Industrial - Explosion Proof - Battery Units

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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.

<table>
<thead>
<tr>
<th>Hazardous Location Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class I (NEC-500-5)</strong></td>
</tr>
<tr>
<td><strong>Class II (NEC-500-6)</strong></td>
</tr>
<tr>
<td><strong>Class III (NEC-500-7)</strong></td>
</tr>
<tr>
<td><strong>Division 1 (NEC-500- 5,6 &amp; 7)</strong></td>
</tr>
<tr>
<td><strong>Division 2 (NEC-500- 5,6 &amp; 7)</strong></td>
</tr>
<tr>
<td><strong>Group A, B, C &amp; D (NEC-500-3)</strong></td>
</tr>
<tr>
<td><strong>Groups E F &amp; G (NEC-500-3)</strong></td>
</tr>
</tbody>
</table>

- **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 liquefied 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
doors. 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.)

<table>
<thead>
<tr>
<th>Time Delay (specify 5, 10 or 15 minutes)</th>
<th>-TD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shatter Resistant Lamp Coating</td>
<td>-FP</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Guard</td>
</tr>
</tbody>
</table>

**DIMENSIONS**
Dimensions are approximate and subject to change.

**LAMP SELECTION CHART**

<table>
<thead>
<tr>
<th>Use With 6-Volt</th>
<th>DC Voltage</th>
<th>Lamp Wattage</th>
<th>Lumen Output</th>
<th>Lamp Type</th>
<th>Lamp Suffix (Add to Unit Model No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECN, ENN Series</td>
<td>6</td>
<td>8</td>
<td>180</td>
<td>Halogen</td>
<td>H7551</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>220</td>
<td></td>
<td>Incand.</td>
<td>4014</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>350</td>
<td></td>
<td>Incand.</td>
<td>4510</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Use with 12-Volt E12CN, E12NN Series</th>
<th>DC Voltage</th>
<th>Lamp Wattage</th>
<th>Lumen Output</th>
<th>Lamp Type</th>
<th>Lamp Suffix (Add to Unit Model No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>8</td>
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<td>H7555</td>
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<td>Incand.</td>
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**UNIT SELECTION CHART**

<table>
<thead>
<tr>
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<th>Model No. (Unit/Lamp Suffix)</th>
<th>Battery Type</th>
<th>Input Watts</th>
<th>Watts to 87.5% of</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 1/2 hrs.</td>
<td>2 hrs.</td>
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<tr>
<td>6</td>
<td>2EC50</td>
<td>Sealed Lead-Calcium</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>2EC100</td>
<td>Sealed Lead-Calcium</td>
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<td>100</td>
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<tr>
<td></td>
<td>2EN25</td>
<td>Sealed NiCad</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
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<td>2EN50</td>
<td>Sealed NiCad</td>
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<td>50</td>
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<tr>
<td>12</td>
<td>2E12C50</td>
<td>Sealed Lead-Calcium</td>
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<td>2E12C100</td>
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<td>100</td>
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<td>2E12N50</td>
<td>Sealed NiCad</td>
<td>60</td>
<td>50</td>
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</table>

*National Electrical Code Specification

**ORDERING FORMAT**

<table>
<thead>
<tr>
<th>No. of Heads</th>
<th>Series</th>
<th>Capacity Indicator</th>
<th>Lamp Suffix</th>
<th>Option</th>
<th>Time Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>EC</td>
<td>100</td>
<td>/H7551</td>
<td>-TD</td>
<td></td>
</tr>
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</table>
54
Industrial - Explosion Proof - Battery Units

EXP6N, EXP12N Series

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, 0.3/0.15Amp (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

UNIT SELECTION CHART

<table>
<thead>
<tr>
<th>Volts</th>
<th>Model No. (Unit/Lamp Suffix)</th>
<th>Input Watts</th>
<th>Watts to 87.5% of 1 1/2 hrs.</th>
<th>2 hrs.</th>
<th>3 hrs.</th>
<th>4 hrs.</th>
<th>8 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>EXP6N18</td>
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<td></td>
<td>EXP12N72</td>
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<td>72</td>
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<td>24</td>
<td>12</td>
</tr>
</tbody>
</table>

OPTIONS

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

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

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

UNIT SELECTION CHART

<table>
<thead>
<tr>
<th>Volts</th>
<th>Model No. (Unit/Lamp Suffix)</th>
<th>Input Watts</th>
<th>Watts to 87.5% of 1 1/2 hrs.</th>
<th>2 hrs.</th>
<th>3 hrs.</th>
<th>4 hrs.</th>
<th>8 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>EXP6N18</td>
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<td>18</td>
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<td>EXP6N36</td>
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<td>21</td>
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<td>EXP12N72</td>
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<td>12</td>
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</tbody>
</table>

OPTIONS

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

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

UNIT SELECTION CHART

<table>
<thead>
<tr>
<th>Volts</th>
<th>Model No. (Unit/Lamp Suffix)</th>
<th>Input Watts</th>
<th>Watts to 87.5% of 1 1/2 hrs.</th>
<th>2 hrs.</th>
<th>3 hrs.</th>
<th>4 hrs.</th>
<th>8 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>EXP6N18</td>
<td>18</td>
<td>18</td>
<td>12</td>
<td>-</td>
<td>-</td>
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<tr>
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<td>EXP6N25</td>
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<td>18</td>
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<td>EXP6N36</td>
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<td>36</td>
<td>21</td>
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<td>EXP12N36</td>
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<td>24</td>
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</tr>
</tbody>
</table>

OPTIONS

(Add Suffix to Model No.) Suffix
Time Delay (specify 5, 10 or 15 minutes) ............................................-TD
Transfer Switch option .........................................................-TS
STANDARD CONFIGURATIONS FOR EXP SERIES

<table>
<thead>
<tr>
<th>Unit</th>
<th>Catalog Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>EXP12N50</td>
<td>12 volt self-contained hazardous area emergency lighting power unit complete with battery and charger.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>EXP12N50-TS</td>
<td>12V self contained hazardous area emergency lighting. power unit complete with battery charger and transfer switch.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>EXP6N50E402/LH1</td>
<td>Single head unit with 6 volt, 15 watt Bi-Pin halogen lamp.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>EXP6N50E402/LH1-TS</td>
<td>Single head unit with 6V lamp shown with Transfer Switch option.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>EXP6N50E402/L9-2</td>
<td>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.</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td>EXP6N50E402/L9-TS-2</td>
<td>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.</td>
</tr>
<tr>
<td><img src="image7.png" alt="Image" /></td>
<td>EXP6N25TSX402R</td>
<td>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.</td>
</tr>
<tr>
<td><img src="image8.png" alt="Image" /></td>
<td>EXP6N50E402LH1TSX402R</td>
<td>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.</td>
</tr>
</tbody>
</table>

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.

LAMP SELECTION CHART

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Voltage</th>
<th>Wattage</th>
<th>Replacement Part #</th>
<th>Lamp Suffix</th>
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<tbody>
<tr>
<td>High Intensity Tungsten (HIT)</td>
<td>6V</td>
<td>9W</td>
<td>135</td>
<td>L9</td>
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<td>136</td>
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<td>25W</td>
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<td>L25</td>
</tr>
<tr>
<td>BI-PIN Halogen</td>
<td>6V</td>
<td>6W</td>
<td>784</td>
<td>LH4</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>8W</td>
<td>785</td>
<td>LH5</td>
</tr>
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<td></td>
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<td></td>
<td>12V</td>
<td>12W</td>
<td>783</td>
<td>LH3</td>
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</tbody>
</table>

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"
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.

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.

TRANSFER CIRCUIT
(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 DC Model Watts
Input Output
(For multi-phase monitoring, contact factory)

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)

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.)

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............................................................................................-DM

Guard One-piece aluminum casting

LAMP SELECTION CHART

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>DC Voltage</th>
<th>Lamp Wattage</th>
<th>Replacement Part #</th>
<th>Lamp Suffix (Add to Unit Model No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Intensity Tungsten (HIT)</td>
<td>6V</td>
<td>9W</td>
<td>135</td>
<td>L9</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>18W</td>
<td>136</td>
<td>L18</td>
</tr>
<tr>
<td></td>
<td>12V</td>
<td>9W</td>
<td>138</td>
<td>L9</td>
</tr>
<tr>
<td></td>
<td>12V</td>
<td>18W</td>
<td>139</td>
<td>L18</td>
</tr>
<tr>
<td></td>
<td>12V</td>
<td>25W</td>
<td>140</td>
<td>L25</td>
</tr>
<tr>
<td>Bi-PIN Halogen</td>
<td>6V</td>
<td>6W</td>
<td>784</td>
<td>LH4</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>8W</td>
<td>785</td>
<td>LH5</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>10W</td>
<td>787</td>
<td>LH7</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>12W</td>
<td>788</td>
<td>LH6</td>
</tr>
<tr>
<td></td>
<td>6V</td>
<td>15W</td>
<td>JC6V-15W</td>
<td>LH1</td>
</tr>
<tr>
<td></td>
<td>12V</td>
<td>6W</td>
<td>774</td>
<td>LH8</td>
</tr>
<tr>
<td></td>
<td>12V</td>
<td>12W</td>
<td>783</td>
<td>LH3</td>
</tr>
</tbody>
</table>

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.

ORDERING FORMAT

<table>
<thead>
<tr>
<th>Model</th>
<th>Wall mount</th>
<th>Lamp Suffix</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPF401</td>
<td>W</td>
<td>/L25</td>
<td>12</td>
</tr>
</tbody>
</table>

The EPF401 Series is 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
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

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.

![Diagram of industrial explosion proof battery units]

## POWER CONSUMPTION

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Specs</th>
<th>DC Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-only red</td>
<td>120 to 277Vac</td>
<td>Less than 2 W</td>
</tr>
<tr>
<td>AC-only green</td>
<td>120 to 277Vac</td>
<td>Less than 1.5 W</td>
</tr>
<tr>
<td>Self-powered red</td>
<td>120 to 277Vac</td>
<td>Less than 2 W</td>
</tr>
<tr>
<td></td>
<td>Ni-Cd battery</td>
<td>Min. 90 minutes</td>
</tr>
<tr>
<td>Self-powered green</td>
<td>120 to 277Vac</td>
<td>Less than 2.5 W</td>
</tr>
<tr>
<td></td>
<td>Ni-Cd battery</td>
<td>Min. 90 minutes</td>
</tr>
</tbody>
</table>

## ORDERING FORMAT

<table>
<thead>
<tr>
<th>GG</th>
<th>XVEHZ</th>
<th>-2</th>
<th>-R</th>
<th>-D</th>
<th>-4X</th>
<th>CW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour of Body/Face</td>
<td>Series</td>
<td>Face(s)</td>
<td>Legend</td>
<td>Diagnostic</td>
<td>Housing</td>
<td>Options</td>
</tr>
<tr>
<td>GG = Gray/Gray</td>
<td>XVHZ = AC only (NiCad)</td>
<td>1 = single (Ceiling/Wall Mount)</td>
<td>R = Red</td>
<td>D = Improved Diagnostic*</td>
<td>4X = Suitable for Wet Locations</td>
<td>CW = Cold weather</td>
</tr>
<tr>
<td>XVEHZ = Self-powered</td>
<td>2 = double (Ceiling Mount only)</td>
<td>G = Green</td>
<td>NEX = Nexus interface*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*self-powered only
(-20 deg.C for self-powered, -40 deg.C for ac/dc)
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

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

<table>
<thead>
<tr>
<th>Model</th>
<th>AC Input</th>
<th>Maximum</th>
<th>Stand-by</th>
<th>Unit Power*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Vac)</td>
<td>Current</td>
<td>Power (W)</td>
<td>Power (W)</td>
</tr>
<tr>
<td>XVH</td>
<td>120 / 277</td>
<td>0.15 / 0.07</td>
<td>16</td>
<td>0.09 / 0.03</td>
</tr>
<tr>
<td>XVH12N</td>
<td>120 / 277</td>
<td>0.30 / 0.08</td>
<td>29</td>
<td>0.13 / 0.05</td>
</tr>
<tr>
<td>XVH12H</td>
<td>120 / 277</td>
<td>0.30 / 0.08</td>
<td>29</td>
<td>0.13 / 0.05</td>
</tr>
</tbody>
</table>

*Lamp/Wattage
M10= 6V - 10W MR16
M12= 12V - 12W MR16
MH20= 12V - 20W MR16

Industrial - Explosion Proof - Battery Units

EL, E12L Series

6 or 12 Volt, Class I, Division 2 Emergency Unit
Sealed Maintenance-Free Lead Calcium battery
UI 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

<table>
<thead>
<tr>
<th>DC Voltage</th>
<th>Lamp Wattage</th>
<th>Lumen Output</th>
<th>Lamp Type</th>
<th>Lamp Suffix (Add to Unit Model No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use With 6-Volt 2E12L24 Series</td>
<td>8</td>
<td>8</td>
<td>180</td>
<td>Halogen</td>
</tr>
<tr>
<td>Use With 12-Volt 2E12L56 Series</td>
<td>8</td>
<td>8</td>
<td>220</td>
<td>Incand.</td>
</tr>
<tr>
<td>Use With 6-Volt 2E12L56 Series</td>
<td>8</td>
<td>8</td>
<td>350</td>
<td>Halogen</td>
</tr>
<tr>
<td>Use With 12-Volt 2E12L56 Series</td>
<td>12</td>
<td>12</td>
<td>180</td>
<td>Incand.</td>
</tr>
</tbody>
</table>

STANDARD FEATURE (all models)

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

No. of Heads | Series | Capacity Indicator | Lamp Suffix | Option | Time Delay
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>S12E</td>
<td></td>
<td>/H751</td>
<td>-V</td>
<td></td>
</tr>
</tbody>
</table>
### Hazardous Location Remote Fixture

**Class I, Division 2 Compliant Remote Fixtures**

The ELF651 Series of Remote Fixtures 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

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Input Voltage</th>
<th>Power (each of 2 lamps)</th>
<th>Temperature Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR16</td>
<td>6 Volts</td>
<td>10 Watts</td>
<td>T3B (max. 165°C)</td>
</tr>
<tr>
<td>MR16</td>
<td>12, 24 Volts</td>
<td>12 Watts</td>
<td>T3B (max. 165°C)</td>
</tr>
<tr>
<td>MR16</td>
<td>12, 24, 120 Volts</td>
<td>20 Watts</td>
<td>T2C (max. 230°C)</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

Dimensions are approximate and subject to change.

**ORDERING FORMAT**

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

**Severe ELF651 Series**

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

### 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**

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