 seconds every 30 days, 30 minutes every 60 days and 90 minutes annually. Meets NFPA 101 Life Safety Code requirements for periodic testing (Self-Powered Exit only).

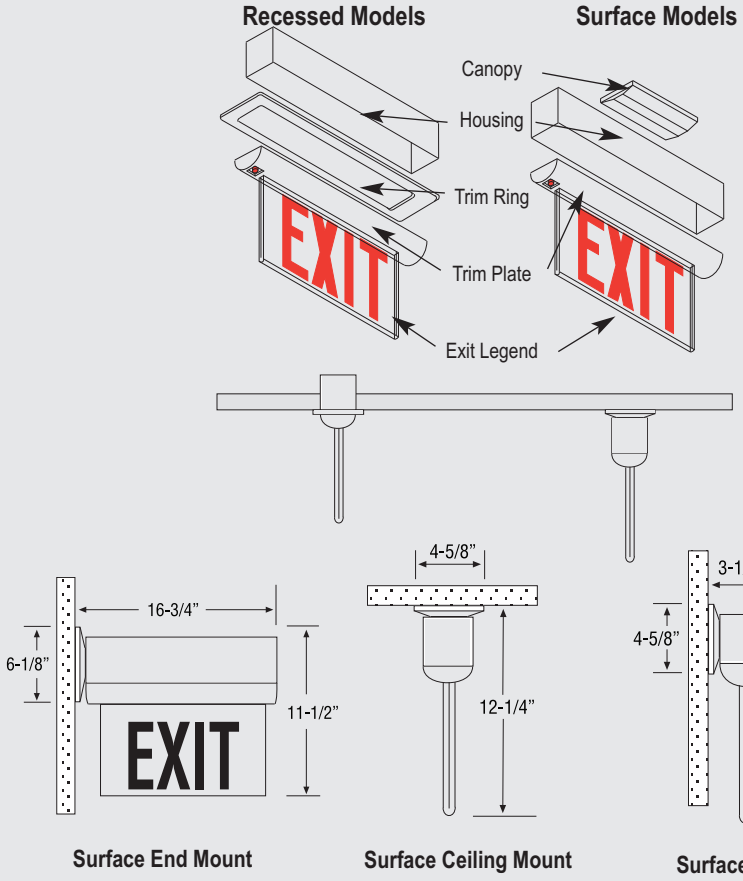
OPTIONS

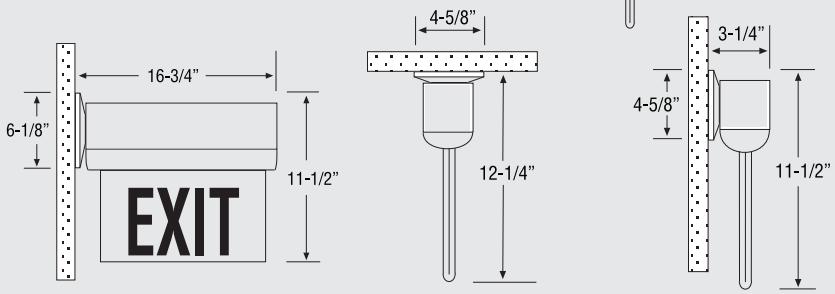
(Add Suffix to Model No.)	Suffix
Self-Test Diagnostics (self-powered only)	-D
Flasher/Buzzer (self-powered only)	-FB
Fire Alarm Activated Flasher (self-powered only)	-FAF
Dual Circuit (AC models only)	-Y
Self-Test Diagnostics (self-powered only)	-D
Less Back Box	-X
Less Panel	-LP

For special wording, contact factory.

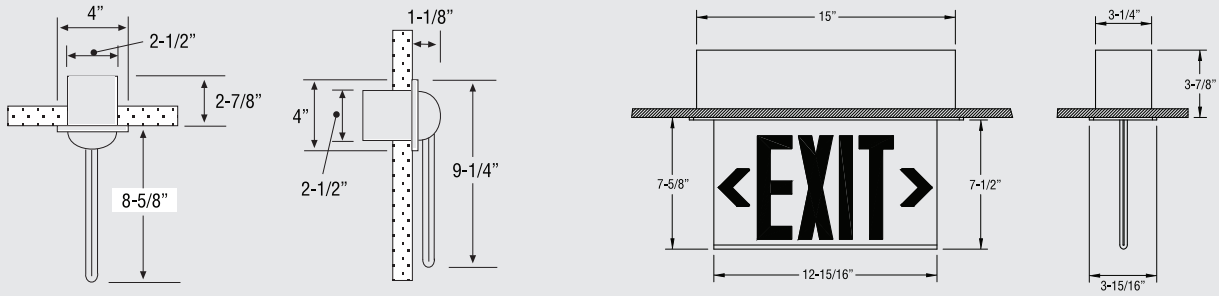
DIMENSIONS

Dimensions are approximate and subject to change.



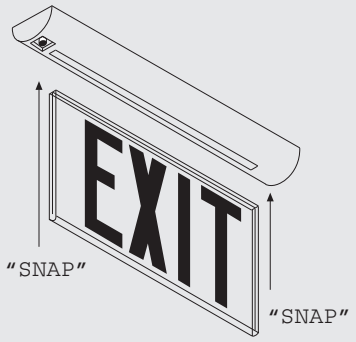


Surface End Mount | **Surface Ceiling Mount** | **Surface Wall Mount**



Recessed Ceiling Mount | **Recessed Wall Mount** | **Flat 'Z' Trim Recessed Ceiling Only**

EASY INSTALLATION



- A quick connect plug is used to wire the LED strip to the charger and power supply.
- Torsion springs on the trim plate slide into the back box to provided a tight seal between both.
- The modular design results in easy "snap in" of face panel.

ORDERING FORMAT

	SPLED	W	RW	D	CR	-FB
Panel Size	**Series**	**Unit Color***	**Panel Type**	**Trim**	**Directional Chevron**	**Options***
Blank= 6-inch Letters **8**= 8-inch Letters	**SLED**= AC Only **SPLED**= Self-Powered	**W**= White **A**= Brushed Aluminum **B**= Black	***RC**= Red/Clear **RM**= Red/Mirror **RW**= Red/White ***GC**= Green/Clear **GM**= Green/Mirror **GW**= Green/White	**D**= Dome **P**= Pyramid **Z**= Flat Trim (Recessed Ceiling only)	**Blank**= Single Face, no Chevron **2**= Double Face, no Chevron **CR**= Chevron Right **CL**= Chevron Left **CLCR**= Double Face, Single Chevron **1DC**= Single Face, Double Chevron **2DC**= Double Face, Double Chevron	**-FB**= Flasher/Buzzer
		** Custon finish available*	**RC or GC- Not Available as Double Face*			**Special Wording Contact factory*

Simplicity Economizer Series

Slim Profile Surface Mounted

LED Edge-Lit Exit Sign

Available in Extruded Aluminum or Off-White Finishes

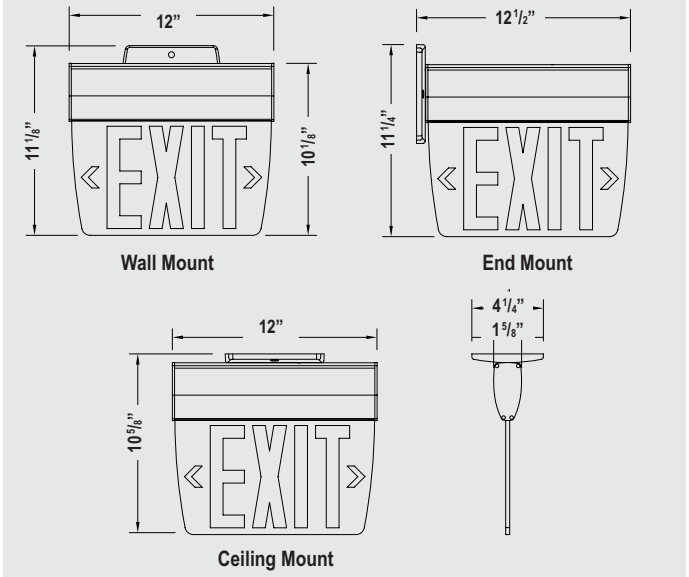
For Recessed Mount, please consult the factory

The **Lightalarms Simplicity Economizer Series** combines a slim, modular design with state of the art technology and ease of installation including field installed directional arrows. Elegant and Economical, these exit signs complement any interior design while providing mounting versatility and energy efficiency.

With the look of the Exit sign and the Simplified installation this product will be the favorite at both the Specification and Contractor level.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT (Surface Mount Series)

SE	TA	R	1
Series	**Housing Color**	**Legend Color**	**Face**
SE = AC	**TA** = Textured Aluminum	**RC*** = Red on Clear	**1** = Single Face
SES = AC/DC	**OW** = Off White	**RW** = Red on White	**2** = Double Face
SEN = Self-Powered		**RM** = Red on Mirror	
		GC* = Green on Clear	
		GM = Green on Mirror	

** Single face Only*
GW = Green on White
Not available

NOTE: *For recessed mount please contact factory*

FEATURES

- Slim-profile extruded aluminum housing
- Slim-profile die-cast aluminum canopy
- Choice of finishes: textured aluminum or off-white
- Universal surface mounting: wall, ceiling or end mount
- Click-to-open housing door allows easy access to the panel and electrical wiring
- Acrylic panel with curved contour provides superior clarity and illumination
- Legend with a choice of red or green six-inch letters, and easy to add field installed stick-on translucent directional arrows
- Choice of legend background: clear, white or mirror
- Simple, two-wire universal AC input (120V to 277Vac 60Hz) prevents installation errors
- Simple, two-wire universal DC input: 6V to 24Vdc
- Long-life LED light assures low maintenance costs and superior illumination
- Energy efficient power consumption: less than 3 Watts for selfpowered version and less than 2 Watts for AC only single or double face
- Sealed Nickel-Cadmium batteries provide 90 minutes of emergency lighting
- UL-924 listed

UNIT WARRANTY*

Unit carries a 3- year full warranty

**Subject to proper installation and maintenance.*

POWER CONSUMPTION CHART

Model	AC Specs		DC Specs	
AC-only	120 to 277Vac	Less than 2 W	-	-
AC/DC	120 to 277Vac	Less than 2 W	6 to 24Vdc	Less than 1.5 W
Self-powered	120 to 277Vac	Less than 3 W	-	-

Genesis GX, GXE Series

Die-Cast Aluminum LED Exit Sign

AC, AC/DC or Self-Powered Models

Evaluated to UL 924 Standard

The **Genesis "GX, GXE" Series** LED Exit sign combines visual appeal, durability and energy efficiency in a compact, contemporary design. Self-Diagnostics standard on self powered models.

FEATURES

Reliability

The **Genesis GX, GXE Series** has a five-year full warranty.

Unit Data

The **Genesis Series** constructed of precision die-cast aluminum housing, features invisible, universal chevrons and mounting knockouts. A low profile mounting canopy is included with all exit signs for universal top, end or back mount. High intensity LED's with diffuser disperse light and enhance brightness for a full, even illumination. LED's draw less than 2 watts of electricity for either single or double face signs. Long life, maintenance-free, sealed Nickel-Cadmium battery. AC-only signs come wired as AC/DC signs, which operate off a remote DC power source when AC power fails. DC input is a 2-wire, 6-48Vdc universal input. Self-Powered models are self contained, all circuitry and batteries are contained inside the exit housing.

Circuitry

Fully integrated circuitry includes a 2-wire 120-277Vac AC voltage input regulator, as well as an automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch.

DIAGNOSTIC/SELF-TEST FEATURE (STANDARD)

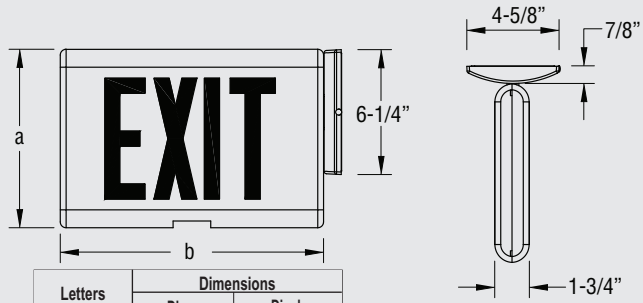
Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exits readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single service required indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The self test will test the unit for a minimum 30 seconds every 30 days, 30 minutes every 60 days and 90 minutes annually.

OPTIONS

(Add Prefix to Model No.)	Prefix
8" EXIT legend for NYC code	**-8**
(Add Suffix to Model No.)	**Suffix**
Dual Circuit (AC only)	**-2**
Open Face / Special Wording	**-Y**
Vandal Resistant Screws	**-VR**
Lexan Face Shield with Vandal Resistant Screws	**-LVR**
Fire Alarm Flasher (Self-powered signs only)	**-FAF**
Flasher/Buzzer (Self-powered signs only)	**-FB**

DIMENSIONS

Dimensions are approximate and subject to change.



Letters	Dimensions	
	Dim a	Dim b
6"	8-7/8"	13-1/16"

POWER CONSUMPTION CHART

Model (6")	AC Specs		DC Specs	
AC-only	120 to 277Vac	1.25W	-	-
AC/DC	120 to 277Vac	1.25W	6 to 48Vdc	Less than 1.5 W
Self-powered	120 to 277Vac	1.6W	NiCad battery	Min. 90 minutes

Model (8")	AC Specs		DC Specs	
AC-only	120 to 277Vac	2.5W	-	-
AC/DC	120 to 277Vac	2.5W	6 to 48Vdc	1.6W
Self-powered	120 to 277Vac	2.9W	NiCad battery	Min. 90 minutes

ACCESSORIES

(Order as a separate item)

Pendant Mount White	**GPW-***
Pendant Mount Black	**GPB-***
Wire Guard (Wall Mount) (6 in.)	**WG13-L**
Wire Guard (Ceiling Mount) (6 in.)	**WG14-L**
Wire Guard (End Mount) (6 in.)	**WG15-L**
Vandal Shield (Wall Mount)	**VRC**
Vandal Shield, NEMA-4X (Wall Mount)	**VRC-4X**

ORDERING FORMAT

2	GXE	B	R	A	-VR	-N
Letter Size **Blank**= 6" Letters **2**= 6" Letters/Double Face **8**= 8" Letters **82**= 8" Letters/Double Face	**Series** **GX**= AC-only **GXE**= Self-Powered	**Housing Color** **B**= Black **W**= White **A**= Brushed Aluminum **DB**= Dark Bronze **PB**=Polished Brass	**Letter Color** **R**=Red **G**=Green	**Face Color** **B**=Black **W**=White **A**=Brushed Aluminum	**Options** See Options	**Standard Series Designator** -N

Genesis GXEM Floor Proximity Series

Genesis Master with Remote Floor Proximity LED Exit

Surface or Recessed Mount

Evaluated to UL 924 Standard

The **Genesis GXEM Floor Proximity Series** are premium die-cast exit signs that combine style with superior performance and durability. This series can be surface or recessed mounted at the floor level and are available as AC-only, AC-dual circuit and as a DC-remote fixture supplied by a "Master" Genesis Exit sign.

FEATURES

Reliability

The **Genesis GXEM Floor Proximity Series** has a five-year full warranty.

Unit Data

The **Genesis" Master"** units are constructed of die-cast aluminum. The Floor proximity remote units' housing and stencil face, finished in white or black, are constructed of rugged steel. When the floor proximity remote unit is ordered with a brushed aluminum finish, the stencil face is aluminum. The Floor proximity remote sign is available in slim line surface mount or recessed. All connecting hardware is included. The tamper proof screws and clear, high impact polycarbonate shield make sign vandal resistant. The LED's are very reliable, provide even illumination and low maintenance costs. The Red LED's draw less than one watt.

The remote floor proximity exit signs are wired to a single face Genesis LED "Master" exit, which is mounted above the door. The remote floor proximity unit can be mounted up to 10 feet away from the Master sign. This "Master" sign will power and control both signs in AC and emergency mode (both signs are 120/277 volt for master/floor proximity operation).

Circuitry

Fully integrated circuitry includes an automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch. Improved diagnostic self-test feature is standard.

Power Requirements

120/277Vac

DIAGNOSTIC/SELF-TEST FEATURE (STANDARD)

The self-test/diagnostic feature continuously monitors the charger assembly, battery and LED assembly current. If a fault is indicated, the external service required indicator will illuminate. The internal fault indicators will then indicate the nature of the fault. The self-test/diagnostic will self test for a minimum 30 seconds every 30 days, 30 minutes every 60 days and 90 minutes annually. Meets NFPA 101 Life Safety Code requirements for periodic testing (Self-Powered Master Exit only).

OPTIONS

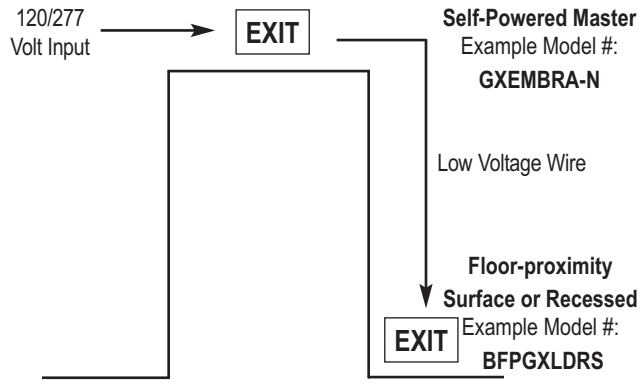
(Add Suffix to Model No.)	Suffix
Vandal Resistant (Screws)	-VR
Vandal Resistant (Screws & Shield)	-LVR

POWER CONSUMPTION CHART

	Models	AC Specs		DC Specs	
RED	**AC-only**	120 to 277Vac	1.2W	-	-
	AC-2 Circuit	120/277 and 277/277Vac	2.6W	-	-
	Self-powered	120 to 277Vac	3.8W	NiCad battery	Min. 90 minutes
GREEN	**AC-only**	120 to 277Vac	0.9W	-	-
	AC-2 Circuit	120/277 and 277/277Vac	3.3W	-	-
	Self-powered	120 to 277Vac	5W	NiCad battery	Min. 90 minutes

HOW TO ORDER TYPICAL APPLICATIONS

Self-Powered Master with Floor-proximity Unit



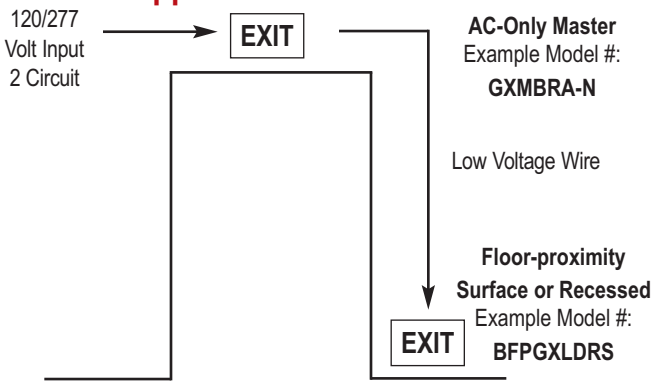
Self-Powered Master (Unit for above door)

GXEM	B	R	A	-N
Series	**Housing Color** **B**= Black **W**= White **A**= Brushed Aluminum	**Letter Color** **R**= Red **G**= Green	**Face Color** **B**= Black **W**= White **A**= Brushed Aluminum	**Standard Series Designator**

Floor Proximity Unit (Unit on side of door)

B	FPGXLD	R	S	-LVR
Housing Color **B**= Black **W**= White **A**= Brushed Aluminum	**Series**	**Letter Color** **R**= Red **G**= Green	**Face Color** **R**= Recessed **S**= Surface	**Options**

AC-Only Master with Floor-proximity Unit 2 Circuit Application



AC-Only Master (Unit for above door)

GXM	B	R	A	-N
Series	**Housing Color** **B**= Black **W**= White **A**= Brushed Aluminum	**Letter Color** **R**= Red **G**= Green	**Face Color** **B**= Black **W**= White **A**= Brushed Aluminum	**Standard Series Designator**

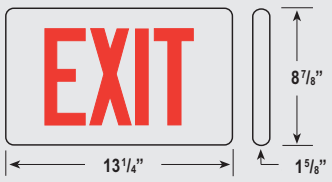
Floor Proximity Unit (Unit on side of door)

B	FPGXLD	R	S	-LVR
Housing Color **B**= Black **W**= White **A**= Brushed Aluminum	**Series**	**Letter Color** **R**= Red **G**= Green	**Face Color** **R**= Recessed **S**= Surface	**Options**

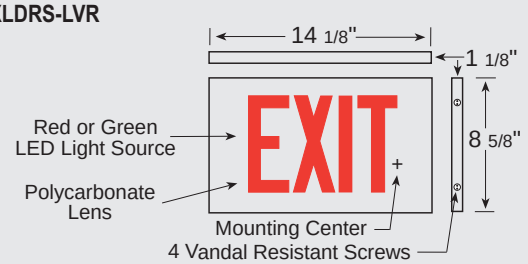
DIMENSIONS

Dimensions are approximate and subject to change.

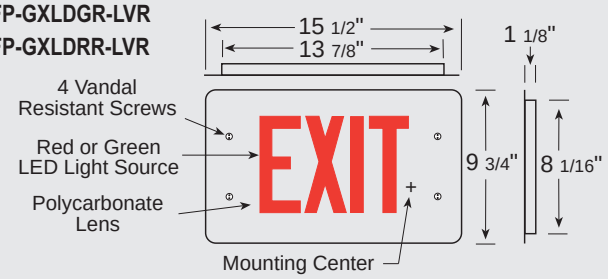
Self-Powered/AC-Only Master
GXEMBRA-N (Self-Powered)
GXMBRA-N (AC only)



Floor Proximity Slave Surface Mount
FP-GXLDGS-LVR
FP-GXLDRS-LVR



Floor Proximity Slave Recessed Mount
FP-GXLDGR-LVR
FP-GXLDRR-LVR



Galaxy XLD, XLED Series

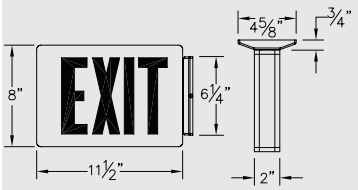
LED Die-Cast Aluminum Exit
Universal Mount
AC, AC/DC or Self-Powered Exit Signs
UL Listed

The **Galaxy "XLD, XLED"** Series exit signs save energy while providing excellent visual performance. This series offers universal mounting capabilities as well as long lasting LED performance.

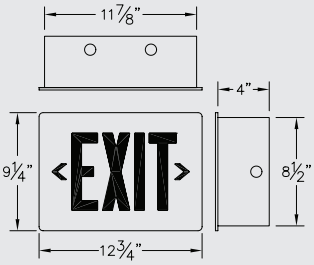
DIMENSIONS

Dimensions are approximate and subject to change.

Surface Mount



Fully Recessed Mount



UNIT SELECTION CHART

Series		Housing Colors		Letter/Stencil Colors		Standard Series Designator
Description	Symbol	Description	Symbol	Description	Symbol	
AC only						
Single Face	XLD	Black	B	Red/Black	RB	N
				Green/Black	GB	
		White	W	Red/White	RW	
				Green/White	GW	
Double Face	2XLD	Brushed Aluminum	A	Red/Brushed Aluminum	RA	
				Green/Brushed Aluminum	GA	
SELF-POWERED						
Single Face	XLED	Black	B	Red/Black	RB	N
				Green/Black	GB	
		White	W	Red/White	RW	
				Green/White	GW	
Double Face	2XLED	Brushed Aluminum	A	Red/Brushed Aluminum	RA	
				Green/Brushed Aluminum	GA	

POWER CONSUMPTION CHART

Model (6")	AC Specs		DC Specs	
AC-only	120 to 277Vac	1.4W	-	-
AC/DC	120 to 277Vac	1.4W	6 to 24Vdc	Less than 1.5 W
Self-powered	120 to 277Vac	1.7W	NiCad battery	Min. 90 minutes

ORDERING FORMAT

2XLED	A	R	A	-VR	-N*
Series (Double Face Self-Powered Exit)	**Housing Color** (Brushed Aluminum)	**Letter Color** (Red)	**Stencil Color** (Brushed Aluminum)	**Option** (Vandal Resistant Screws)	**Standard Series** Designator (see note)

** The "-N" Designator features self-powered units with improved diagnostic and AC units with DC-remote input (6-24Vdc)*

FEATURES

Reliability

The **Galaxy "XLD, XLED"** Series has a five-year full warranty.

Unit Data

The **Galaxy "XLD, XLED"** Series housing is constructed of die-cast Aluminum and features invisible, universal chevron and mounting knockouts. All self-powered models are self contained, all circuitry and batteries are contained inside the exit. All AC-Only signs come wired as AC/DC signs which operate off a remote DC power source when AC power fails. Long-life, high-performance, low power consumption, provide an even illumination in normal and emergency modes. A low profile mounting canopy is included with all exit signs for universal top, end or back mount.

Choice of Models

AC-Only Models: 120 through 277Vac, 50/60Hz universal input. Includes a slimline canopy for top and end mounting.

AC/DC Models: 120 through 277Vac, 50/60Hz universal input with a 6 to 24Vdc wire harness. Includes a slimline canopy for top and end mounting.

Self-Powered Models are Self Contained, batteries and circuitry are located inside the exit housing: 120 through 277Vac, 50/60Hz universal input. Sealed maintenance free Nickel-Cadmium battery provides 90 minutes of emergency illumination. Includes a slimline canopy for top and end mounting.

DIAGNOSTIC/SELF-TEST FEATURE (STANDARD)

Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exits readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single service required indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The self test will test the unit for minimum 30 seconds every 30 days, 30 minutes every 60 days and 90 minutes annually.

OPTIONS

(Add Prefix to Model No.)	Prefix
Fully Recessed	**R**
(Add Suffix to Model No.)	**Suffix**
Dual circuit (AC only)	**-2**
Vandal Resistant Screws	**-VR**
Lexan Face Shield with Vandal Resistant Screws	**-LVR**
Fire Alarm Activated Flasher*	**-FAF**
Buzzer and Flasher*	**-FB**
Damp Location	**-DL**
Open Face / Special Wording	**-Y**

Custom Colors and Finishes are available upon request.
**Not available with AC/DC*

ACCESSORIES

Galaxy XL Series

Die-Cast Remote Capacity Exit
Sealed Lead-Calcium or
New Nickel-Metal-Hydride Battery
UL Listed

The **Galaxy "XL" Series** are self-powered LED exit signs with excess battery capacity designated to power remote emergency lights and exit signs.

FEATURES

Reliability

The **Galaxy "XL" Series** has a five-year full warranty.

Unit Data

The **Galaxy "XL" series** has a housing constructed of die-cast Aluminum, each unit comes standard with a power canopy that houses the battery, input transformer and printed circuit board. The standard Galaxy exit comes with a black frame and a brushed aluminum face, optional colors are available. The Galaxy series may be ceiling, end or back mounted (single-face exit only) to the power canopy. The power canopy surface mounts directly to a junction box. Long-life, high-performance, low power consumption provide an even illumination in normal and emergency modes. AC-only signs come wired as AC/DC signs, which operate off a remote DC power source when AC power fails. DC input is a 2-wire, 6-48Vdc universal input.

Circuitry

Fully integrated circuitry includes an automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch.

Power Requirements

Input : 120/277Vac, 60 Hz, 0.06/0.03 Amp max.
Output: 6Vdc, 9W, 12W and 24W

DIAGNOSTIC/SELF-TEST FEATURE (optional)

The self-test/diagnostic feature continuously monitors the charger assembly, battery and LED assembly current. If a fault is indicated, the external service required indicator will illuminate. The internal fault indicators will then indicate the nature of the fault. The self-test/diagnostic 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.

OPTIONS

(Add Suffix to Model No.)	Suffix
Improved Diagnostics, audible (Lead-Calcium Only)	-ID
Improved Diagnostics, non-audible (Lead Calcium or Nickel Metal Hydride)	-IDNA
Time Delay	-TD
Flasher/Buzzer	-FB
Fire Alarm Activated Flasher	-FAF
Vandal Resistant Screws	-VR
Vandal Resistant Face Shield and Screws	-LVR

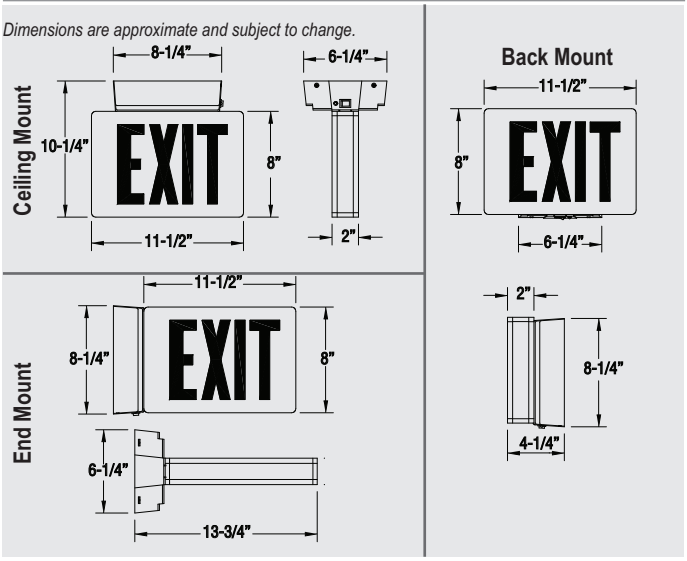
APPLICATION FLEXIBILITY

Lead Calcium Models (PCL) - Sealed, maintenance-free lead calcium batteries power the exit sign for an estimated period of 20+ hours minimum with no remote load or 90minutes run time with 9 watts remote load.

Nickel Metal Hydride Models (PCN) - Sealed, maintenance-free nickel metal hydride batteries power the exit sign for an estimated period of 20+ hours minimum with no remote load or 90-minutes run time with 12 watts remote load.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Series		Battery Type		Housing Colors		Letter/Stencil Colors	
Desc.	Sym.	Desc.	Sym.	Desc.	Sym.	Desc.	Sym.
Single Face	XL	Lead Calcium (6V 9W Remote Capacity)	PCL	Black	B	Red/Black	RB
						Green/Black	GB
						Red/White	RW
		Nickel Metal Hydride (6V 12W Remote Capacity)	PCN	White	W	Green/White	GW
Double Face	2XL	Nickel Metal Hydride (6V 24W Remote Capacity)	PCX	Brushed Aluminum	A	Red/Brushed Aluminum	RA
						Green/Brushed Aluminum	GA

POWER CONSUMPTION CHART

Model	AC Specs		DC Specs	
Self-Powered	120 to 277Vac	3.7W	NiCad Battery	Min. 90 minutes

ORDERING FORMAT

2XL	PCN	A	RA	-ID
Series	**Battery Type**	**Housing Color**	**Legend/ Face Color**	**Option**
Double Face Led Exit	Nickel Metal Hydride 6V, 12 W Remote	Brushed Aluminum	Red/Brushed Aluminum	Improved Diagnostics

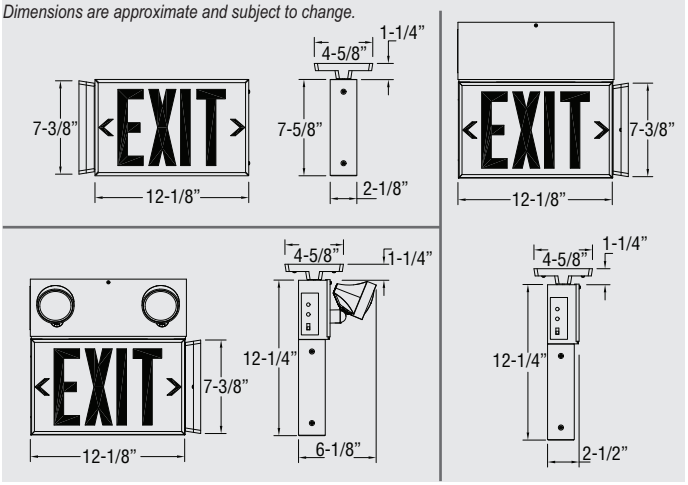
X4 Incandescent Series

Steel Incandescent Exit Signs and Combination Units
AC Only and Self-Powered
Sealed Maintenance-Free Lead Calcium and Nickel-Cadmium Batteries
UL Listed
AC Only signs are UL listed for use in Damp Locations

The **X4 Incandescent Series** exit signs and power pack combination units offer a complete package of features to make installation fast and easy.

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION CHART (Incandescent Exit)

Model		AC Specs		DC Specs	
Exit Sign (incand.)	AC-only	120Vac or 277Vac	Less than 24W	-	-
	Self-powered	120 to 277Vac	Less than 30W	Lead-Calcium Nickel-Cadmium	Min. 90 Minutes
Mini-Systems		120 to 277Vac	Less than 30W	See Unit Rating Chart	

UNIT SELECTION CHART (Combination Unit)

Battery Type	DC Voltage	Model No.	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	X4E	22	22	9	6
Nickel-Cadmium		X4EN	16	16	6	-

**National Electrical Code Specification*

FEATURES

Reliability
The **X4 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data
The **X4 Series** is constructed of a rugged steel housing with programmable directional chevrons. All exit signs are universal and come standard with canopy kit, extra stencil and diffuser to permit any mounting either as single or double face. Completely self-contained power pack provides a minimum of 90 minutes of emergency lighting.

Circuitry
Automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch.

Choice of Models
Exit Sign
= AC input (AC-only and AC/DC models): 120Vac or 277Vac
= DC input (AC/DC models): 6, 12 or 24Vdc
= Self-powered: 120/277Vac; Lead-Calcium or Nickel-Cadmium battery
Combination Units
Remote capacity Lead Calcium models (E)
No heads = 10 Watts remote capacity

Lamps
12 Watts (two per sign) AC
3.7 Watts (three per sign) DC

Power Requirements
Dual Voltage 120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
AC/DC Remote (6-24Vdc)	-DC
Fire Alarm Flasher	-FAF
Dual Circuit (AC units only)	-2
Flasher/Buzzer (Self-powered models only)	-FB
Open Face/Special Wording	-Y

ACCESSORIES

(Order as a separate item)

277 Volt Conversion Kit-Black	CTXB-277
277 Volt Conversion Kit-White	CTXW-277
White Pendant	PW-*
Black Pendant	PB-*
Wire Guard (Ceiling or End Mount-Exit)	WG5-L
Wire Guard (Wall Mount-Exit)	WG12-L
Wire Guard (Combination Unit)	WG6-L

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

ORDERING FORMAT

U	X4	E	B	R	B		/2M	-FAF
Style	**Model**	**Type**	**Color**	**Letter Color**	**Stencil**	**Voltage***	**Combo Unit**	**Options**
U= Universal 2 faces & canopy	X4 Series	**Blank**= AC Only **E**= Self-Powered Lead Calcium with Power Pack **EN**= Self-Powered NICAD, with Power Pack **N**= Self-Powered (self-contained no additional power pack needed) (Exit Only)	**W**= White **B**= Black	**R**= Red **G**= Green	**W**= White **B**= Black **A**= Aluminum	**Blank**= 120 Volt **-277**= 277 Volt ** AC Only*	**/0**= 0 heads power use for remote fixtures **/1L**= 1 Large head **/1M**= 1 Mini head **/2L**= 2 Large heads **/2M**= 2 Mini heads	**-FAF**= Fire Alarm Flasher

X4 LED Series

Steel LED Exit Signs and Combination Units
AC Only and Self-Powered
Sealed Maintenance-Free Lead Calcium and Nickel-Cadmium Batteries
UL Listed
AC Only signs are UL listed for use in Damp Locations

The **X4 LED Series** exit signs and power pack combination units offer a complete package of features to make installation fast and easy.

FEATURES

Reliability

The **X4 LED Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The **X4 Series** is constructed of a rugged steel housing with programmable directional chevrons. All exit signs are universal and come standard with canopy kit, extra stencil and diffuser to permit any mounting either as single or double face. Long-life, energy-efficient red LED light source. Completely self-contained power pack provides a minimum of 90 minutes of emergency lighting.

Choice of Models

Exit Sign

Fully integrated circuitry includes a 2-wire 120-277Vac AC voltage input regulator, as well as an automatic, constant-current battery charger with solid-state transfer and AC-LED monitor and test switch.

Combination Units

Remote capacity –Lead Calcium Battery (E)
No heads = 26 Watts remote capacity
Two 6-watt ELF2 mounted heads = 12 Watts remote capacity
Remote capacity – Nickel-Cadmium Battery (EN)
No heads = 20 Watts remote capacity
Two 6-watt ELF2 mounted heads = 8 Watts remote capacity

Power Requirements

Dual Voltage 120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
AC/DC Remote (6-24Vdc)	-DC
Fire Alarm Flasher (Self-powered signs only)	-FAF
Dual Circuit (AC units only)	-2
Flasher/Buzzer (Self-powered models only)	-FB
Open Face/Special Wording	-Y

ACCESSORIES

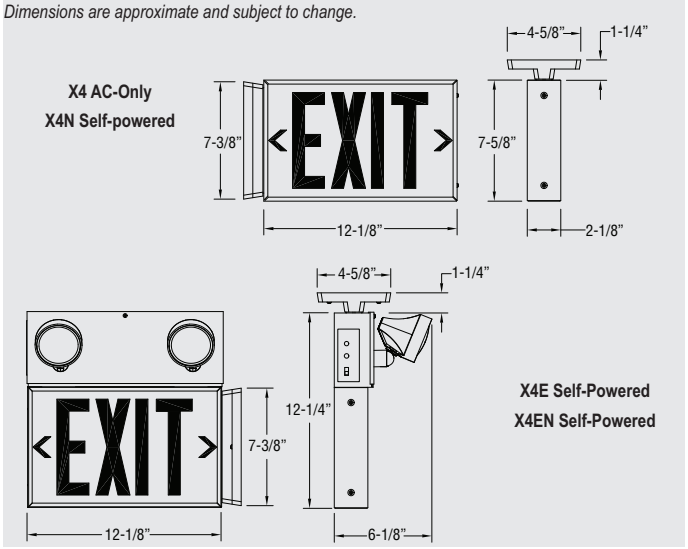
(Order as a separate item)

White Pendant	PW-*
Black Pendant	PB-*
Wire Guard (Exit-Ceiling or End Mount)	WG5-L
Wire Guard (Exit-Wall Mount)	WG12-L
Wire Guard (Combination Unit)	WG6-L

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

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION CHART (LED Exit)

Model		AC Specs		DC Specs	
Exit Sign	AC-only	120 to 277Vac	Less than 1.5W	-	-
	Self-powered	120 to 277Vac	Less than 3W	Lead-Calcium Nickel-Cadmium	Min. 90 Minutes
Mini-Systems		120 to 277Vac	Less than 5W	See Unit Rating Chart	

UNIT SELECTION CHART (Combination Unit)

Battery Type	DC Voltage	Model No.	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	X4E	30	20	14	10
Nickel-Cadmium		X4EN	24	18	12	9

**National Electrical Code Specification*

ORDERING FORMAT

U	X4	E	W	R	W	LED	/2M	-FB
Style	**Model**	**Type**	**Color**	**Letter Color**	**Stencil**	**Light**	**Combo Unit**	**Options**
U= Universal 2 faces & canopy	X4 Series	**Blank**= AC Only **E**= Self-Powered Lead Calcium with Power Pack **EN**= Self-Powered NICAD, with Power Pack **N**= Self-Powered (self-contained no additional power pack needed) (Exit Only)	**W**= White **B**= Black	**R**= Red **G**= Green	**W**= White **B**= Black **A**= Aluminum	**LED**= LED	**/0**= 0 heads power use for remote fixtures **/1L**= 1 Large head **/1M**= 1 Mini head **/2L**= 2 Large heads **/2M**= 2 Mini heads	**-FB**= Flasher/ Buzzer

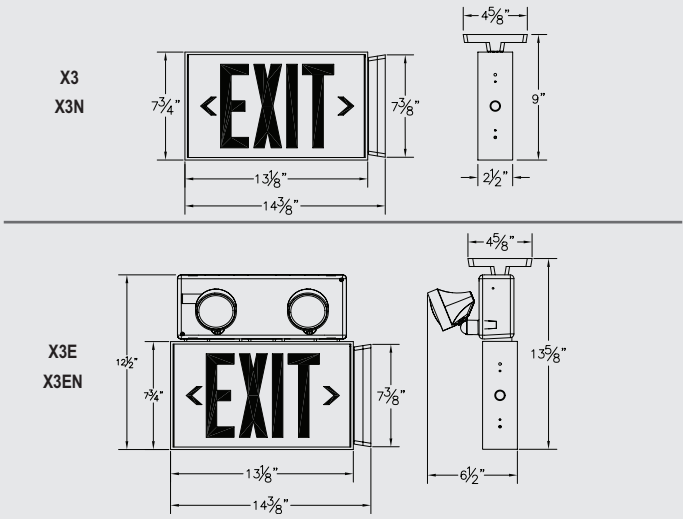
X3 Series

Extruded Aluminum LED Exits and Combination Units
Sealed Maintenance-free Lead Calcium or Nickel-Cadmium Battery
UL Listed
AC-Only exit signs are UL listed for use in Damp Locations

The **X3 Series** exit signs and power packs combine versatility, energy efficiency and performance in a moderately-priced package.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Total DC power available for local and remote emergency lights.

Battery Type	DC Voltage	Model No.	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	UX3E	30	20	15	10
Nickel-Cadmium		UX3EN	24	18	12	9

**National Electrical Code Specification*

POWER CONSUMPTION CHART

Model	AC Specs		DC Specs	
AC-only	120 to 277Vac	Less than 2.5W	-	-
AC/DC	120 to 277Vac	Less than 1.5W	6 to 24Vdc	Less than 1.5W
Self-powered	120 to 277Vac	Less than 3W	Nickel-Cadmium	Min. 90 Minutes

FEATURES

Reliability

The **X3 Series** has a three-year full warranty (exculding lamps and fuses).

Unit Data

The **X3 Series** housing is constructed of extruded aluminum and features universal chevrons and a bottom aperture that provides a down-light effect. Universal exit signs are supplied with canopy kit, extra stencil and diffuser set to permit any mounting either as single or double face. Long-life, energy-efficient, LED light source reduces maintenance and energy costs.
LED Combination units have additional 13-19 watts remote capacity with (2) 6-watt mounted heads, depending on the model.

Light Source

The unit comes standard with two 6 volt, 6-watt high intensity wedge base incandescent lamps. Other lamp options are available, please refer to Lamp Chart.

Choice of Models

Exit Sign
= AC input: universal 2-wire 120 to 277Vac 50/60Hz
= AC/DC models: universal 2-wire 6 to 24Vdc
= Self-powered models: long-life, sealed Nickel-Cadmium battery

Combination Units
Remote capacity –Lead Calcium Battery (E)
No heads = 26 Watts remote capacity
Two 6-watt ELF2 mounted heads = 12 Watts remote capacity
Remote capacity – Nickel-Cadmium Battery (EN)
No heads = 20 Watts remote capacity
Two 6-watt ELF2 mounted heads = 8 Watts remote capacity

Power Consumption

120/277 Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
AC/DC Remote (6-24Vdc)	**-DC**
Flasher/Buzzer (Self-powered signs only)	**-FB**

ACCESSORIES

(Order as a separate item)

277 Volt Conversion Kit-Black	**CTXB-277**
277 Volt Conversion Kit-White	**CTXW-277**

ORDERING FORMAT

U	X3	EN	B	R	A	LED	/2M	-FAF
Style **U**= Universal 2 faces & canopy	**Model** X3 Series	**Type** **Blank**= AC Only **E**= Self-Powered Lead Calcium with Power Pack **EN**= Self-Powered NICAD, with Power Pack **N**= Self-Powered (self-contained NiCad) (Exit Only)	**Color** **W**= White **B**= Black	**Letter Color** **R**= Red **G**= Green	**Stencil** **W**= White **B**= Black **A**= Aluminum	**Light Source** **LED**= LED	**Combo Unit** **/0**= 0 heads power use for remote fixtures **/1L**= 1 Large head **/1M**= 1 Mini head **/2L**= 2 Large heads **/2M**= 2 Mini heads	**Options** **-FB**= Flasher/ Buzzer

Grande Series

Specification-grade, LED Thermoplastic, universal-mount, snap-fit exit sign

Replaces Quickie "XQ" Series

The Lightalarms **Grande Series** is a compact exit sign with an all-in-one, snap-fit design. Easy to install and affordable, the **Grande Series** exit sign is ideally suited for commercial and spec-grade applications.

FEATURES

- Durable, injection-molded, thermoplastic housing
- Standard Universal, supplied with two faceplates, backplate for wall mount and easy install canopy for end and ceiling mounting
- Universal, field-selectable snap in/out chevrons
- Indirect refractive technology provides bright, even illumination
- Long-life LED light source assures low maintenance costs and superior illumination
- Energy efficient power consumption: less than 3.5 watts for selfpowered version and less than 3 Watts for AC only single or double face
- Dual voltage input: 120 / 277Vac
- UL-924 listed
- All models are UL listed for damp location
- Optional Improved Diagnostic circuitry, flasher/buzzer, fire alarm-activated flasher
- Optional vandal-resistant shield with tamper proof screws

UNIT WARRANTY*

5 years of full warranty.

**Subject to proper installation and maintenance.*

ACCESSORIES

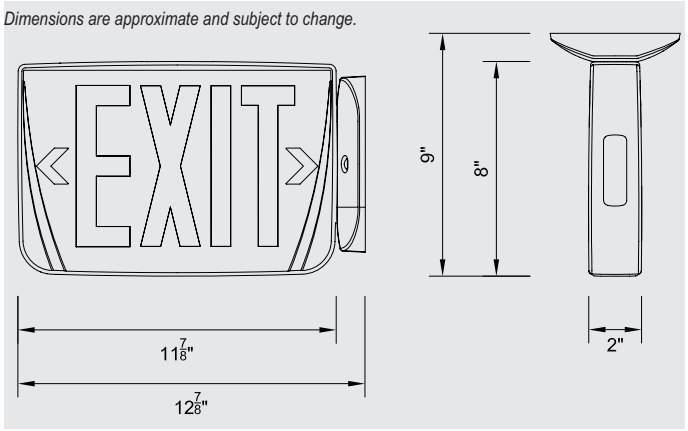
(Order as a separate item)

Wire Guard (Wall Mount) **WG1-L**

Wire Guard (Ceiling Mount and End Mount) **WG5-L**

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

GRAN	AC	R	W	
Series	**Unit type**	**Legend color / No. of Face**	**Housing Color**	**Options**
GRAN= LED plastic EXIT	Standard Models **AC**= AC only (120/277 volts) **DC**= 120/277vac & 6 to 48vdc **N**= self-powered NiCad ***Optional Models*** **21**= dual AC circuit (2x120 volts) **22**= Dual AC circuit (2x277 volts) **ND**= self-powered Improved Diagnostic circuitry	**R**= Red Universal **R1**= Red single face* **R2**= Red double face* **G**= Green Universal **G1**= Green single face* **G2**= Green double face* ***Open face*** **RW**= Red on White **GW**= Green on White **Open face required with special wording legends*	**W**= White **B**= Black	**BA**= Brushed aluminum exit stencil **FB**= Flasher buzzer (ND model only) **FL**= Flasher (ND model only) **FAF**= Fire alarm activated flasher (AC, DC, 21,22 or ND models only) **FBF**= Flasher buzzer + fire alarm activated flasher (ND model only) ***VR**= Tamper proof screws ***LVR1**= Polycarbonate shield with tamper proof screws ** please specify single or double face, Red or Green*

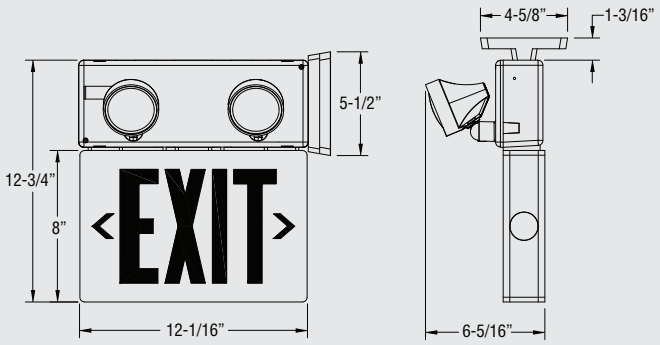
X2 Squire Series

Thermoplastic LED Exit and Combination Unit
Sealed Maintenance-Free Lead Calcium or Nickel-Cadmium Battery
UL Listed

The **X2 Squire Series** is compact, easy to install and affordable. This series is ideally suited for commercial and institutional applications.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT SELECTION CHART

Total DC power available for local and remote emergency lights.

Battery Type	DC Voltage	Model No.	Watts to 87.5% of rated battery voltage*			
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
Lead-Calcium	6	**UX2E**	30	20	15	10
Nickel-Cadmium		**UX2EN**	24	18	12	9

**National Electrical Code Specification*

FEATURES

Reliability
The **X2 Squire Series** has three-year full warranty (excluding fuses and lamps).

Unit Data
The housing is constructed of a durable thermoplastic, available in mist-white or black. Units come standard with two stencil plates, red diffusing lens and backplate for universal wall, end or ceiling mount. Stencil and open face signs have programmable directional chevrons. The light source of the exit sign will be red LED technology, which will provide a uniform illumination on the legend. Batteries provide 90 minutes of emergency operation.

Lamp
Standard emergency illumination is provided by two,6-watt incandescent, Par 18 or Par 36 size lamps assemblies. These heads are molded of high impact thermo-polymer material. Heads are mounted directly to the front of the power pack or can be remotely mounted. MR16 and quartz bi-pin halogen lamps are also available (Mini Heads only).

Circuitry
Fully integrated circuitry includes an automatic, battery charger and AC-LED monitor and test switch.

Choice of Models
Combination Units
Remote capacity Lead Calcium models (E)
No heads = 26 Watts remote capacity
Two 6-watt ELF2 heads = 12 Watts remote capacity
Remote capacity Nickel-Cadmium models (EN)
No heads = 20 Watts remote capacity
Two 6-watt ELF2 heads = 8 Watts remote capacity

Power Requirements
120/277 Vac 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Improved Diagnostics (audible)	**-ID**
Flasher/Buzzer	**-FB**
Vandal Resistant Screws	**-VR**
Fire Alarm Flasher	**-FAF**

ACCESSORIES

(Order as a separate item)

Black Pendant	**PB-***
White Pendant	**PW-***
Wire Guard (Wall mount)	**WG6-L**

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

ORDERING FORMAT

U	X3	EN	B	R	A	LED	/2M	-FB
Series **Blank**= Single face no canopy **U**= Universal 2 faces & canopy	**Model** X2 Series	**Type** **E**= Self-Powered Lead Calcium **EN**= Self-Powered Nickel-Cadmium	**Color** **W**= White **B**= Black	**Letter Color** **R**= Red **G**= Green	**Stencil** **W**= White **B**= Black **A**= Aluminum	**Light Source** **LED**= LED	**Combo Unit** **/0**= 0 heads power use for remote fixtures **/1L**= 1 Large head **/1M**= 1 Mini head **/2L**= 2 Large heads **/2M**= 2 Mini heads	**Options** **-FB**= Flasher/Buzzer

Quickie II Series

Thermoplastic LED Exit Signs
AC-Only and Self-Powered Exits
Sealed Maintenance-free Nickel Cadmium Battery
Damp location listing is standard on all models
UL Listed

The **Quickie II Series** is a compact, all-in-one snap-together design. Easy to install and affordable, the Quickie II Series is ideally suited for any commercial application, especially those in which large numbers of exit signs are required.

FEATURES

Reliability

The **Quickie II Series** has a three-year full warranty.

Unit Data

The housing is constructed of thermoplastic material; available in mist-white. The design incorporates a "snap in " canopy for top or end mount, (virtually tool free installation), Universal mounting comes complete with two face plates, one backplate and canopy.
The light source of the exit sign will be red LED technology, which will provide a uniform illumination on the legend. Batteries provide 90 minutes of emergency operation.

Emergency Models

- Replaceable, sealed Nickel-Cadmium battery
- Provides a minimum 90 minutes of continuous emergency illumination
- Batteries recharge per UL924 specifications
- All exit sign models consume less than 2.5 watts

Power Requirements

120/277Vac, 50/60Hz

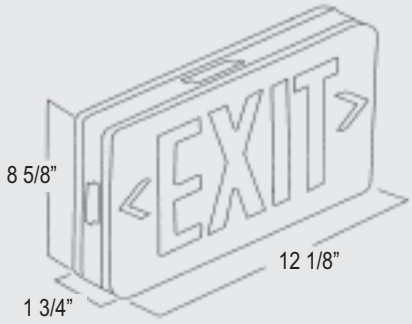
ACCESSORIES

(Order as a separate item)

Wire Guard (Wall mount) **WG1-L**
Wire Guard (Ceiling or end mount) **WG5-L**

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

QLXN500	R
Series	**Stencil Face**
QLX500= AC-Only	**R**= Red
QLXN500= Self-powered	**G**= Green

Quickie II "QLX-MRS" Series

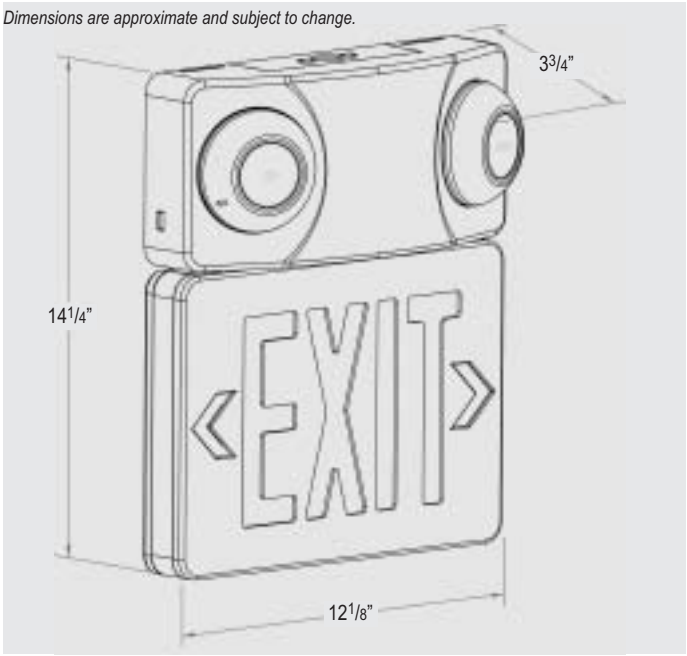
Quickie II – Thermoplastic LED Exit Signs
Combination Units
Sealed Maintenance-free Lead Calcium Battery
Damp location listing is standard on all models
UL Listed

NEW IMPROVED LOOK!

The **Quickie II "QLX-MRS" Series** is a compact, all-in-one snap-together design Easy to install and affordable, the **QLX Series** is ideally suited for any commercial application, especially those in which large numbers of exit signs are required.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

UQLXN500	R	2MRS	B
Series	**Stencil Face**	**Light Heads**	**Option**
UQLXN500= Self-powered	**R**= Red **G**= Green	**2MRS** = 2 MR16 lamps 6V Halogen	**B** = Black

FEATURES

Reliability

The **Quickie II "QLX-MRS" Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The housing is constructed of thermoplastic material; available in mist-white. The design incorporates a "snap in " canopy for top or end mount, (virtually tool free installation), Universal mounting comes complete with two face plates, one backplate and canopy.
The light source of the exit sign will be red LED technology, which will provide a uniform illumination on the legend. Batteries provide 90 minutes of emergency operation.

Emergency Models

- 6 volt, sealed, maintenance-free Lead-Calcium battery
- Fully adjustable, glare-free, 6V 5W MR16 lamps

Lamps

The **"QLX-MRS"** combination unit comes complete with two directional heads, glare free MR16 lamps with front glass cover and will remain illuminated in emergency mode for a period of 90 minutes. This unit is not capable of powering remote heads.

Circuitry

Fully integrated circuitry includes a 120/277Vac input voltage, as well as an automatic, battery charger and AC-LED monitor and test switch.

Power Requirements

120/277Vac, 60Hz

OPTIONS

(Add Suffix to Model No.)	Suffix
Black	**-B**

ACCESSORIES

(Order as a separate item)

Replacement MR16 lamp, 6V 5W	**580.0072-L**
Wire Guard (Wall mount)	**WG6-L**

Quickie II "QLXN500-SQ" Series

Quickie II – Thermoplastic LED Combination Units
Sealed Maintenance-free Lead Calcium battery
Damp location listing is standard on all models
UL Listed

The **Quickie II "QLXN500-SQ" Series** is our combo unit with field adjustable heads to accommodate job site mounting requirements.

FEATURES

Reliability

The **Quickie II "QLXN500-SQ" Series** has a three-year full warranty. (excluding lamps and fuses)

Unit Data

The housing, faceplates and canopy are constructed of a durable high-impact thermoplastic material (94,5VA Flame rating) available only in mist-white. The combo is suitable for wall or ceiling mount and comes standard with two faceplates, a backplate and a snap-fit canopy that requires no hardware to secure to the unit.
The two, 6 volt, 6-watt wedge base, glare-free emergency lighting heads can be positioned as top mount or side mount without disassembly or rewiring of the unit.
The light source of the exit sign will be red LED technology, which will provide a uniform illumination on the legend. LED lamps are operated in normal (AC in put) and emergency (DC input) modes.

The combo is powered in the emergency mode by a sealed, maintenance-free Lead Calcium battery that is pre-wired to accommodate an additional battery should a remote load be required. Remote capacity – may power additional remote heads (up to 6 Volt, 12 Watt) with additional battery

Lamp

The combo comes standard with two fully adjustable, glare-free, 6 Volt, 6 Watt wedge base lamps.

Power Requirements

Universal voltage, 2-wire input 120/277Vac, 60Hz

OPTIONS

(Add Suffix to Model No.)	Suffix
*Remote Capacity (12 watts)	R

* *Do not exceed rated unit capacity.*

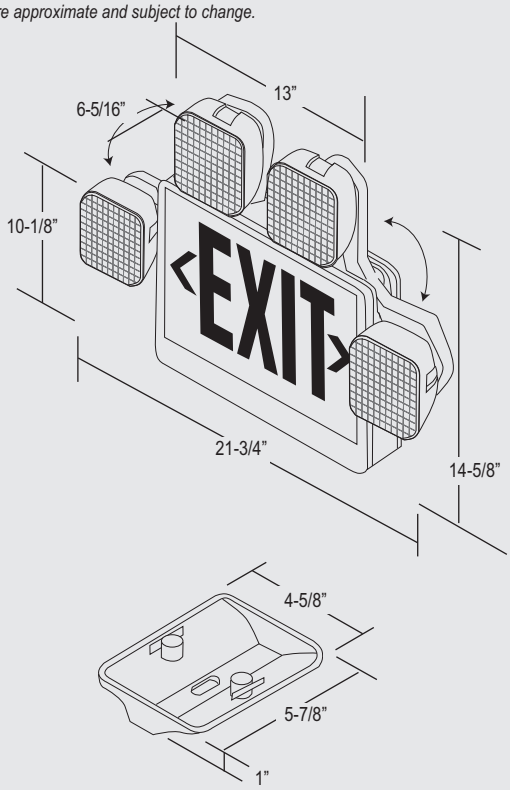
ACCESSORIES

(Order as a separate item)

Wire Guard (heads in any position)	WG10-L
Replacement Battery	860.0004-L
Replacement Lamp (standard)	570.0012-L

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

UQLXN500	R	2SQ	R
Series	**Stencil Face**	**Light Heads**	**Capacity Indicator**
UQLXN500= Self-powered	**R**= Red **G**= Green	**2SQ** = Lamps standard 6V 6W	**Blank**=No remote capacity **R**=12W remote capacity

Severe XV Series Exit

Nema-4X Self-Powered LED Exit Sign
Standard with Diagnostic/Self-Test Feature
Sealed Maintenance-Free Nickel-Cadmium Battery
Standard Damp Location Listing (10°C - 40°C) (50°F-104°F)
UL Listed

The **Severe "XV" Series Exit** is housed in an industrial-grade polyvinyl chloride enclosure. This exit was designed specifically for harsh environments that would strain standard exit signage such as schools, transit platforms, parking garages, wet and cold locations as well as any location prone to vandalism.

20°C) (-4°F) (Self-Powered models only) .....**-CW**
Open face/special wording ..... **-Y**
** AC only units.*

POWER CONSUMPTION CHART

Model	AC Specs		DC Specs	
AC-only	120 to 277Vac	1.2W	-	-
AC/DC	120 to 277Vac	1.2W	6 to 48Vdc	Less than 1.5W
Self-powered	120 to 277Vac	3.7W	Nickel-Cadmium	Min. 90 Minutes

FEATURES

Reliability

The **Severe XV Series** exit has a five-year full warranty.

Unit Data

The housing is fabricated of a polyvinyl chloride enclosure, which is fully gasketed around the lens and canopy to prevent water infiltration. The sealed faceplate is constructed of a heavy-duty, vandal-resistant polycarbonate and features an evenly illuminated legend. This faceplate is fastened with stainless steel tamper-resistant screws and the **Severe XV Series** comes standard with a magnetically operated test switch. Diagnostic/Self-Test circuitry is standard on all self-powered models.

The light source of the exit sign will be red LED technology, which will provide a uniform illumination on the legend. Models can be wall, end or ceiling mounted. Legend and chevron complies with UL requirements. Sealed, maintenance-free Nickel-Cadmium batteries offer superior performance, long life and 90 minutes of emergency operation. AC-only signs come wired as AC/DC signs, which operate off a remote DC power source when AC power fails. DC input is a 2-wire, 6-48Vdc universal input.

Applications

- High Abuse Areas,
- Vandal Prone Areas,
- Damp and Wet Locations,
- NEMA 4X rated,
- Hose Down Areas,
- Cold Temperatures,
- Food Processing/Preparation

High Performance Circuitry

- Self Contained... Batteries & circuitry located inside the exit housing.
- Continuous self-diagnostic monitoring and monthly self testing.
- Fully automatic charger is solid state.
- Sealed, maintenance-free nickel cadmium provide 90 minutes of emergency operation.
- Batteries recharge per UL924 requirements.

Power Requirements

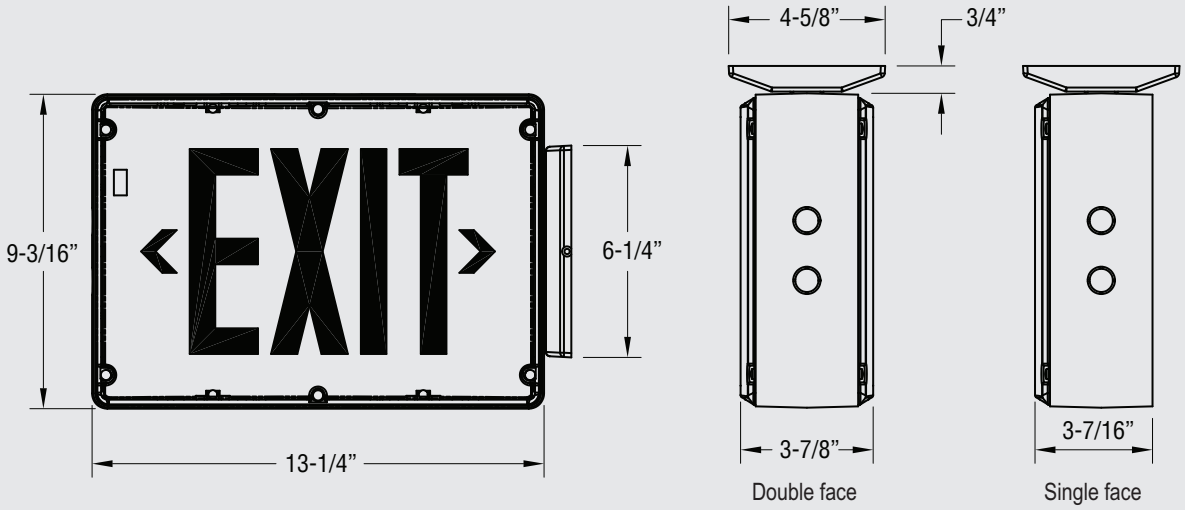
Universal, 2-wire input 120-277Vac, 50/60Hz

OPTIONS

(Add Suffix to Model No.)	Suffix
Dual AC Circuit Operation	**-2***
Fire Alarm Activated Flasher	**-FAF**
Flasher/Buzzer (Self-Powered Only)	**-FB**
Flasher	**-1**
AC/DC Remote (6 to 24Vdc)	**-DC**
Cold weather unit (-40°C/-40°F) AC, AC/DC models	

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

BA	XV	-1	-R	-D	-4X	-2
Color Option, Housing/Face **Blank**= Black/Black **BW**= Black/White **BA**= Black/Aluminum **GB**= Gray/Black **GW**= Gray/White **GA**= Gray/Aluminum **WB**= White/Black **WW**= White/White **WA**= White/Aluminum	**Series** **XV**= AC-only **XVE**= Self-powered Nickel-Cadmium Battery	**Faces** **-1**= Single face **-2**= Double face	**Legend colors** **-R**= Red **-G**= Green	**Diagnostics** **Blank**= AC-only models **-D**= Standard on all self-powered Models **NEX**= Nexus interface	**Housing** **-4X**= Standard NEMA-4X housing	**Options** **Blank***= AC-only **2***= Dual Circuit (AC only) **CW****= Cold weather (Self-powered -20°C) **1***= Flasher only **DC***= 6 to 48Vdc **F***= Fire alarm activated flasher **FB***= Flasher/buzzer (self-powered only) **Y**=Open face/special wording

Severe NEMA-4X Rated Family

The **Severe XV Series** exit sign is a part of the Severe family of NEMA-4X Rated emergency lighting products. A complete emergency lighting solution for commercial and industrial environments where 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.

Severe XV Combo Series
p.82

Severe V Series Battery Unit
p.46-47

Severe ELF650 Remote Series
p. 100

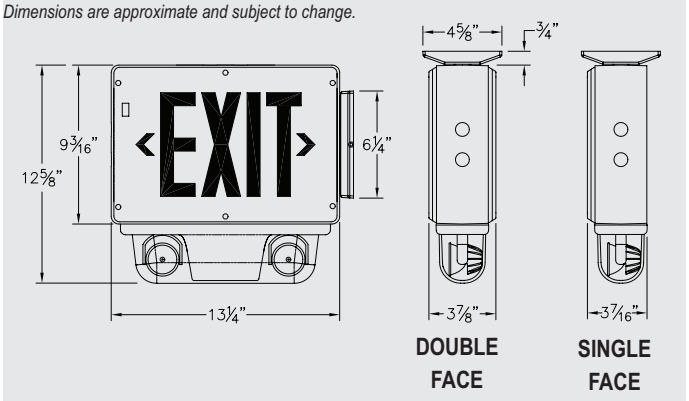
Severe XV Combo Series

6 or 12 Volt Weather and Corrosion-Resistant Emergency Unit
Maintenance-Free Nickel Cadmium Battery
UL Listed
UL listed: standard wet and damp locations
(+10'C to +40'C) (+50'F to +104'F)
UL listed for cold weather
(-40'C to +25'C) (-40'F to +77'F) - see options below

The **Severe XV Combo Series** is designed and engineered with style in mind and sets new standards for emergency lighting in today's toughest environments. The Severe XV is suitable for industrial and commercial applications as well as all public facilities.

DIMENSIONS

Dimensions are approximate and subject to change.



POWER CONSUMPTION CHART

Model	AC Specs		
XV12E	120 to 277Vac, 60Hz	0.12/0.06 A	Less than 13W
XV24E	120 to 277Vac, 60Hz	0.18/0.08 A	Less than 20W
Cold Wather Option	120 to 277Vac, 60Hz	0.20/0.09 A	Less than 24W

UNIT SELECTION CHART

Sealed Maintenance-Free Battery Type	Input Power	Output Voltage	Total Output Power for Emergency Heads
Nickel-Cadmium	120/277V, 60HZ, 0.12/0.06A, 13/13W	6Vdc	12W
	120/277V, 60HZ, 0.17/0.08A, 19/19W	12Vdc	24W

Canopy Pendant Mount .....**CM**
**Available in 12E1 version only.* ***Not available with ("DA" Audible Diagnostics)*

ACCESSORIES

(Order as a separate item)

Additional Special Bit for Tamper-proof Screw.....**TPB**

FEATURES

Reliability

The **Severe XV Combo** Series has a five-year full warranty (excluding lamps and fuses).

Unit Data

The **Severe XV Series** combo Nema-4X rated housing can withstand moisture, dust and corrosion. The faceplates are molded of heavy-duty, vandal-resistant polycarbonate and the rugged UV-stabilized thermoplastic body will not dent, peel or corrode. The combo unit is equipped with stainless steel tamper-proof screws. A special bit is provided with every unit. The combo comes in a choice of three colors: mist white, black or gray. The Severe XV combo comes standard with a universal mount canopy kit allowing the unit to be end, ceiling or wall-mounted. A universal knockout pattern allows direct mounting on the junction box. Knockouts are also available for conduit entry and are located on the top and both sides of the unit.

Light Source

An innovative, fully field adjustable lamp head assembly offers the choice of MR16 halogen lamps up to 12V, 12W or high-efficiency, 4-watt, MR16 LED lamps. Long life, energy efficient technology red LED illuminated EXIT legend is Energy Star compliant.

Charger

The **Severe XV Series Combo** unit is equipped with the fully automatic Lightalarms Improved Diagnostic micro-controller board. The micro-controller tests, detects and indicates battery, charger circuitry, lamps or LED strip failures. An external LED signals a general service alarm while an internal diagnostic LED display indicates the nature of failure. The unit performs periodical self-tests of minimum 30 seconds every 30 days, 30 minutes every six months and 90 minutes annually. The board is factory preset to non-audible diagnostic and a 15 minutes time delay. These functions can be enabled or disabled during installation. The equipment comes standard with a dual voltage input of 120/277 Vac.

OPTIONS

(Add Suffix to Model No.)	Suffix
Cold Weather Location (-40°C to +25°C) (-40°F to +77°F)	**CW4***
Fire Alarm Activated Flasher	**FAF**
Flasher/Buzzer (AC power failure)	**FB****
Flasher (AC power failure)	**FL**

ORDERING FORMAT

QLXN500	XV	12E	1	R	D	4X	/2	M6	GW4
Housing/Face Color **Blank**= black/black **BW**= black/white **BA**= black/aluminum **WW**= white/white **WB**= white/black **WA**= white/aluminum **GA**= gray/aluminum	**Series** **XV**	**Capacity** **12E**= 6V-12W **24E**= 12V-24W	**Faces** **1**= single face **2**= double face	**Letter Color** **R**= red letters **G**= green letters	**Diagnostics** **D**= improved diagnostics non-audible (standard) ***DA**= improved diagnostics audible **must specify*	**Housing** **4X**= NEMA-4X	**# of Heads** **/0**= 0 heads* **/2**= two heads ** Remote Lamp(s) must be connected*	**Lamp/Wattage** **M6**= MR16, 6V-6W **M12**= MR16, 12V-12W **L5**= LED, 12V-4W	**Option** **Blank**= no options ***CW4**= cold weather **Available in 12E1version only*

XT Series

Self-Luminous Exit Sign
Non-Electric, No Wiring or Energy Required
UL Listed

The **XT Series** signs are suitable for use in hazardous, explosive, corrosive, humid or any other harsh environment. The XT Series is not dependant upon the use of electrical power, either internally or externally.

FEATURES

Reliability

The **"XT" Series** exit signs shall be spark free and suitable for use in humid, corrosive or explosive environments. Lightalarms will replace, free of charge, any product in which the luminosity is found to be defective during its specified luminous life, or which falls below specified luminous life.

Unit Data

The **XT Series** Self-Luminous exit sign frame, backplate and canopy shall be of ABS molding. Tamper proof assembly with no removable fasteners. Frame finishes include white or black. The signs can be mounted flush to wall or ceiling without a canopy. The faceplate is constructed of acrylic (optional Polycarbonate) .13 inches thick. The legend is constructed of non-glare polycarbonate, .015 inches thick, open letters, field programmable arrows and background colors include red or green. Contrast ration for both conditions shall exceed .5 and meet requirements of UL924 and NFPA. Non-Electric - These exit signs do not require batteries, lamps or electricity for illumination. Electrical wiring, power, lamp replacement and maintenance are not required.

Illumination is provided by phosphor-coated borosilicate tubes filled with tritium gas. Tritium gas energizes the phosphor-coated tubes in the sign. The low energy beta emission of tritium striking the phosphor coating inside the pyrex® glass tubes causes illumination to be generated.

Harsh and/or Hazardous Environments

- Mines
- Refineries
- Paper Mills
- Food Processing Plants
- Spray Booth Areas
- Off Shore Rigs
- Chemical Plants
- Grain Elevators

Licenses and Codes

- UL - Underwriters Laboratories
- OSHA - Occupational Safety and Health Administration
- BOCA, ICBO, SBCCI - American Building Officials
- MSHA - Mine Safety and Health Administration
- NRC - Nuclear Regulatory Commission
- Uniform, Basic and Standard Building Codes

Meets full test specifications of ANSI (American National Standards Institute) for use in harsh or dangerous environments, Meets requirements of National Electrical Codes, Class I and II.

OPTIONS

(Add Suffix to Model No.)	Suffix
Aluminum Frame	**-AF**
Fully Recessed Frame	**-FR**
Aluminum Frame and Polycarbonate shield	**-AFPC**

ACCESSORIES

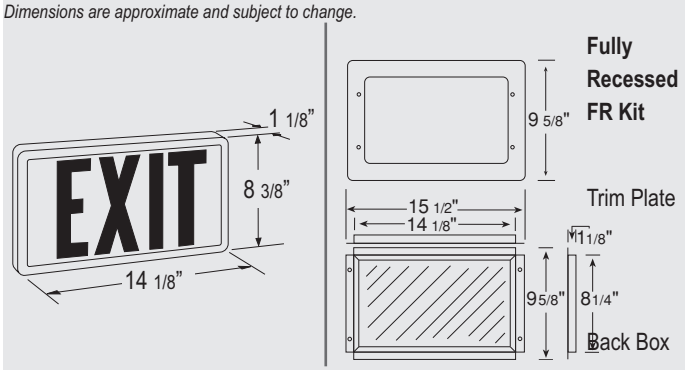
(Order as a separate item)

White Pendant	**PW-***
Black Pendant	**PB-***

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

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 end) | Ceiling Mount (flush ceiling) | Pendant Mount

ORDERING FORMAT

XT	10	B	R	-FR
Series	**Sign Life**	**Housing Color**	**Legend Color**	**Options**
XT=Single Face **2XT**=Double Face	**10**=10 Years **15**=15 Years **20**= 20 Years	**W**=White **B**=Black	**R**=Red **G**=Green	**-FR**=Fully Recessed Frame

Special Wording

Illuminated Signage

Custom-worded, illuminated signage is available using the same sturdy construction and electrical design as Lightalarms exit signage. A wide range of sign body options and color choices are available to suit any application.

FEATURES

- The same sturdy construction and electrical design used in our exit signs, is used to produce our custom-worded, illuminated signage
- Sign bodies - steel, extruded and die-cast aluminum, weatherproof, flame-retardant polycarbonate, high impact thermoplastic, recessed housing
- Also available with combination units
- 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
- Illumination – LED (light-emitting diodes) - other light sources available
- Contact your local Lightalarms representative to discuss your specific requirements

More panel designs are available.
Contact factory for the complete list.

Triad

Triad LED Replacement Lamps
LED Retrofit Kit

- Convert high consumption incandescent and fluorescent lamps to energy efficient LED lamps.
- Reduce energy consumption by up to 90%
- Improve visibility and reliability
- Reduce maintenance costs

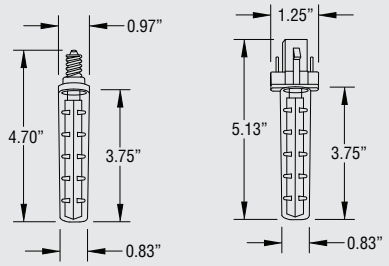
Red Illumination only

FEATURES

- Quick and easy to install
- Available with wide range of lamp bases for quick lamp to lamp replacement
- Available in ultra high-brightness Red LED's (Red LED's only)
- 120Vac only

DIMENSIONS

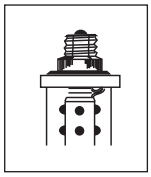
Dimensions are approximate and subject to change.



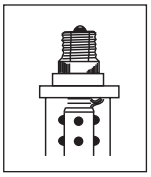
POWER CONSUMPTION CHART

Model	AC Specs	
LRB	120Vac	0.90W
LRB-F	120Vac	1.6W

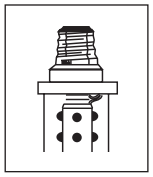
LRB-C
Candelabra Base



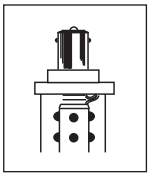
LRB-I
Intermediate Screw Base



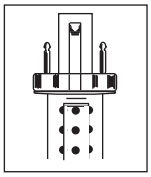
LRB-M
Medium Screw Base



LRB-B
D.C. Bayonet Base



LRB-F
PL 5, 7 or 9 Watt Base



ORDERING FORMAT

LRB	-C
Model	**Base** **-C**= Candelabra **-I**= Intermediate **-M**= Medium **-B**= Bayonet **-F**= Compact Fluorescent

LED Retrofit Kit

FEATURES

- Easiest to install in its class
- Compact size makes it ideal for virtually all exit signs
- Can be retrofitted directly on fluorescent ballast
- Long-Life, energy-efficient red (only) LED technology
- Available with AC adaptor for various type of lamp sockets
- 120Vac only

POWER CONSUMPTION CHART

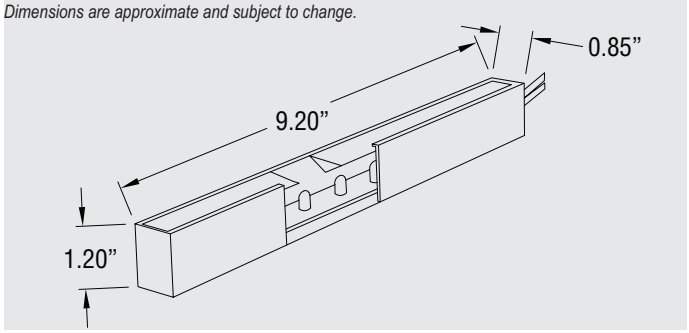
Model	AC Specs	
LEC-RX	120Vac	1.70W

ORDERING FORMAT

LEC-RX	-C
Model	**Base** **-C**= Candelabra **-I**= Intermediate **-M**= Medium **-B**= Bayonet **-F**= Compact Fluorescent

DIMENSIONS

Dimensions are approximate and subject to change.



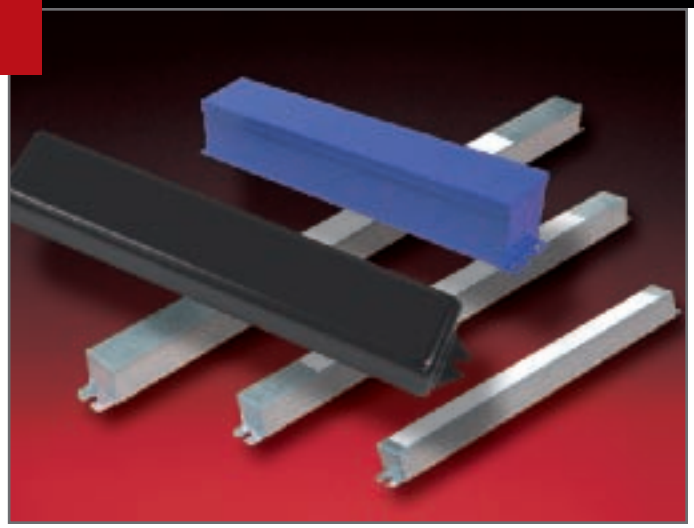
Notes

Fluorescent Emergency Lighting Ballasts

■ Ballast Referance Chart

MODEL #	AM7	AM11	AM12	AM18	AM20	AM23	AM28	AM30	AM32	AM80-D	AM54	AM540
Lumens	700	650	1300	650	650	1400	500	3000	500	1300	825	1300
LINEAR LAMPS												
Lamp Type (# of Lamps)												
2'-4' Rapid, Instant, Energy Saving, T8 thru T12 (1)	X		X				X	X	X	X	X	X
2'-4' Rapid, Instant, Energy Saving, T8 thru T12, HO & VHO (2)	X		X			X		X		X		
2'-8' Rapid, Instant, Energy Saving, T8 thru T12, HO & VHO (1)	X		X					X		X		
F17 T8 (1)	X		X				X		X	X	X	X
F17 T8 (2)	X		X			X				X		
F25 T8 (1)			X				X	X		X	X	X
F25 T8 (2)			X					X		X		
F32 T8 (1)	X		X				X	X	X	X	X	X
F32 T8 (2)	X		X			X		X		X		
F40 T8 (1)											X	X
FO96 T8 (1)	X		X					X		X		
14W T5 (1)			X				X				X	X
21W T5 (1)			X				X				X	X
24W T5 (1)			X				X				X	X
28W T5 (1)			X				X	X	X	X	X	X
39W T5 (1)			X							X	X	X
54W T5 HO (1)			X					X		X	X	X
F20 T12 (1)	X		X						X	X		
F20 T12 (2)	X					X						
F40 T12 (1)	X		X					X	X	X		
F40 T12 (2)	X					X		X				
F48 T12 (1)			X							X		
F96 T12 (1)	X		X					X		X		
COMPACT LAMPS												
18W Long Compact (1)												
24W Long Compact (1)					X							
36W Long Compact (1)			X		X	X				X	X	X
40W Long Compact (1)	X		X		X	X		X	X	X	X	X
40W Long Compact (2)								X				
50W Long Compact (1)	X		X			X		X		X	X	X
55W Long Compact (1)	X		X			X		X		X	X	X
5W PL CF 2-Pin (1)		X										
7W PL CF 2-Pin (1)		X										
9W PL CF 2-Pin (1)		X										
13W PL CF 2-Pin (1)		X										
18W PL CF 2-Pin (1)				X								
26W PL CF 2-Pin (1)				X								
10W PL CF 4-Pin (1 or 2)								X				
13W PL CF 4-Pin (1 or 2)					X			X				
18W PL CF 4-Pin (1 or 2)								X				
26W PL CF 4-Pin (1 or 2)								X				
32W PL CF 4-Pin (1 or 2)								X				
42W PL CF 4-Pin (1)								X				
42W PL CF 4-Pin (2)								X				
57W PL CF 4-Pin (1)			X					X		X		
57W PL CF 4-Pin (2)								X				
70W PL CF 4-Pin (1)			X					X		X		
20W Circline (1)	X		X					X	X	X	X	X
20W Circline (2)	X		X					X		X		
40W Circline (1)	X		X					X	X	X	X	X
40W Circline (2)	X		X					X		X		
55W Circline T5 (1)	X							X				

AM Series



Fluorescent Power Packs
Sealed Maintenance-Free Nickel-Cadmium Battery
UL Listed

The **AM Series** Fluorescent power packs are a cost-efficient solution for conversion of new or existing fluorescent fixtures into emergency lighting units. This series are ideally suited for commercial applications.

FEATURES

Reliability

The **AM Series** has a three to five-year full warranty (Please see chart below)

Unit Data

The **AM Series** components are housed in a compact ballast-size case. Installation is simple and cost-efficient. Unit mounts easily inside or on top of fixture using wire end caps (if necessary). Can be wired to operate with switched, un-switched or normally off fixtures without affecting normal operation. Use with Circline, U-shaped and energy-saving lamps. For VH0, SH0 and Power Groove® *lamps, use the AM7 or AM12 models. Compatible with standard, energy-saving, dimming and electronic AC ballasts.*Power Groove is a registered trademark of GE.

Charger

- Fully automatic solid state charger.
- Automatic transfer relay energizes lamp instantaneously upon failure of normal AC supply.
- Low voltage disconnect prevents overdischarge of battery.
- External test switch and pilot light.

Power Requirements

Dual Voltage 120/277Vac, 60Hz, 0.3/0.15 Amp

OPTIONS

(Add Suffix to Model No.)	Suffix
Damp Location Listing (Only available on AM80 Series)	-D

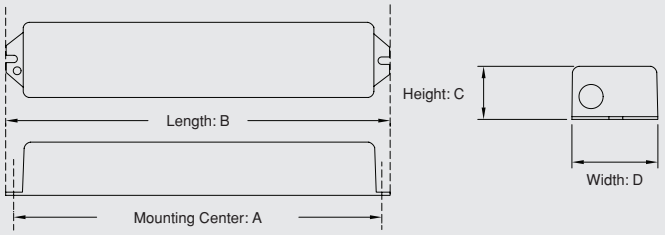
ACCESSORIES

(Order as a separate item)

Remote Test Switch (Metal faceplate)	PSW
Remote Test Switch (Plastic faceplate)	PSW1
Wire end caps for AM32	EC6

DIMENSIONS

Dimensions are approximate and subject to change.



Model	Dimensions (inches)			
	a	b	c	d
AM7	9"	9-5/8"	1-1/2"	2-3/8"
AM11	8-7/8"	9-1/2"	1-1/2"	2-3/8"
AM12	12-1/2"	13-1/8"	1-1/2"	2-1/4"
AM18	11-1/2"	12"	1-1/2"	2-3/4"
AM20	9"	9-1/2"	1-1/2"	2-3/8"
AM23	12-3/4"	13-1/8"	1-1/2"	2-3/8"
AM32-L	9"	9-5/8"	1-1/2"	2-3/8"
AM80-D	12-3/4"	13-1/8"	1-1/2"	2-3/8"
AM540	21"	21-1/2"	1-3/16"	1-3/16"

ORDERING FORMAT

AM80	-D
Series	**Option Suffix**

UNIT SELECTION CHART

Model #	Lamp Operated in Emergency Mode (see new ballast referance chart)	Emergency Illumination Time	Lumens	Wire End Caps	Warranty
AM7	1 lamp 2'-8' (20W-215W) or 2 lamps 2'-4' (20W-40W)	90min.	700	Included	3 year full
AM11	1 compact fluorescent lamp (7, 9 or 13W)	90min.	650	Not required	3 year full
AM12	1 lamp 2'-8' (20W-215W) or 2 lamps 2'-4' (20W-40W)	90min.	1300	Included	5 year full
AM18	1 compact fluorescent lamp (18W & 26W)	90min.	650	Not required	3 year full
AM20	1 compact fluorescent lamp or 2 compact fluorescent lamps (10W-42W)	90min.	650	Not required	3 year full
AM23	2 lamps 2'-4'	90min.	1400	Included	3 year full
AM32-L	1 lamp 2'-4' (20W-40W)	90min.	550	Optional Order #EC6	3 year full
AM80-D	Most 2'-8' single, bi-pin T8 + T12, long compact, HO + HVO fluorescent lamps	90min.	1300	Not required	5 year full
AM540	1 lamp 2'-4' (40W-50W) Most 2'-4' T5 or T8 and 40-55 watts 4 pin compact fluorescent	90min.	1300	Optional order #EC54	3 year full

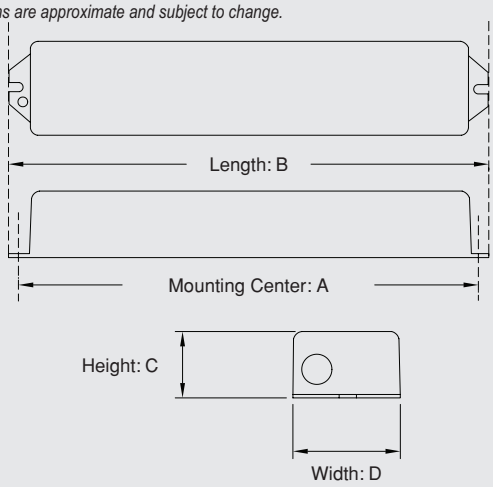
AM30 Series

Emergency Power Packs
T8 or T12 Fluorescent Lamps
Sealed Maintenance-Free Nickel-Cadmium Battery
UL Listed

The AM30 Series designed for use with most T5 or T8 fluorescent lamps. They are ideal for use in linear lighting fixtures where ballast space is limited.

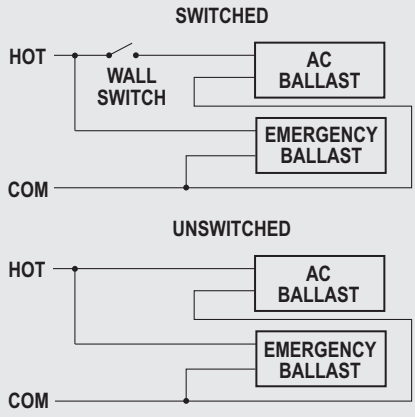
DIMENSIONS

Dimensions are approximate and subject to change.



Model	Dimensions (inches)			
	a	b	c	d
AM30	15 7/8"	16 3/8"	3"	3"

DIAGRAM



Primary circuit only. Lamp leads not shown.

ORDERING FORMAT

AM30

Series

FEATURES

Reliability

The AM30 Series has a five-year full warranty.

Unit Data

The housing of the AM30 consists of a single, sealed housing compartment containing the battery, battery charger, transfer circuit and high frequency inverter. A pilot light and test switch shall be provided. The AM30 comes standard with a 24" flex conduit on one end of the housing.
The AM30 can cold start and operate most 2"-8", single bi-pin T8 and T12 HO or VHO linear, 42-watt 4-pin lamp and long compact.
Emergency capabilities of the AM30 are one (1) 2'-8" or two (2) 2"-4' for a minimum of 90 minutes. Only one (1) long compact fluorescent lamp may be operated in the emergency mode.
The AM30 is designated for installation on top of the fixture or can be remote from the fixture.

Charger

- Fully automatic solid state charger.
- Automatic transfer relay energizes lamp instantaneously upon failure of normal AC supply.
- Low voltage disconnect prevents overdischarge of battery.
- External test switch and pilot light.

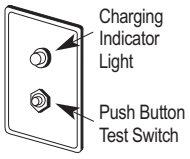
Power Requirements

Dual Voltage 120/277Vac, 60Hz, 3.5 watts

ACCESSORIES

(Order as a separate item)

Remote Test Switch (Metal faceplate).....**PSW**
Remote Test Switch (Plastic faceplate).....**PSW1**
Recommended for inaccessible locations. Test



UNIT SELECTION CHART

LUMEN OUTPUT	LAMPS OPERATED	EMERGENCY OPERATION
(1) Lamp - 3000 lumens	Most 2'-8' single, bi-pin, T8 & T12, HO or VHO linear, 42W 4-pin and long compact flourescent lamps	90 Minutes
(2) Lamps - 1500 lumens Per lamp		(1) 2'-8' or (2) 2'-4'

AM28 and AM54 Series

Emergency Power Packs
T5 or T8 Fluorescent Lamps
Sealed Maintenance-Free Nickel-Cadmium Battery
Damp Location Listed
UL Listed (for factory installation or retrofit applications)

The AM28 and AM54 are self-contained emergency ballasts designed for use with most T5 or T8 fluorescent lamps. They are ideal for use in linear lighting fixtures where ballast space is limited.

FEATURES

Reliability
The AM28 & AM54 Series has a five-year full warranty.

Unit Data
The housing of the AM28 & AM54 consists of a single, sealed housing compartment containing the battery, battery charger, transfer circuit and high frequency inverter. A pilot light and test switch shall be provided.
The AM28 can cold start and operate most 2"-4", 28-watt T5 and T8 fluorescent lamps.
The AM54 can cold start and operate most 2"-4", 54-watt T5 and T8 fluorescent lamps, including HO and 40-55-watt 4-pin, long compact fluorescent lamps. Emergency operation for a minimum of 90 minutes.

Charger
- Fully automatic solid state charger.
- Automatic transfer relay energizes lamp instantaneously upon failure of normal AC supply.
- Low voltage disconnect prevents overdischarge of battery.

Power Requirements
Dual Voltage 120/277Vac, 60Hz, 3.5 watts

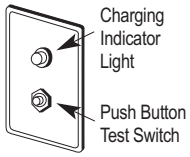
OPTIONS

(Add Suffix to Model No.)	Suffix
Damp Location Listing	-DL

ACCESSORIES

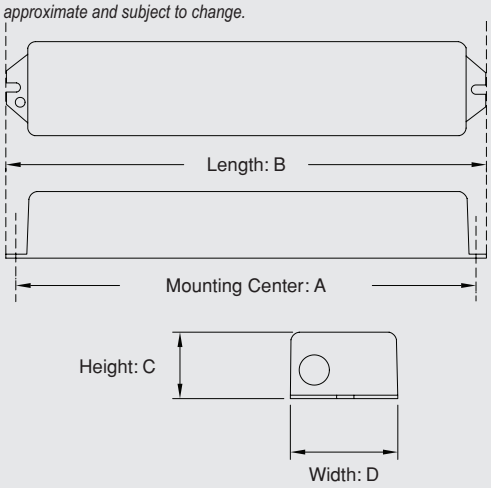
(Order as a separate item)

Remote Test Switch (Metal faceplate).....**PSW**
Remote Test Switch (Plastic faceplate).....**PSW1**
* Note: Recommended for inaccessible locations. Test switch and charging indicator on a single chrome mounting plate.



DIMENSIONS

Dimensions are approximate and subject to change.



Model	Dimensions (inches)			
	a	b	c	d
AM28	13-3/4"	14-1/4"	1-3/16"	1-3/16"
AM54	17"	17-1/2"	1-3/16"	1-3/16"

ORDERING FORMAT

AM28	-DL
Series	**Option Suffix** Damp Location Listing

UNIT SELECTION CHART

Model #	Lamp Operated in Emergency Mode	Emergency	Lumens	Wire End Caps	Warranty
AM28	1 lamp 2'-4'	90min.	500	Optional order #EC54	3 year full
AM54	1 lamp 2'-4'	90min.	825	Optional order #EC54	3 year full

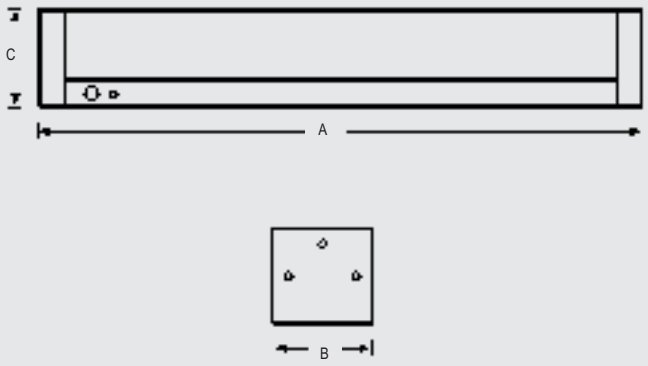
FF-AM Series

Self-Powered Fluorescent Fixture
Sealed Maintenance-free Nickel-Cadmium Battery
Tamper Proof and Vandal Proof
UL Listed

The FF-AM Series is a tamper and vandal resistant fluorescent fixture that combines the functions of normal area lighting and emergency lighting in one fixture.

DIMENSIONS

Dimensions are approximate and subject to change.



UNIT RATING CHART

Model	A	B	C	Lamp Type
FF-AM-1-20-120	24-1/4"	4-1/2"	4-3/8"	F20T12
FF-AM-1-20-277				
FF-AM-2-20-120				
FF-AM-2-20-277				
FF-AM-1-34-120	48-1/4"	4-1/2"	4-3/8"	F34T12
FF-AM-1-34-277				
FF-AM-2-34-120				
FF-AM-2-34-277				
FF-AM-1-32-120	48-1/4"	4-1/2"	4-3/8"	F32T8
FF-AM-1-32-277				
FF-AM-2-32-120				
FF-AM-2-32-277				

ORDERING FORMAT

FF-AM	-2	-20	-120
Series	No. of Lamp Sockets	Capacity Indicator	Fixture Voltage

FEATURES

Reliability
The FF-AM Series has a three-year full warranty (excluding lamps and pilot lights).

Unit Data
The housing of the FF-Am Series is constructed of steel and secured with tamper-proof screws. A tamper-proof screw driver bit is furnished standard with each unit. This series is completely self-contained and maintenance-free. The diffuser consists of an injection molded .125" UV stabilized, unbreakable polycarbonate lens. The lens features a prismatic pattern on the bottom and linear refractive sides for brightness control and 180° uniform light distribution. The FF-AM unit is available only as surface mount.

Lamp
Available with sockets for one (1), 20-watt, one (1), 34-watt, two(2), 20-watt or two(2) 34-watt T12 lamps, or one (1) or two(2) 32-watt T8 lamps supplied by others.

Charger
- Fully automatic solid-state charger.
- Low voltage disconnect prevents overdischarge of battery.

Controls
- Pilot light and test switch.

Power Requirements
Dual Voltage 120/277Vac, 60Hz, 3.5W

AM-L & AM-L-2 Series

Fluorescent T-Bar Power Pack
Sealed Maintenance-Free Nickel-Cadmium Battery
UL Listed

The AM-L & AM-L-2 Series Fluorescent T-Bar power packs are a cost-efficient solution for conversion of new or existing fluorescent fixtures into emergency lighting units. This series are ideally suited for commercial applications.

FEATURES

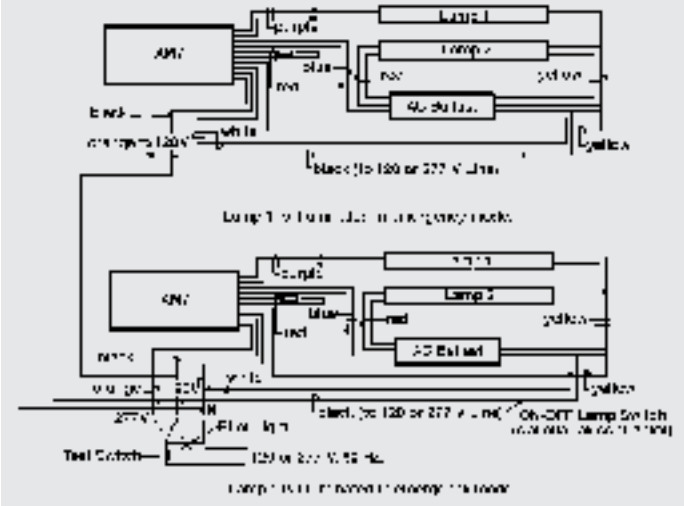
Reliability
The AM-L & AM-L-2 Series has a three -year full warranty.

Unit Data
This Series consists of an AM7 fluorescent pack secured to upper surface (interior) of a metal panel. AM-L units will light one lamp in any 2, 4, 6 or 8ft. fluorescent fixture. The AM-L-2 units will light two lamps in any four lamp 2, 4, 6, or 8 ft. fluorescent fixture. Panel is installed into dropped ceiling, adjoining fluorescent fixture. Location of fluorescent pack outside of fixture eliminates heat problems and the need to fit pack into fixture channel. Text switch and pilot light are located on the lower surface (exterior) of the panel for easy access. Units can be easily wired to the fluorescent fixture according to the wiring diagrams.

Pulse Type Charger
The inverter circuit shall be of solid state design of the ferroresonant type. It shall operate all standard 2, 4, 6 or 8 ft. lamps.
Charging is fully automatic by a solid state constant potential type charger. It is temperature compensated to assure optimum battery life.
The transfer circuit connects the lamp to the battery when there is a failure of the normal power supply and returns it to the utility source when normal power returns. A solid state line-latched low voltage disconnect circuit disconnects the lamp from the battery when the battery voltage drops to about 80% of nominal to protect the battery from a deep discharge.

Power Requirements
Input requirement 120/277Vac, 60Hz – 10 watts for inverter-charger (wattage of lamp to be added to this).

AM-L-2 WIRING DIAGRAM

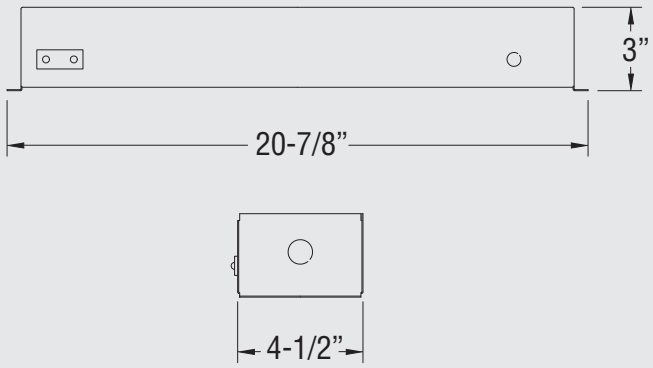


Typical wiring diagrams for rapid start lamp

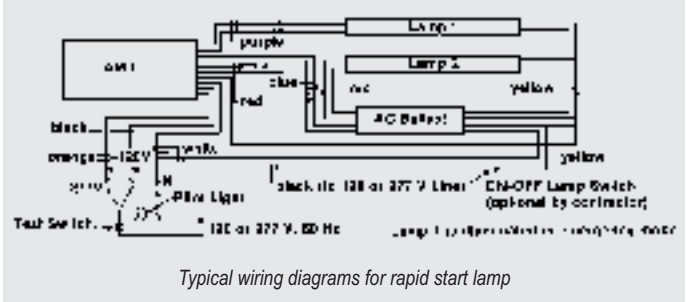
DIMENSIONS

Dimensions are approximate and subject to change.

REMOTE (FPS-R)



AM-L WIRING DIAGRAM



Typical wiring diagrams for rapid start lamp

ORDERING FORMAT

AM-L
Series

Notes

Central Systems

AC Central Systems

Lightalarms central systems are battery based power systems designed to operate loads in the event of a utility failure or brownout condition. All systems are self-contained and fully automatic.

Batteries offered with central systems:

- Sealed Maintenance-Free Lead-Calcium (AC & DC Systems)
- Refillable Nickel-Cadmium (AC Systems)

Single Phase Fast Transfer IPS

Single phase power systems for incandescent and fluorescent emergency lighting systems

- 98% efficient - 2mS transfer time
- PWM/IGBT technology
- Micro-processor control
- User programmable with password protection
- Tested to UL 924
- Automatic event and alarm log
- RS232 communications port
- Input circuit breaker
- Modular design
- Low audible noise
- Normally off output
- From 1.25KVa to 6.25KVa

Single Phase UPS

Single phase power systems for HID, incandescent and fluorescent emergency lighting systems.

- 98% efficient
- PWM/IGBT technology
- Micro-processor control
- User programmable with password protection
- Tested to UL 924
- Automatic event and alarm log
- RS232 communications port
- Input circuit breaker
- Modular design
- Low audible noise
- Normally on output
- From 4.3KVa to 18KVa

Three Phase UPS

On-line AC power systems for HID incandescent and fluorescent emergency lighting systems.

- 98% efficient
- PWM/IGBT technology
- Micro-processor control
- User programmable with password protection
- Tested to UL 924
- Automatic event and alarm log
- RS232 communications port
- Input circuit breaker
- Modular design
- Low audible noise
- Internal battery circuit breaker/fuse
- From 4.8KVa to 50KVa

For information on Lightalarms Central Systems, please contact your Lightalarms Sales representative.

All information and specifications contained on this page are subject to change without notice.

FULL INVERTOR CATALOG AVAILABLE UPON REQUEST OR ON OUR WEBSITE

Remote Fixtures

Camray Remote Series

FEATURES

The Camray Series combines the photometrical performance to a visually appealing design. An efficient reflector combined with two Xenon lamps deliver an incredible center-to-center spacing. The die-cast aluminum housing is offered in a wide range of colors to complement any interior. It will blend with the most sophisticated décor. With it's fully gasket housing, the Camray Series is also ideal for extreme outdoor environments. Designed to meet the needs of architects and designers without sacrificing safety, this fixture is available in a widerange of colors to complement any interior.

• CAM Remote head: UL listed for damp, wet and cold locations.
Operating temperature: –40 °C to +60 °C (–40°F to +140°F)

ORDERING FORMAT

CAM	/LX6	-0W	
Series	**Lamp Wattage**	**Color**	**Options**
CAM= Remote fixture (-40°C to +60°C)	**/LX6**= 6W, Xenon lamps **/LX10**= 10W, Xenon lamps	**-OW**= off white **-B**= black **-DB**= dark bronze **-PG**= Platinum gray	**6**= 6V **12**= 12V

Phantom Remote Series

FEATURES

The New Phantom Series goes virtually undetected, blending into any environment. When AC power fails and lights go out, that is when the Phantom emerges to illuminate the path to safety. This new unit is architecturally designed for unobtrusive use in walls with cavity or T-bar structures. In normal conditions (stand-by) the unit is completely concealed in the wall or ceiling. In case of power failure the door of the unit rotates open 180° and exposes the emergency lights (two high-efficiency MR16 lamps) to illuminate the path of egress. Once AC power returns or at the end of discharge period, the lights turn off and the door rotates closed automatically, driven by a patent-pending, energy-storage circuit.
The DC remote unit comes as a compact, one piece module and does not require the large gavanized steel back box.

ORDERING FORMAT

12	PHR2	-50	
Remote Voltage	**Series**	**Lamp Wattage**	**Options**
12= 12V, DC **24**= 24V, DC	**PHR2**= remote fixture	**-12**= 12W MR16 **-20**= 20W MR16 **-35**= 35W MR16 **-50**= 50W MR16 **-20H**= 20W MR16, high lumen output **-35H**= 35W MR16, high lumen output **-50H**= 50W MR16, high lumen output	**DL**= damp location

** Note: High lumen-output available with 12V only*

Saf-T-Ray Series

HOUSING

NEMA-3R

The premium die-cast aluminum housing is designed to withstand extreme weather conditions and yet provide aesthetically pleasing looks with a compact footprint. Ideal for damp, wet and cold location specifications, **Saf-T-Ray** provides a fully gasketed cover with the option of vandal-resistant screws. This unique wall-sconce is available in three textured powder coat paint finishes; white, black and dark gray (optional finishes available for custom projects – consult the factory).

DIFFUSER

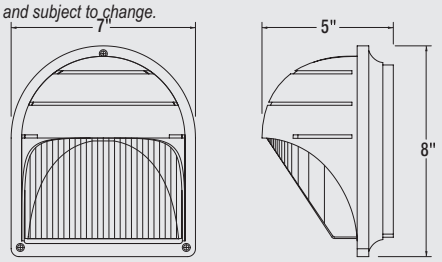
This specially manufactured polycarbonate diffuser maximizes light output, and completes the wall sconce decorative lines. **Saf-T-Ray**'s robust polycarbonate lens is the ideal choice for applications were impact–and tamper–resistant emergency lighting is specified.

LAMP

Precise beam control is provided with two fully adjustable MR16 halogen lamps, secured in an attractive molded swivel assembly for maximum light output. **Saf-T-Ray** will provide an average of one-foot candle along the path of egress. **Saf-T-Ray** can also be used with the premium option of the high efficiency 4-Watt MR16 white LED lamp. IES photometric data files are available.

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

SAF	-2	/M6	-M	6	
Series	**# of Lamps**	**Lamp Type/Wattage**	**Color**	**Voltage**	**Option**
SAF= Exterior remote	**-2**= 2 lamps (standard)	**/L5**= LED 4 watt(12V only) **/M6**= MR16-6 watt (6V only) **/M10**= MR16-10 watt (6V only) **/M12**= MR16-12 watt (12V or 24V only) **/M20**= MR16, 20 watt (12V or 24V only)	**-M**= white **-B**= black **-DG**= dark gray **-DB**= dark bronze	**6**= 6V **12**= 12V **24**= 24V	**-VR**= vandal resistant screws **-C**= clear lens

ICR-2 Remote Series

FEATURES

The ICR-2 Series remote emergency lighting fixture features a contemporary, elegant design in a compact thermoplastic housing. Attractive and versatile, the ICR-2 Series fixtures can be mounted in any orientation on walls and ceilings and are ideally suited for commercial or architectural applications requiring versatility and ease of installation.

DISCONTINUED

ORDERING FORMAT

ICR	5	-2
Series	**Lamp Wattage**	**# of Lamps**
ICR= remote fixture	**5**= 5.4 watts **7**= 7.2 watts	**-2**= 2 lamps 6V

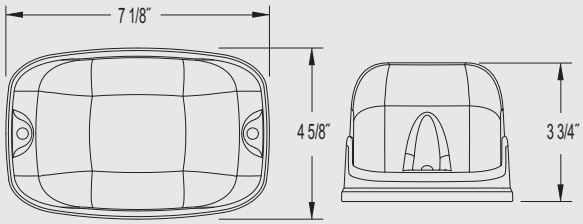
ELF650 Severe Series

FEATURES

The **Severe ELF650 Series** **Nema-4X** rated remote fixtures have a fully gasketed cast aluminum back plate, with a clear UV and impact resistant cover. The remote delivers unsurpassed path of egress illumination. The **ELF650** is available in single or double head models with the option of highly efficient MR16 lamps or the 4-watt, MR16 shape white LED. Easy lamp replacement, tool-less lamp aiming and easy installation on a four-inch octagonal box all make this remote the perfect choice for any environment. Comes standard with tamper-proof screws and bit. NSF Certified for food processing plants. Choice three colors,-white, black or gray. (Also available as a battery unit, refer to Severe V Series)

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

ELF650	/M12	-M	12

Series	Lamp Type/Wattage	Color	Voltage
ELF650=single NEMA-4X	**/M6**= MR16-6 watt (6V only)	**-M**= white	**6**= 6V
	/M10= MR16-10 watt (6V only)	**-B**= black	**12**= 12V
EF650D=double NEMA-4X	**/M12**= MR16-12 watt (12V or 24V only)	**-G**= gray	**24**= 24V
	/M20= MR16-20 watt (12V or 24V only)		
	/MH20= MR16-20 watt-IR (12V only)		

ELF651 Severe Series

Hazardous Location Remote Fixture

Class I, Division 2 Compliant Remote Fixtures

The **ELF651 Series** of Remote Fixture has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **ELF651 Series** of Remote Fixtures is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

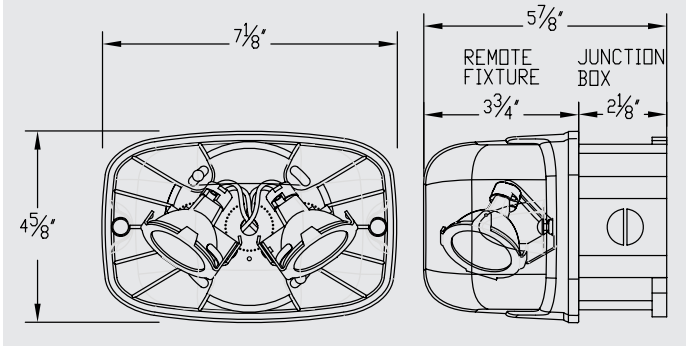
POWER AND TEMPERATURE RATINGS

Lamp Type	Input Voltage	Power (each of 2 lamps)	Temperature Code
MR16	6Volts	10 Watts	T3B (max. 165°C)
MR16	12, 24 Volts	12 Watts	T3B (max. 165°C)
MR16	12, 24, 120 Volts	20 Watts	T2C (max. 230°C)

Note: Use qualified replacement lamps to avoid risk of over-heating

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

ELF651	/M10	-M	6

Series	Lamp Type/Wattage	Color	Voltage
ELF651= Single	**/M10=** MR16 10Watts (6V only)	**-G**= Gray	**6**= 6V
ELF651D= Double	**/M12**= MR16 12Watts (12V, 24V)		**12**= 12V
	/M20= MR16 20Watts (12V, 24V, 120V)		**24**= 24V
	/MH20= MR16-IR		**120**= 120Vac/Vdc

Decorative Surface Remote Series

The Decorative Series emergency fixtures have been specially built to meet the needs of contemporary decor professionals. Constructed of a highly-resistant powder-coated die cast aluminum, these fixtures are available with 1, 2 and 3 head configurations, as well as a complete selection of attractive styles and shades. Safety and Security have never looked so good.


DR1130


DR3130


DR2130

Lamps: MR16 halogen, 6, 12 and 24 volt

SURFACE TYPE

Color: White = -WH , Black = -BK

DR1130

Description: Single compact adjustable decorative lighting heads

Dimensions: 5" diameter base, 4-1/8" height

DR2130

Description: Double compact adjustable decorative lighting heads

Dimensions: 5" diameter base, 4-1/8" height

DR3130

Description: Triple compact adjustable decorative lighting heads

Dimensions: 9-5/8" diameter base, 4" height

ORDERING FORMAT

DR1130	/M6	-WH	6
Series	**Lamp Type/Wattage**	**Color**	Voltage
DR1130	**/M6**= 6W (6V only)	**-WH**= White	**6**= 6V
	/M10= 10W (6V only)	**-BK**= Black	**12**= 12V
	/M12= 12W (12V or 24V)		**24**= 24V
	/M20= 20W (12V or 24V)		
	/M35= 35W (12V or 24V)		
	/M50= 50W (12V or 24V)		

Decorative Recessed Remote Series

The Recessed Decorative Remote series will create an entirely new design vocabulary of emergency lighting function and form. Constructed of a highly-resistant, powder-coated die cast aluminum, these fixtures are available in a selection of attractive styles and finishes. The contemporary, enduring designs along with the ultra energy efficient and light-intensive MR16 quartz halogen lamps make this remote collection a sleek, refreshing new take on emergency lighting solutions.


RSHT24


RSHT18R


RSHT18


RSHT19

RECESSED TYPE*

RSTH24

Description: Decorative lighting head

Dimensions: 4.0" diameter base

Color Suffix: -WH= White, -BK= Black, -CH= Chrome, -PB= Polished brass, -BN= Brushed nickel

RSTH18

Description: Decorative lighting head

Dimensions: 4.0" diameter base

Color Suffix: -WH= White or -BN= Brushed nickel

RSTH18R

Description: Decorative lighting head

Dimensions: 4.0" diameter base

Color Suffix: -WH = White or -BN = Brushed nickel

RSTH19

Description: Decorative lighting head

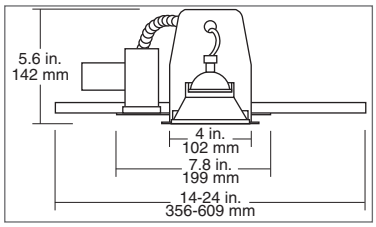
Dimensions: 4.0" diameter base

Color Suffix: -WH = White

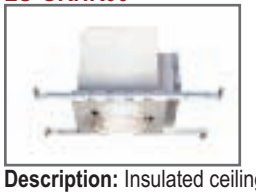
LU-GRHR03

Description: New construction housing

Dimensions: 5.6" x 14.24"

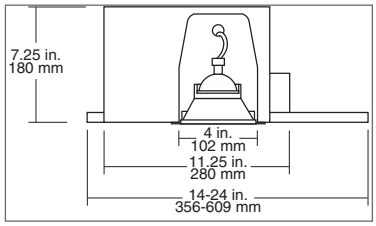


LU-GRHR06



Description: Insulated ceilings housing

Dimensions: 7.25" x 14.24"



ORDERING FORMAT

RSTH18	/M6	-WH	6
Series	**Lamp Type/Wattage**	**Color**	Voltage
RSHT18	**/M6**= 6W (6V only)	**-WH**= White	**6**= 6V
	/M10= 10W (6V only)	**-BK**= Black	**12**= 12V
	/M12= 12W (12V or 24V)	**-CH**= Chrome	**24**= 24V
	/M20= 20W (12V or 24V)	**-BN**= Brushed Nickel	
	/M35= 35W (12V or 24V)	**-PB**= Polished Brass	
	/M50= 50W (12V or 24V)		

**Recessed gimbal assemblies require a recessed housing and are sold separately.*

■ Surface Mounted Remote Series

Wattage doubles for "D" 2-lamp version

▫ ELF2, ELF2D

DESCRIPTION: Single or double PAR18 size indoor lighting head with fully adjustable swivel; all thermoplastic construction.

FINISH: Mist White (-M), Black (-B)

MOUNTING: Surface (wall or ceiling) direct 4" octagonal or single-gang box

DIMENSIONS: 5" diameter base, 5-9/16" height (single head)

LAMPS: Wedge base incandescent • Bi-pin halogen

VOLTS: 6, 12 or 24 volt

MAXIMUM WATTS: 18 watts

Remote Fixture Model #	Lamp Suffix	Color	Voltage
ELF2 (Single Head)	/_____ -	_____	_____
ELF2D (Double Head)	/_____ -	_____	_____

Wattage doubles for "D" 2-lamp version

▫ ELF3, ELF3D

DESCRIPTION: Single or double MR16 size indoor lighting heads with fully adjustable swivel. All thermoplastic construction.

FINISH: Mist White (-M), Black (-B)

MOUNTING: Direct to 4" octagonal electrical box

DIMENSIONS: 5" diameter base, 5-1/8" height (single head)

LAMPS: MR16

VOLTS: 6 or 12 volt

MAXIMUM WATTS: 20 watts

Remote Fixture Model #	Lamp Suffix	Color	Voltage
ELF3 (Single Head)	/_____ -	_____	_____
ELF3D (Double Head)	/_____ -	_____	_____

▫ ELF603

DESCRIPTION: Surface rectangular fixture with diffusion lens and welded steel housing.

FINISH: White baked enamel

MOUNTING: Surface (wall or ceiling). Knockouts provided on 2 sides and back.

DIMENSIONS: Trim ring- 8-1/4" X 4-1/2" X 3"deep
Back box- 6-1/2" X 3 X 2-5/8" deep

LAMPS: Double contact bayonet base

VOLTS: 6, 12, 24, 36 or 120V

MAXIMUM WATTS: 18 watts

Remote Fixture Model #	Lamp Suffix	Voltage
ELF603	/_____ -	_____

Wattage doubles for "D" 2-lamp version

▫ ELF622, ELF622D

DESCRIPTION: Single or double PAR36 size indoor lighting heads with fully adjustable swivel to 358°. All aluminum construction.

FINISH: Satin Aluminum (Blank), Mist White (-M), Black (-B) or Chrome (-CH)

MOUNTING: Direct to 4" octagonal electrical box.

DIMENSIONS: Single head: 5-1/8" diameter base, 8-1/2" height.
Double head: 5" diameter base, 6-1/2" height.
ELF622: Mounting plate 2-1/2" X 4-1/4"
ELF622D: Mounting plate 6-7/16" X 4-1/2"

LAMPS: Double contact bayonet base • W
• PAR36 sealed beam.

VOLTS: 6, 12, 24, 36 or 120 volt

MAXIMUM WATTS: 25 (10 watts for 120V)

Remote Fixture Model #	Lamp Suffix	Color	Voltage
ELF622 (Single Head)	/_____ -	_____	_____
ELF622D (Double Head)	/_____ -	_____	_____

ELF623, ELF623D

DESCRIPTION: Single adjustable decorative lighting head - all thermoplastic construction.

FINISH: Mist White (-M), Black (-B)

MOUNTING: Direct to 4" octagonal or single-gang box round mounting canopy standard.

LAMPS: Wedge base incandescent • Bi-pin halogen

VOLTS: 6 or 12 volt

MAXIMUM WATTS: 18 watts per head

Remote Fixture Model #	Lamp Suffix		Color	Voltage
ELF623 (Single Head)	/_____	-	_____	_____
ELF623D (Double Head)	/_____	-	_____	_____

ELF623, ELF623D

Wattage doubles for "D" 2-lamp version

ELF644, ELF644D

DESCRIPTION: Remote SQ SQUARE-LITE to match SQ, SQ-D Series shown on page 18. Constructed from high impact, mar-resistant thermoplastic with plated steel reflector and prismatic acrylic lens.

FINISH: Back box: Black satin; Front case: White

MOUNTING: Available for surface, semi-recessed (order SQR kit), or fully recessed (order FSQR kit) mounting. Fully recesses into T-bar or exposed Z-spline ceilings. Supporting bars or rods supplied by others.

DIMENSIONS: 9" X 9" X 4" deep

LAMPS: Bi-pin halogen • Wedge base inc

VOLTS: 6 or 12 volt

MAXIMUM WATTS: 14 watts per lamp

Remote Fixture Model #	Lamp Suffix		Voltage
ELF644 (Single Lamp)	/_____	-	_____
ELF644D (Double Lamps)	/_____	-	_____

ELF644, ELF644D

Wattage doubles for "D" 2-lamp version

ELF645, ELF645D, ELF645T

DESCRIPTION: Single, double or triple PAR36 size lighting head with fully adjustable swivel, all thermoplastic construction.

FINISH: Mist White (-M), Gray (-G) or Black (-B)

MOUNTING: Standard with round plate for mounting directly to 4" outlet box (4-gang plate for ELF645D optional).

LAMPS: Double contact bayonet base • PAR36 sealed beam.

VOLTS: 6, 12, 24, 32 or 120 volt

MAXIMUM WATTS: 25 watts per head

Remote Fixture Model #	Lamp Suffix		Color	Voltage
ELF645 (Single Head)	/_____	-	_____	_____
ELF645D (Double Head)	/_____	-	_____	_____
ELF645T (Triple Head)	/_____	-	_____	_____

ELF645, ELF645D, ELF645T

Wattage doubles for "D" 2-lamp version and triples for "T" 3-lamp version.

ELF648, ELF648D

DESCRIPTION: Single or double miniature cylinder with satin aluminum housing and mouting plate and fully adjustable chrome swivel. Mirror finished reflector with prismatic lens assures a wide-beam with even light distribution.

FINISH: White (-M), Black (-B)

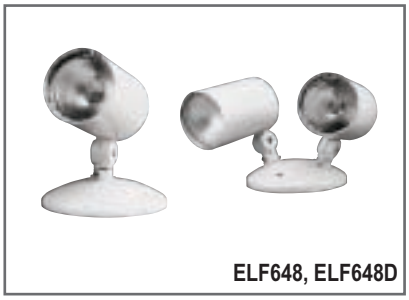
MOUNTING: Direct to 4" octagonal electri

LAMPS: Bi-Pin halogen

VOLTS: 6 or 12 volt

MAXIMUM WATTS: 12 watts per head

Remote Fixture Model #	Lamp Suffix		Color	Voltage
ELF648 (Single Head)	/_____	-	_____	_____
ELF648D (Double Head)	/_____	-	_____	_____



ELF648, ELF648D

Wattage doubles for "D" 2-lamp version

Recessed Mounted Remote Series

ELF604

ELF604

DESCRIPTION: Recessed rectangular fixture with diffusion lens and welded steel housing.

FINISH: White baked enamel

MOUNTING: Recessed (wall or ceiling). Knockouts provided on 2 sides and back. Adjustable mounting clips provided.

DIMENSIONS: Trim ring- 8-1/4" X 4-1/2"
Back box- 6-1/2" X 3 X 2-5/8" deep

LAMPS: Double contact bayonet base

VOLTS: 6, 12, 24, 32 or 120V

Remote Fixture Model #	Lamp Suffix		Voltage
ELF604	/_____	-	_____

ELF605M, ELF605P

ELF605M, ELF605P

DESCRIPTION: Recessed round gimbal fixture with welded steel housing and plastic (ELF605P) or metal (ELF605M) trim. Lamp has a horizontal rotation of 358° and vertical angle adjustable to 42°.

FINISH: Metal Trim: White (standard), Chrome (-CH) or Black (-B)
Plastic Trim: White (standard)

MOUNTING: Recessed (wall or ceiling). Plaster frame and standard 4" outlet box provided.

DIMENSIONS: Trim ring- 8" diameter; Back box- 5-1/4" X 4-1/2" deep
Plaster ring- 9" square (furnished standard)

LAMPS: • Wedge base incandescent • Bi-pin halogen • PAR36 sealed beamed.

VOLTS: 6, 12, 24 or 120 volt

MAXIMUM WATTS: 25 watts, 6 watts (120V) low voltage

Remote Fixture Model #	Lamp Suffix		Color	Voltage
ELF605P (Plastic Trim)	/_____	-	_____	_____
ELF605M (Metal Trim)	/_____	-	_____	_____

ELF644-FR, ELF644D-FR

Wattage doubles for "D" 2-lamp version

ELF644-FR, ELF644D-FR

DESCRIPTION: Fully recessed metal decorator square - primsatic diffusing lens - metal reflector

FINISH: Off-white baked enamel

MOUNTING: Recessed (wall or ceiling)

DIMENSIONS: Trim plate: 10-5/8" X 10-5/8"
Back Box: 8-3/4" X 8-3/4" X 3-1/4" deep

LAMPS: Bi-pin halogen lamp • Wedge base incandescent

VOLTS: 6 or 12 volt

MAXIMUM WATTS: 6 volt = 10 watts
12 volt = 8 watts

Remote Fixture Model #	Lamp Suffix		Voltage
ELF644-FR (Single Lamp)	/_____	-	_____
ELF644D-FR (Double Lamps)	/_____	-	_____

Weatherproof & Class 1 Division 2 Remote Series

ELF647, ELF647D

DESCRIPTION: NEMA CLASSIFIED. Single, PAR36 size lighting head with fully adjustable swivel, all thermoplastic construction, and stainless steel screws. Standard with round aluminum plate for mounting directly to 4" outlet box. Fixtures are rain and dust-tight as well as corrosion resistant.

FINISH: Mist White (-M), Gray (-G), Black (-B)

MOUNTING: Standard with round plate for mounting directly to 4" outlet box.

LAMPS: • Wedge base incandescent
• Bi-pin halogen
• PAR36 sealed beam

VOLTS: 6 or 12Vdc.

MAXIMUM WATTS:
25 watts per head

Remote Fixture Model #	Lamp Suffix	Color	Voltage
ELF647 (Single Head)	/_____ -	_____	_____
ELF647D (Double Head)	/_____ -	_____	_____

Class I Division 2, group A, B, C and D

ELF647C and ELF647DC

DESCRIPTION: Single lighting head with fully adjustable swivel - with gasketed aluminum canopy and junction box

FINISH: Black (-B), Gray (Blank)(standard)

MOUNTING: Standard with round plate for mounting directly to 4" outlet box

LAMPS: • Wedge base incandescent
• Bi-PIN Halogen
• PAR36 sealed Beam

VOLTS: 6 or 12 volt

MAXIMUM WATTS:
12 watts per head

Remote Fixture Model #	Lamp Suffix	Color	Voltage
ELF647C (Single Head)	/_____ -	_____	_____
ELF647DC (Double Head)	/_____ -	_____	_____

Notes

Accessories & General Information

HOW TO USE THIS CHART

Use the lamp chart when ordering remote lighting fixtures, non-standard lamps or replacement lamps. When ordering non-standard lamps, or lamps for remote fixtures, be sure to select lamps from those listed under the battery voltage of the unit or system powering the lamp.

Example

For a remote fixture powered by a 12 volt unit, only those lamps listed under 12 volts in the lamp chart may be used.

BE SURE TOTAL LOAD DOES NOT EXCEED THE 90 MINUTE: WATTAGE CAPACITY OF THE BATTERY, as stated in each respective unit/system selection chart.

For Unit Equipment

Replace standard lamp suffix with non-standard lamp suffix

Example

Model 2SN2/L25 comes standard with 6 volt, 25 watt incandescent lamps. To order with 6 volt, 20 watt halogen lamps, the appropriate model number would be: 2SN2/LH8

For Replacement Lamps

Order by replacement number.

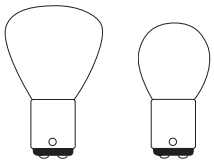
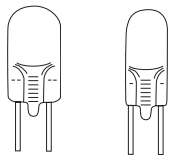
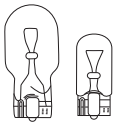
For Remote Fixtures

Include complete lamp suffix as suffix to model number.

Example ELF645 /L9 6

Remote Fixture Model No. Lamp Suffix

Complete Lamp Suffix must be stated (which includes voltage designation)

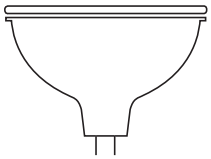
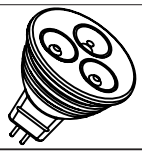
Lamp Type	Voltage	Watts	Lamp Suffix		Replacement number	Lamp #	Bulb Type	Lumen rating	Center-Beam candle power (CBCP)
			For Units	Add Volts for Remote fixture					
 RP-11 S-8 DOUBLE CONTACT BAYONET BASE INCANDESCENT	6	13	L13	6	570.0020	88	S-8	188	15
	12	6	L6	12	570.0068	90		75	6
		9	L9		570.0011	138		126	10
		13	L13		570.0022	94		188	15
		25	L25		570.0031	1076		402	32
	24	12	L14	24	570.0059	306		189	15
		25	L28		570.0061	1638		402	32
	32	6	L6	32	570.0069	1224	C-6	48	4
		23.7	L25		570.0084	1054	C-DCB	403	32
	120	6	L6	120	570.0062	6S6	S-6	41	3
		10	L10		570.0063	10C7	C-7	40	3
 T-2 3/4 T-2 1/4 BI-PIN HALOGEN LAMPS	6	6	LH4	6	580.0012	784	T-21/4	113	9
		8	LH5		580.0013	785		163	13
		10	LH7		580.0017	787		201	16
		12	LH6		580.0011	786		239	19
		20	LH8		580.0022	788		402	32
	12	8	LH8	12	580.0014	774	T-21/4	163	13
		12	LH3		580.0015	783		276	22
		14	LH9		580.0016	789	T-23/4	302	24
		20	LH2		580.0027	782		314	25
 T-5 T-3 1/4 WEDGE BASE	6	5.4	L5	6	570.0012	939	T-5	68	5.4
		7.2	L7		570.0026	927		100	8
		9	L9		570.0016	908		150	12
	12	9	L9	12	570.0025	915	T-5	138	11
		12	L12		570.0028	912		150	12
		18	L18		570.0029	921		264	21
	24	9	L9	24	570.0045	EMS2209W	T-5	113	9
		18	L18		570.0046	EMS2218W		239	19

Exit Lamps

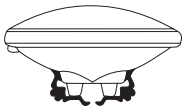
Lamp Type	Voltage	Watts	Lamp Suffix	Replacement number	Lamp #	Bulb Type	Lumen rating	Center-Beam candle power (CBCP))
Incandescent Lamps for EXIT signs (Hazardous locations applications)	6	15	XX6	580.0086	JC6V-15W2KG4	Bi-pin G4	210	17
	12	25	XX12	570.0071	13769	A19	375	30
	24	25	XX24	570.0118	24227-1	A19	345	27
	120	25	AC	570.0136	97478	A19	215	17

Lamp Type	Voltage	Watts	Replacement number	Lamp #	Base Type	Lumen rating	Center-Beam candle power (CBCP))
EXIT signs, 120Vac incandescent	145	15	570.0013	15T6145	Candelabra Screw Base	150	12
EXIT signs, 120Vac incandescent	120	20	570.0024	20T61/2	Intermediate Screw Base	90	7
EXIT signs, 120Vac incandescent	145	15	570.0035	15T6	Intermediate Screw E17	150	12
EXIT signs, 120Vac fluorescent	120	7	595.0010	PL7-T4	G23	330	26

Important: Lumen rating and candle power values are only for general reference. The data was obtained from the manufacturer's catalogues, calculations, or third-party laboratory measurements. Actual performance in the field may and will vary.

Lamp Type	Voltage	Watts	Lamp Suffix		Replacement number	Bulb Type	Lumen rating	Center-beam candle power (CBCP)	Beam angle (degrees)
			For Units	Add Volt for					
 MR16 HALOGEN LAMPS	6	5	M 5	6	580.0072	MR16	34	60	36
		6	M 6		580.0074		40	140	24
		10	M 10		580.0079		74	160	36
	12	10	M10	12	580.0099	MR16	84	190	36
		12	M 12		580.0080		80	300	36
		20	M 20		580.0064		150	600	36
		20-A	M 20		580.0075		225	800	24
		20-H	MH 20		580.0068		400	1000	36
		35	M 35		580.0083		430	3700	24
		35-H	MH 35		580.0090		830	2200	36
		37-H	MH31		580.0088		900	2000	40
		50	M 50		580.0076		700	1300	38
		50-H	MH 50		580.0089		1460	2600	40
	24	12	M 12	24	580.0070	MR16	82	550	36
		20	M 20		580.0077		240	700	24
		20-A	MH20		580.0094		220	600	28
		35	M 35		580.0084		235	1100	24
		50	M 50		580.0078		670	1400	38
	120	20	M20	120	580.0065	MR16	100	230	36
		35	M35		580.0066		230	500	36
		50	M50		580.0067		460	1000	36
 MR16 LED LAMPS	12	5	L5	12	580.0063*	MR16	42	260	24
		4	L4		580.0093	MR16	173	380	36

PAR36 SEALED BEAM LAMPS

Lamp Type	Voltage	Watts	Lamp Suffix	Replacement number	Lamp #	Bulb Type	Lumen rating	Center-beam candle power (CBCP)
 PAR36 SEALED BEAM HALOGEN	6	6	H7556	550.0022	H7556	PAR 36	107	400
		8	H7551	550.0036	H7551	PAR 36	155	550
		10	H7552	550.0037	H7552	PAR 36	190	650
		12	H7553	550.0019	H7553	PAR 36	225	850
		20	H7554	550.0021	H7554	PAR 36	380	1,400
	12	8	H7555	550.0024	H7555	PAR 36	160	550
		12	H7557	550.0025	H7557	PAR 36	230	850
		37	H7616	550.0047	H7616	PAR 36	700	70,000
		50	H7614	550.0012	H7614	PAR 36	950	2,000
 PAR36 SEALED BEAM INCANDESCENT	6	8	7613	550.0018	7613	PAR 36	130	400
		12	4042	550.0030	4042	PAR 36	170	1,100
		18	4014	550.0016	4014	PAR 36	250	1,500
		25	4510	550.0017	4510	PAR 36	350	800
		30	4515	550.0035	4515	PAR 36	420	5,500
	12	12	4044	550.0026	4044	PAR 36	190	1,110
		18	4414	550.0027	4414	PAR 36	210	1,500
		25	4446	550.0023	4446	PAR 36	395	400
		30	4416	550.0034	4416	PAR 36	430	35,000
		25	25 WFL	550.0028	25WFL	PAR 36	360	360
		25	25 VWFL	550.0050	25VWFL	PAR 36	160	160
		50	50 NSP	550.0043	50NSP	PAR 36	11,000	11,000
		50	50 WFL	550.0029	50WFL	PAR 36	900	900

MSA Incandescent Lamp Adapter

For HIT, DCBB or Bi-Pin Halogen Lamps

DC lamp plus adapter for medium Edison screw base socket. This device converts any incandescent fixture into an emergency fixture.


MSA Bi-Pin


MSA Double Contact


MSA Wedge Base

ORDERING FORMAT

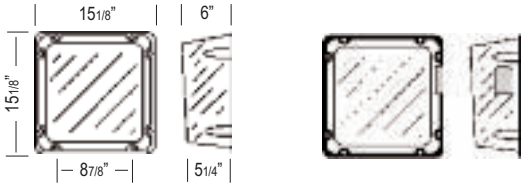
MSA	- LH5
Product Code	Lamp Symbol

Note: *Lumen figures based on information supplied by lamp manufacturers, Lamp drawings shown are for shape comparison only, not actual size.*

Catalog Number VRC or VRC-4X (NEMA-4X)

Application

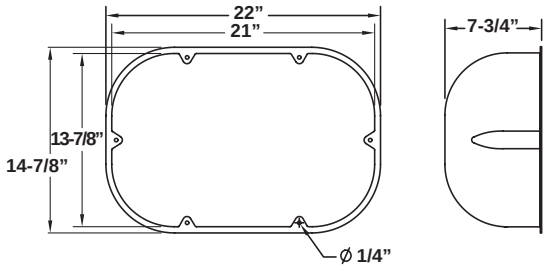
- DM3, DM6, DM7 Series with top mounted heads
- SQ, SQ-D Series all mountings
- X4, X2 or X3 Series LED, Incandescent (wall mounted)
  AC and AC/DC or Self-Powered exit with no mounted heads
- XQ Series LED (wall mounted) AC and AC/DC or Self-Powered
- XLD, XLED Series LED, (wall mounted)



Catalog Number CPS or CPS-4X (NEMA-4X)

Application

- MG Series (small cabinet) top or front mounted heads
- LCA-2MRS, LCA-2SQ, CA-2
- DM3, DM6, DM7 Series with top or side mounted heads

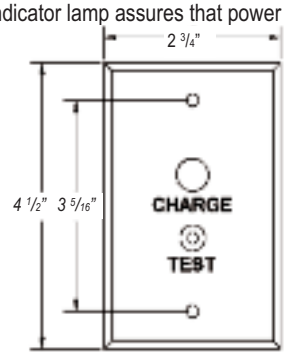


REMOTE TEST SWITCH

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.

How To Order

Remote Test Switch (Chrome).....**PSW**
Remote Test Switch (Plastic).....**PSW1**

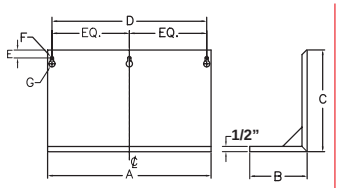


MOUNTING PLATFORMS

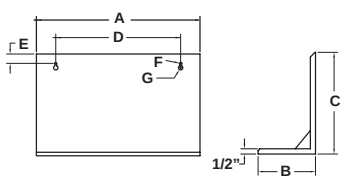
- 14 gauge steel
- Corrosion resistant undercoat
- Oven baked finish
- 1/2" retaining lip on three sides
- Keyhole slots for easy mounting

Model	Dimensions (inches)						
	a	b	c	d	e	f	g
MP-PQB (Mist)	17	7-3/4	12-1/4	16	3/4	5/16	5/8
MP-A (Gray)	17	7-3/4	12-1/4	16	3/4	5/16	5/8
MP-PQA (Mist)	16-3/8	5-3/4	10-1/4	12-1/2	7/8	3/16	7/16
MP12	27-1/2	7-3/4	12-1/4	16	1-5/8	5/32	5/16

Dimensions are approximate and subject to change

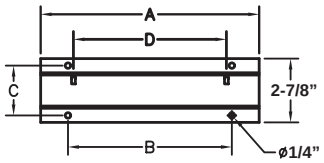


MP-PQB
MP-A



MP-PQA
MP12

MOUNTING BRACKETS



- 16 gauge steel
- Corrosion resistant undercoat
- Oven baked finish
- Supplied with rubber stand-offs for unit and machine screws to secure unit to bracket

Model	Dimensions (inches)			
	a	b	c	d
MB-A	10	7-3/4	2-3/16	7
MB-B	14-1/4	11-3/4	2-3/16	12-5/8

Dimensions are approximate and subject to change

Mounting Plate Series

Specify mounting plate designation as a suffix to fixture type model number. Plates ordered separately, specify plate designation and fixture type.

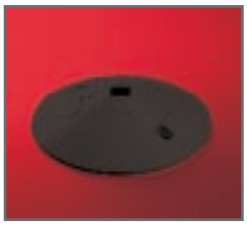
230.1238 & 230.1239

- Single, double or triple round
- Thermoplastic construction
- Mounting plates shipped with two hole plugs
- Mist or black finish only
- Mount direct to 4" octagonal box

Dimensions: 5" diameter - slotted mounting holes
3 to 3 9/16" mounting center

Off-White - 230.1238

Black - 230.1239



Off-White Hole Plug - 230.1204

Black Hole Plug - 230.1205

430.0765 & 430.0766

- Single or double round
- Aluminum construction
- Mist baked enamel finish
- Black finish optional
- Mount direct to 4" octagonal box

Dimensions: 5 1/4" diameter
3 7/16" mounting center

Standard: ELF648, ELF648D

Off-White Single - 430.0765

Off-White Double - 430.0766

450.0129 & 450.0397 & 450.0398 & 450.0398

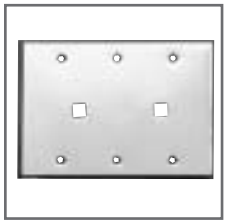
- Single, double ortriple rectangular
- Single, triple or 4-gang steel construction
- Chrome plated finish only
- Mount direct to standard outlet box

Dimensions: single - 2-3/4" X 4-1/2" (for 1 fixture)
3-gang - 6-7/16" X 4-1/2" (for 2 fixture)
4-gang - 8-3/8" X 4-1/2" (for 2 or 3 fixture)
3 5/16" mounting centers all types

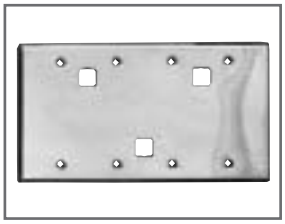
Standard: ELF622, ELF622D, ELF622T, ELF645T

450.0129 *- No Square Hole*
****450.1151*** *- 7/16" Square Hole*
450.0194 *- 1/2" Square Hole*

450.0397 *- No Square Hole*
****450.1152*** *- 7/16" Square Hole*
450.1153 *- 1/2" Square Hole*



450.0398 *- No Square Hole*
****450.1154*** *- 7/16" Square Hole*
450.1155 *- 1/2" Square Hole*



330.7583 & 330.7584 & 450.0398

- Single or double round
- Die cast aluminum construction
- Gasketed weatherproof
- Black satin enamel finish
- Mist finish optional
- Mount direct to 4" octagonal box

Dimensions: 4-1/8" diameter
3-9/16" mounting center

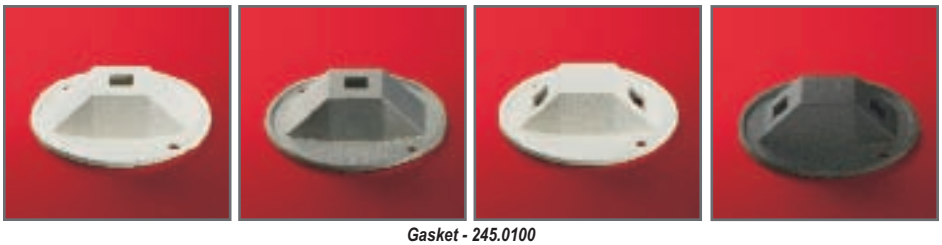
Standard: ELF647, ELF647D

Off-White Single 330.7583

Black Single 330.7577

Off-White Double 330.7584

Black Double 330.7578



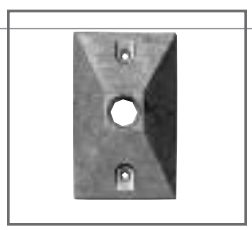
Gasket - 245.0100

12804

- Single rectangular
- Die cast aluminum construction
- Gasketed weatherproof
- Silver gray enamel finish only
- Mount direct to standard outlet box

Dimensions: 4-5/8" X 2-7/8"
3-1/4" mounting center

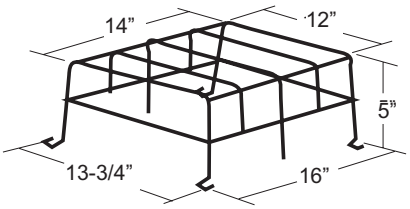
12804



Wire Guard

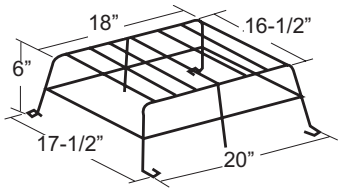
Catalog Number WG1-L

Application
Series DM & DS
(Top Mounted Heads);
SQ & SQ-D (Semi Recessed);
ELF644 (Surface Mount);
MG Series;



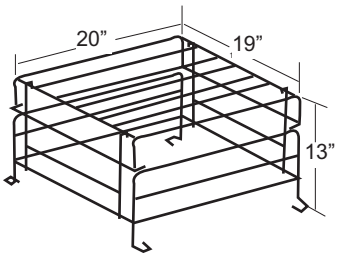
Catalog Number WG2-L

Application
Series PG; P12G; PN;
P12N (A Cabinet); MG; X2 & X3
(Wall mount self-powered,
no mounted head);
XLD (Wall mount)



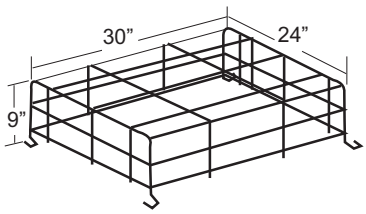
Catalog Number WG3-L

Application
Series PQ; P12Q;
P12N2 (B Cabinet);
SL; SN; S12E4 (C Cabinet);
EL; E12L; ECN; E12CN;
ENN; E12NN; FG; F12G



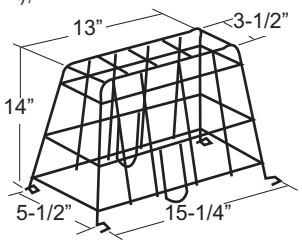
Catalog Number WG4-L

Application
Series DM & DS
(Side Mounted Heads Par 36);
S12E5; S12E6; S12L;
S12N; S24E; S24N; WP



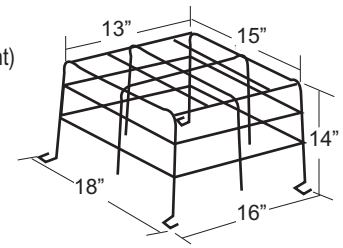
Catalog Number WG5-L

Application
Series XLD (AC Only ceiling & end mount);
XQ (ceiling mount); X2; X3
(ceiling & end mount) XT
(ceiling mount); X4 (Ceiling
or End Mount); QLXN500
(Exit only-Ceiling or End Mount)
GRAN (Ceiling Mount)
GX (Ceiling Mount)



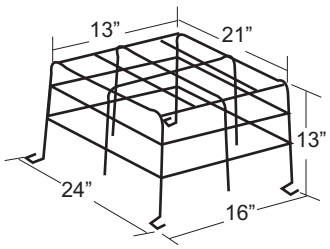
Catalog Number WG6-L

Application
X2; X3 (wall mount, self powered
with front mounted heads);
QLXN500R-2MR (Combo-Wall Mount)



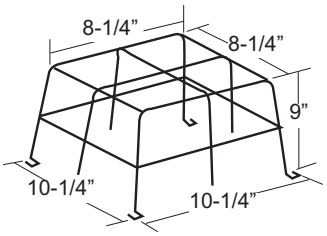
Catalog Number WG7-L

Application
ELF648D Remote Fixtures
(Double Heads only)



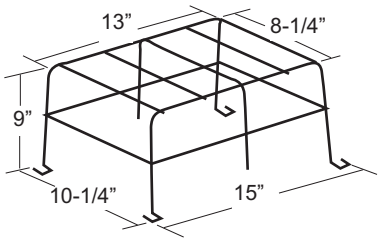
Catalog Number WG8-L

Application
Series ELF2; 2D; 2T (Single head);
ELF606 & 622; 622D; 622T &
645; 645D 645T & 647; 647D &
648 (Single head only).



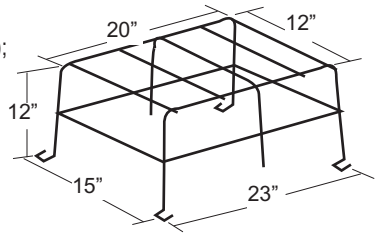
Catalog Number WG9-L

Application
Series ELF2; 2D (Double Head);
ELF622; 622D;
622T & 645; 645D;
645T & 648; 648D
(double head)



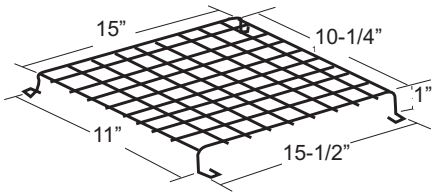
Catalog Number WG10-L

Application
Series DM & DS
(Side Mounted Heads, Par 18);
LCA-SQ; MG; QLXN500R-SQ
(Heads in any Position)



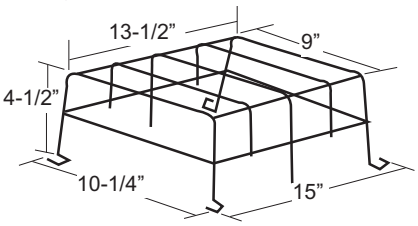
Catalog Number WG11-L

Application
Series 605P1; SQ & SQ-D
(fully recessed);
ELF605 & ELF644FR



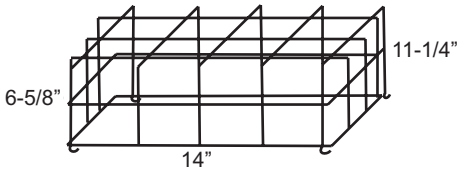
Catalog Number WG12-L

Application
Series XLD (AC only, wall mounted)
XQ (wall mounted); X2; X3
(AC only, wall mount): XT
(wall mount); ELF604,
ELF603; X4 (LED or
Incandescent-Wall Mount)
GRAN (wall mount)
GX (wall mount)
QLX500 (wall mount)



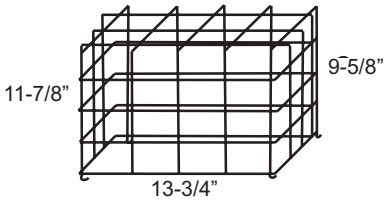
Catalog Number WG13-L

Application
Series IC-2; ICR-2 (Remote)
XLD (Self-powered, Wall Mount);
LCA-2MR



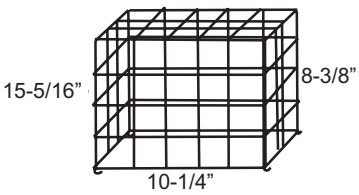
Catalog Number WG14-L

Application
Series XLD (Self-powered, Ceiling Mount)



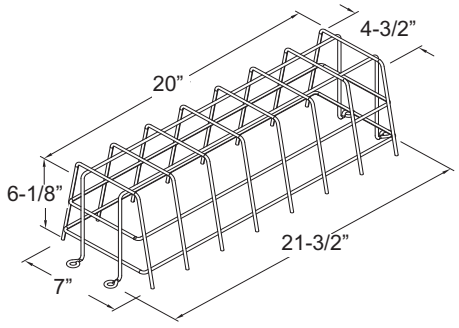
Catalog Number WG15-L

Application
Series XT (end mount);
XLD (self-powered, end
mount); XQ (end mount)
GRAN (end mount)
GX (end mount)
QLX500 (end mount)



Catalog Number WG16-L

Application
Series Cavalier
(CA-2, CA-3 mount)



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 ÷ 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 ÷ 36, or 14 watts; on #10 wire, 23 watts.

WIRING DISTANCE IN FEET (Maximum Voltage Drop 5%)

Total watts on wire run	6 volt wire size				12 volt wire size					24 volt wire size			
	#12	#10	#8	#6	#12	#10	#8	#6	#4	#12	#10	#8	#6
6	89	141	225	357	356	566	900	1431	+	1425	+	+	+
8	66	106	168	268	267	424	675	1073	1707	1068	1698	+	+
9	59	94	150	238	237	377	600	954	1517	949	1509	+	+
10	53	84	135	214	213	339	540	859	1366	854	1358	+	+
12	44	70	112	178	178	283	450	715	1138	712	1132	1801	+
16	33	53	84	134	133	212	337	536	853	534	849	1350	+
18	29	47	75	119	118	188	300	477	758	474	754	1200	1909
24	22	35	56	89	89	141	225	357	569	356	566	900	1431
25	21	33	54	85	85	135	216	343	546	341	543	864	1374
27	19	31	50	79	79	125	200	318	505	316	503	800	1272
30	17	28	45	71	71	113	180	286	455	284	452	720	1145
36	14	23	37	59	59	94	150	238	379	237	377	600	954
42	12	20	32	51	50	80	128	204	325	203	323	514	818
45	11	18	30	47	47	75	120	190	303	189	301	480	763
48	11	17	28	44	44	70	112	178	284	178	283	450	715
50	10	16	27	42	42	67	108	171	273	170	271	432	687
75	7	11	18	28	28	45	72	114	182	113	181	288	458
100	5	8	13	21	21	33	54	85	136	85	135	216	343
150	-	5	9	14	14	22	36	57	91	56	90	144	229
200	-	-	6	10	10	16	27	42	68	42	67	108	171
250	-	-	5	8	8	13	21	34	54	34	54	86	137
300	-	-	-	7	7	11	18	28	45	28	45	72	114
400	-	-	-	5	5	8	13	21	34	21	33	54	85
500	-	-	-	-	-	6	10	17	27	17	27	43	68
Constant	534	849	1350	2148	2137	3397	5403	8590	13660	8548	13588	21613	34363

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.

Number of Fixtures	2	3	4	5	6	N
Multiply By Feet	1.33	1.5	1.6	1.67	1.71	2n/(n+1)

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.

National Electrical Code

ARTICLE 700—EMERGENCY SYSTEMS

A. 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. Emergency systems are 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 or 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.

(FPN No. 1): For further information regarding wiring and installation of emergency systems in health care facilities, see Article 517.

(FPN No. 2): For further information regarding performance and maintenance of emergency systems in health care facilities, see Standard for Health Care Facilities, NFPA 99-2005.

(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, theatres, 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®-2006.

(FPN No. 5): For further information regarding performance of emergency and standby power systems, see Standard for Emergency and Standby Power Systems, NFPA 110-2005.

700-2. Application of Other Articles. Except as modified by this article, all applicable articles of this Code shall apply.

700-3. Equipment Approval. All equipment shall be approved for use on emergency systems.

700-4. 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) Tested 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.

FPN: For testing and maintenance procedures of emergency power supply systems (EPSSs), see NFPA 110-2005, Standard for Emergency and standby Power Systems.

700-5. 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 Shedding, 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 (I) 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- 4(b), provided all other conditions of Sec tion 700-4 are met.

A portable or temporary alternate source shall be available whenever the emergency generator is out of service for major maintenance or repair.

700-6. 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 600 VAC and below, shall be listed for emergency system use.

(d) Use. Transfer equipment shall supply only emergency loads.

700-7. Signals. Audible and visual signal devices shall be provided, where practicable, for the following purposes described in 700.7(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 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.

(FPN): For signals for generator sets, see Standard for Emergency and Standby Power Systems, NFPA 110-2005.

700-8. 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 the grounded circuit conductor connected to the emergency source is connected to a grounding electrode conductor at a location remote from the emergency source, there shall be a sign at the grounding location that shall identify all emergency and normal sourcesconnected at that location.

B. Circuit Wiring

700-9. 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. Unless otherwise permitted in (1) through(5), wiring from emergency source or emergency source distribution overcurrent protection to emergency loads shall be kept entirely independent of all other wiring and equipment. Wiring of two or more emergency circuits supplied from the same source shall be permitted in the same raceway, cable, box, or cabinet.

(1) Wiring from the normal power source located in transfer equipment enclosures.

(2) Wiring supplied from two sources in exit or emergency luminaries

(3) Wiring from two sources in a common junction box, attached to exit or emergency luminaries.

(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 any combination of emergency, legally required, or optional loads in accordance with (a), (b), and (c):

a. From separate vertical switchboard sections, with or without a common bus, or from individual disconnects mounted in separate enclosures.

b. The common bus or 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 is selectively coordinated with the downstream overcurrent protection.

c. Legally required and optional standby circuits shall not originate from the same vertical switchboard section, panelboard enclosure, or individual disconnect enclosure as emergency circuits.

(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 in 700.9 (D) (1) and (D)(2) in assembly occupancies for not less than 1000 persons or in buildings above 75 ft (23 m) in height with any of the following occupancy classes: assembly, educational, residential, detention and correctional, business, and mercantile.

(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 a listed electrical circuit protective system with a minimum 1-hour fire rating.

FPN: UL guide information for electrical circuit protection 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.

(4) Be protected by a listed fire-rated assembly that has a minimum fire rating of 1 hour and contains only emergency wiring circuits.

(5) Be embedded in not less than 2 in. (50 mm) of concrete.

(6) Be a cable listed to maintain circuit integrity for not less than 1 hour when installed in accordance with the listing requirements.

(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 (sprinklers, carbon dioxide systems, etc.) or in spaces with a 1-hour fire resistance rating.

FPN: For the definition of occupancy class, see Section 6.1 of Life Safety Code, NFPA 101-2006.

(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 700.9(D)(1).

C. 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 shall 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 (e) below. Unit equipment in accordance with Section 700.12(f) 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 75 ft (23 m) 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.
FPN No. 1: For definition of occupancy class, see Section 4.1 of Life Safety Code, NFPA 101-2006.
FPN No. 2: Assignment of degree of reliability of the recognized emergency supply system depends on the careful evaluation of the variables at each particular installation.
(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 jars 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 700-5. 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 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) Battery Power and Dampers. 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, the dampers shall be connected to the emergency system.
(5) Auxiliary Power Supply. Generator sets that require more than 10 seconds to develop power shall be permitted is 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 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.
(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 approved by 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 service drop or service lateral
(2) Service conductors 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. Installation of a fuel cell system shall meet the requirements of Parts II through VIII of Article 692. Where a single fuel cell system serves as the normal supply for the building or group of buildings concerned, it shall not serve as the sole source of power for the emergency standby system.
(f) Unit Equipment. Individual unit equipment for emergency illumination shall consist of (I) 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. 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. 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 3ft (900 mm) in length. 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. The branch circuit that feeds unit equipment shall be clearly identified at the distribution panel. Emergency luminaires 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 700-9 and by one of the wiring methods of Chapter 3. 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.
D. 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 lamp, 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. Exception: Where alterative means that ensure the emergency lighting illumination level is maintained shall be permitted.
700-17. 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 general lighting supply, with provisions for automatically transferring the emergency lights upon the event of failure of the general lighting system supply, or (2) two or more separate and complete systems with independent power supply, each system providing sufficient current 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 system 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.
E. 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 de-energize 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 Systems. A dimmer system containing more than one dimmer 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 system shall be permitted to selectively energize only those branch circuits required to provide minimum emergency illumination. All branch circuits supplied by the dimmer system cabinet shall comply with the wiring methods of Article 700.
F. Overcurrent Protection
700-25. Accessibility. The branch-circuit overcurrent devices in emergency circuits shall be accessible to authorized persons only.
700-26. 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 per Section 700-7(d).
700-27. Coordination. Emergency system(s) overcurrent devices shall be selectively coordinated with all supply side overcurrent protective devices.
Exception: Selective coordination shall not be required in (1) or (2):
(1) Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective device exits on the transformer secondary.
(2) Between overcurrent protective device of the same size (ampere rating) in series.

Life Safety Code

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 Chapter 11 through Chapter 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 Automatic, motion sensor-type lighting switches shall be permitted within the means of egress. Provided that the switch controllers are equipped for fail-safe operation, the illumination timers are set for a minimum 15-minute duration, and the motion sensor is activated by any occupant movement in the area served by the lighting units.

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 by 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 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 floors of exit access shall be at least 0.2 ftcandle (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 of 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 Chapter 11 through Chapter 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 shaft and vestibule 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 not less than 1-1/2 hours in the event of failure of normal lighting. 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 of 0.06 ft-candle (0.65 lux) at the end of the 1-1/2 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 NFPA 110, Standard for Emergency and Standby Power Systems.

7.9.2.3* The emergency lighting system shall be arranged to provide the required illumination automatically in the event of any of the following:
(1) Failure of 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 7.9.3.1.1 (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)Self-testing/self-diagnostic, battery-operated emergency lighting equipment shall automatically perform not less than once every 30 days a test for not less than 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 not less than 1-1/2 hours.
(6) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 1-1/2 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-operatedemergency 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 30 seconds and a diagnostic routine.
(3) The emergency lighting equipment shall automatically perform annually a test for not less than 1-1/2 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 7.9.3.1.3(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 Chapter 11 through Chapter 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 the following

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), which ever is less, from the nearest sign.

7.10.1.6* Floor Proximity Exit Signs. Where floor proximity exit signs are required by Chapter 11 through Chapter 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 internal illuminated signs. Such signs shall be located near the floor level in additions to those signs required for doors or corridors. The bottom of the sign shall be not less than 6 in. (150mm), 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 Chapter 11 through Chapter 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 7.10.1.2.2.

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 working 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 Chapter 11 through Chapter 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 levels 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 end 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 alarms 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 used 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 that 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 theminimum spacing between letters shall be not less than 3/8 in. (9.5 mm).

(4) Signs legend elements larger than the minimum established in 7.10.6.1.1(1) through 7.10.6.1.1(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 7.10.1.6.

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 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.

Figure 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 5ft-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 Chapter 12 through Chapter 42, 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

Life Safety Code (cont'd)

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 the following signs with a minimum letter height of 5/8 in. (16 mm) posted in every elevator lobby:

(1) *Signs that indicate that elevator can be used for egress, including any restrictions on use

(2) * Sings that indicate the operational status of elevators

7.10.8.5* Evacuation Diagram. Where a posted floor evacuation diagram is required in Chapter 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.

7.11 Special Provisions for Occupancies with High Hazard Contents. See Section 6.2.

7.11.1* Where the contents are classified as high hazard, exits shall be provided and arranged to allow all occupants to escape from the building or structure, or from the hazardous area thereof, to the outside or to a place of safety with a travel distance of not more than 75 ft (23 m), measured as required in 7.6.1, unless otherwise provided in 7.11.2.

7.11.2 The requirement of 7.11.1 shall not apply to storage occupancies as otherwise provided in Chapter 42.

7.11.3 Egress capacity for high hazard contents areas shall be based on 0.7 in./person (18 mm/person) for stairs or 0.4 in./ person (10 mm/person) for level components and ramps in accordance with 7.3.3.1.

7.11.4 Not less than two means of egress shall be provided from each building or hazardous area thereof, unless all of the following criteria are met:

(1) Rooms or spaces do not exceed 200ft² (18.6 m²).

(2) Rooms or spaces have an occupant load not exceeding three persons.

(3) Room or spaces have a travel distance to the room door not exceeding 25 ft (7620 mm)

7.11.5 Means of egress, for rooms or spaces other than those that meet the criteria of 7.11.4(1) through (3), shall be arranged sot that there are no dead ends in corridors.

7.11.6 Doors serving high hazard contents areas with occupant loads in excess of five shall be permitted to be provided with a latch or lock only of the latch or lock is panic hardware or fire exit hardware complying with 7.2.1.7.

7.12 Mechanical Equipment Rooms, Boiler Rooms, and Furnace Rooms.

7.12.1 Mechanical equipment rooms, boiler rooms, furnace rooms, and similar spaces shall be arranged to limit common path of travel to a distance not exceeding 50 ft (15 m), unless otherwise permitted by the following:

(1) A common path of travel not exceeding 100ft (30m) shall be permitted in the following locations:

a) In Buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7

b) In mechanical equipment rooms with no fuel-fired equipment

c) In existing buildings

(2) In an existing building, a common path of travel not exceeding 150 ft(46 m) shall be permitted, provided that all of the following criteria are met:

a) The building is protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 9.7

b) No fuel-fired equipment is within the space.

c) The egress path is readily indentifiable.

(3) The requirement of 7.12.1 shall not apply to rooms or spaces in existing health care occupancies complying with the arrangement of means of egress provisions of 19.2.5 and the travel distance limits of 19.2.6.

7.12.2 Stories used exclusively for mechanical equipment, furnaces, or boilers shall be permitted to have a single means of egress where the travel distance to an exit on that story is not in excess of common path of travel limitations of 7.12.1.

Limited Warranty

1.0 **Lightalarms** 6, 12 and 24 volt Emergency Lighting Unit Equipment (excluding lamps and fuses) 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 2.0).

1.1 **Lightalarms** 6, 12 and 24 volt Unit Equipment Batteries are warranted as follows (Warrant below includes the 3-year full warranty on entire unit as called out in Paragraph 1.0).

1.2 **Lightalarms** 4 volt Emergency Lighting Unit Equipment (excluding lamps, and fuses) is fully warranted to be free of defects in material and workmanship under normal use for a period of one year from date of installation (see Paragraph 2.0).

BATTERY TYPE	LIFE EXPECTANCY	SHELF LIFE*	FULL WARRANTY	PRO RATA WARRANTY
Sealed Lead-Calcium	8 years	6 months	3 years	3 years
Sealed Nickel-Cadmium	15 years	1 year	5 years	7 years
Refillable Lead-Calcium	15 years	6 months	3 years	8 years
Refillable Nickel-Cadmium	15 years	2 years	5 years	7 years
Sealed Nickel-Metal Hydride	15 years	1 year	5 years	7 years

***Maximum Storage life. Must Be Recharged If Not Placed in Service Or Battery Warranty Void**

2.0 The full warranty period begins on the date of installation or 90 days from date of shipment, whichever date is earlier.

2.1 Should a defect appear in the equipment or batteries listed in Paragraphs 1.0, 1.1 or 1.2 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.

2.2 The Pro-rata Warranty Period for batteries begins on the date the full warranty period ends.

2.3 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.

3.0 All warranties are subject to proper installation and maintenance in accordance with the instructions supplied.

3.1 Any material deemed defective must be returned, freight prepaid, to the factory for evaluation (see Paragraph 5.0-5.3). Any changes in circuitry or components by other than authorized Lightalarms personnel or its service companies will void the warranty.

3.2 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.

3.3 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.

4.0 In no event shall Lightalarms be liable for backcharges of any kind, including, without limitation, labor charges for field repair or late penalties.

4.1 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.

4.2 This warranty does not cover damages caused by abuse, fire or Act of God.

4.3 In no event shall Lightalarms be liable for incidental or consequential damages.

4.4 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.

4.5 Lightalarms warranty coverage shall not apply to any equipment of another manufacturer used in conjunction with Lightalarms Equipment.

4.6 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.

5.0 No returned defective materials will be accepted without a Returned Goods Authorization issued in writing by an authorized Lightalarms employee.

5.1 Purchaser is responsible for secure packing of returned materials to provide best possible assurance against damage in shipment.

5.2 Defective batteries of any kind must not be returned to Lightalarms's 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.

5.3 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 1.0, 1.1 OR 1.2 IS WARRANTED AS DESCRIBED ON ITS INDIVIDUAL DATA SHEET WITH THE STIPULATIONS AS STATED IN PARAGRAPHS 2.0-5.3.