Visual and Audible Signaling Products
For Harsh and Hazardous Areas

MEDC® Series
Flex-Tone™ Series
HAZARD•GARD™ Series
Class I, Division 1, Groups A, B, C & D
Class I, Division 2, Groups A, B, C & D
Class I, Zone 2, Group IIIC
ATEX Ex II 1 GD, EExed IIC

COOPER Crouse-Hinds
How To Use This Catalog

**Model**

BG

**Break Glass Fire Alarm Call Point—Hazardous Locations**

- **Certification**
  - UL Listed for: Class I, Div 2, Groups A, B, C, D
  - ATEX Ex II 1GD Intrinsically Safe
  - ATEX Ex II 2GD Increased Safety

- **Certified Ambient Temperature**
  - -13°F to +131°F
  - -25°C to +55°C

- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67

- **Material**
  - Corrosion-free GRP

- **Entries**
  - Up to 4 x ½" NPT

- **Weight**
  - 2.6lb/1.2kg

**Options**: Body color, certification

<table>
<thead>
<tr>
<th>Certification</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>Haz. Loc.</td>
<td>869101</td>
<td>BGUL4C6C1DSN7R</td>
<td>Explosion protected, 2 x ½&quot; NPT bottom entries, single break glass switch latching, painted red GRP finish</td>
</tr>
<tr>
<td>ATEX Ex II 1GD</td>
<td>Intrinsically Safe</td>
<td>800002</td>
<td>BGIB4B6B1DSN6R</td>
<td>Explosion protected, Zone 0, 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, single switch, red finish</td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Increased Safety</td>
<td>800003</td>
<td>BGB4B6B1DSN6R</td>
<td>Explosion protected Ex II 2GD, EExed, IIC, T6, Zone 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish</td>
</tr>
</tbody>
</table>

**How To Order**

- For standard models listed in this catalog, use the **Ordering code** column and quantities that you need.
- For non-standard models, reference the ordering requirements matrix at the end of each section to build a catalog number.
  Give this catalog number to customer service.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Model</th>
<th>Material</th>
<th>Certification</th>
<th>Entries</th>
<th>Duty</th>
<th>Tag</th>
<th>Features</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM87</td>
<td>PBL</td>
<td>S</td>
<td>EExdIICT6</td>
<td>20mm Left/Right</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>UL Listed</td>
<td>20mm Top/Bottom</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Blue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CSA Certified</td>
<td>20mm Bottom</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

Use the ordering requirements to build the appropriate catalog number.
Why Cooper Crouse-Hinds?

- The broadest line of harsh and hazardous signaling, alarm and communication products available in both IEC and NEC designs and certifications.
- A new line of hazardous area call points (fire alarm or emergency notification devices) provides you a unique product offering unequalled by any other manufacturer of hazardous location signaling products.
- Worldwide listings with UL, cUL, ATEX, GOST, CSA and CQST (Chinese) approvals provide customer solutions that the competition can't match.
- Superior enclosure materials providing unmatched ingress protection and corrosion resistance from the harshest conditions.
- A unique signaling product offering integral visual and audible signaling capability pre-wired for simultaneous output activation.
- A new line of heat detectors for early indication of potential processing problems.

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A Guide To The Use Of Electrical Equipment In Potentially Explosive Atmospheres

Introduction
Potentially explosive atmospheres exist where there is a risk of explosion due to mixtures of gas/air, vapor/air, dust/air or other flammable combinations. In such areas there is a necessity to eliminate sources of ignition such as sparks, hot surfaces or static electricity which may ignite these mixtures. Where electrical equipment has to be used in these areas it must be so designed and constructed as to not create sources of ignition capable of igniting these mixtures. Before electrical equipment can be used in a potentially explosive atmosphere, a representative sample has to be fully tested and certified by an independent authority such as Baseefa 2001 in Europe or UL in the U.S.A.

This information is intended as a guide only and further expert guidance should be sought before placing into service, maintaining or repairing any item of equipment in a potentially explosive atmosphere.

Where comparisons are shown between, for example, European and North American practice this may be an approximation and individual standards/codes of practice should be consulted for precise details.

Area Classification
Plants are divided into Zones (European and IEC method) or Divisions (North American method) according to the likelihood of a potentially explosive atmosphere being present.

Note: North American legislation now allows Zones to be used to classify areas, where this practice is used it follows the IEC Zone method.

<table>
<thead>
<tr>
<th>European &amp; IEC Classification</th>
<th>Definition of zone or division</th>
<th>North American Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 0 (gases) Zone 20 (dusts)</td>
<td>An area in which an explosive mixture is continuously present or present for long periods</td>
<td>Class I, Division 1 (gases) Class II, Division 1 (dusts)</td>
</tr>
<tr>
<td>Zone 1 (gases) Zone 21 (dusts)</td>
<td>An area in which an explosive mixture is likely to occur in normal operation</td>
<td>Class I, Division 1 (gases) Class II, Division 1 (dusts)</td>
</tr>
<tr>
<td>Zone 2 (gases) Zone 22 (dusts)</td>
<td>An area in which an explosive mixture is not likely to occur in normal operation and if it occurs it will exist only for a short time</td>
<td>Class I, Division 2 (gases) Class II, Division 2 (dusts) Class III, Division 1 (fibers) Class III, Division 2 (fibers)</td>
</tr>
</tbody>
</table>

Gas Groups (plus dusts and fibers)
There are two main gas groups, Group I—Mining only and Group II—Surface Industries

These categories are used in European and I.E.C. groupings.

Group I is concerned only with underground mining where methane and coal dust are present.

Group II gases occurring in surface industries, are sub-grouped according to their volatility. This enables electrical equipment to be designed to less onerous tolerances if it is to be used with the least volatile gases.

<table>
<thead>
<tr>
<th>Typical gas/material</th>
<th>European/I.E.C. Gas Group</th>
<th>North American Gas Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane</td>
<td>I</td>
<td>-</td>
</tr>
<tr>
<td>Acetylene</td>
<td>IIC</td>
<td>A</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>IIC</td>
<td>B</td>
</tr>
<tr>
<td>Ethylene</td>
<td>IIB</td>
<td>C</td>
</tr>
<tr>
<td>Propane</td>
<td>IIA</td>
<td>D</td>
</tr>
<tr>
<td>Metal dust</td>
<td>-</td>
<td>E</td>
</tr>
<tr>
<td>Coal dust</td>
<td>-</td>
<td>F</td>
</tr>
<tr>
<td>Grain dust</td>
<td>-</td>
<td>G</td>
</tr>
</tbody>
</table>
Temperature
Hot surfaces can ignite explosive atmospheres. To guard against this, all electrical equipment intended for use in a potentially explosive atmosphere is classified according to the maximum surface temperature it will reach in service. This temperature is normally based on a surrounding ambient temperature of 40 degrees Centigrade (102 degrees Fahrenheit). This temperature can then be compared to the ignition temperature of the gas(es) which may come into contact with the equipment and a judgement reached as to the suitability of the equipment to be used in that area.

<table>
<thead>
<tr>
<th>Temperature Classification</th>
<th>European/I.E.C.</th>
<th>North American</th>
<th>Maximum Surface Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T1</td>
<td></td>
<td>450° C</td>
</tr>
<tr>
<td>T2</td>
<td>T2</td>
<td>T2A</td>
<td>300° C</td>
</tr>
<tr>
<td></td>
<td>T2B</td>
<td>280° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T2C</td>
<td>260° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T2D</td>
<td>230° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>215° C</td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td>T3</td>
<td>T3A</td>
<td>200° C</td>
</tr>
<tr>
<td></td>
<td>T3B</td>
<td>180° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T3C</td>
<td>165° C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>160° C</td>
<td></td>
</tr>
<tr>
<td>T4</td>
<td>T4</td>
<td></td>
<td>135° C</td>
</tr>
<tr>
<td></td>
<td>T4A</td>
<td>120° C</td>
<td></td>
</tr>
<tr>
<td>T5</td>
<td>T5</td>
<td></td>
<td>100° C</td>
</tr>
<tr>
<td>T6</td>
<td>T6</td>
<td></td>
<td>85° C</td>
</tr>
</tbody>
</table>

e.g. Butane has an ignition temperature of 365 degrees Centigrade, equipment used in the vicinity of this gas would need a T rating of T2 or better.

Types of Electrical Equipment Suitable for use in Potentially Explosive Atmospheres

<table>
<thead>
<tr>
<th>Different techniques are used to prevent electrical equipment from igniting explosive atmospheres. There are restrictions on where these different types of equipment can be used as follows:</th>
<th>European</th>
<th>IEC</th>
<th>NEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flameproof Enclosure—An enclosure used to house electrical equipment, which when subjected to an internal explosion will not ignite a surrounding explosive atmosphere.</td>
<td>Zones 1 &amp; 2 EExd EN60079-1</td>
<td>Zones 1 &amp; 2 Exd IEC60079-1</td>
<td>Class I Divisions 1 &amp; 2 – UL1203</td>
</tr>
<tr>
<td>Intrinsic Safety—A technique whereby electrical energy is limited such that any sparks or heat generated by electrical equipment is sufficiently low as to not ignite an explosive atmosphere.</td>
<td>Zones 0, 1 &amp; 2 EEI Ex EN50020</td>
<td>Zones 1 &amp; 2 Ex IEC60079-11</td>
<td>Class I Divisions 1 &amp; 2 – UL913</td>
</tr>
<tr>
<td>Increased Safety—This equipment is so designed as to eliminate sparks and hot surfaces capable of igniting an explosive atmosphere.</td>
<td>Zones 1 &amp; 2 EEx EN60079-7</td>
<td>Zones 1 &amp; 2 Ex IEC60079-7</td>
<td>–</td>
</tr>
<tr>
<td>Purged and Pressurized—Electrical equipment is housed in an enclosure which is initially purged to remove any explosive mixture, then pressurised to prevent ingress of the surrounding atmosphere prior to energization.</td>
<td>Zones 1 &amp; 2 EEx EN60079-18</td>
<td>Zones 1 &amp; 2 Ex IEC60079-18</td>
<td>–</td>
</tr>
<tr>
<td>Encapsulation—A method of exclusion of the explosive atmosphere by fully encapsulating the electrical components in an approved material.</td>
<td>Zones 1 &amp; 2 EEEx EN50015</td>
<td>Zones 1 &amp; 2 Ex IEC60079-6</td>
<td>Class I Division 2 – UL698</td>
</tr>
<tr>
<td>Oil Immersion—The electrical components are immersed in oil, thus excluding the explosive atmosphere from any sparks or hot surfaces.</td>
<td>Zones 1 &amp; 2 EEEx EN50017</td>
<td>Zones 1 &amp; 2 Exq IEC60079-5</td>
<td>–</td>
</tr>
<tr>
<td>Powder Filling—Equipment is surrounded with a fine powder, such as quartz, which does not allow the surrounding atmosphere to come into contact with any sparks or hot surfaces.</td>
<td>Zones 1 &amp; 2 EEEx EN60079-15</td>
<td>Zones 1 &amp; 2 Ex IEC60079-15</td>
<td>–</td>
</tr>
<tr>
<td>Non-sparking—Sparking contacts are sealed against ingress of the surrounding atmosphere, hot surfaces are eliminated.</td>
<td>Zone 2 EEEx EN60079-15</td>
<td>Zone 2 Ex IEC60079-15</td>
<td>–</td>
</tr>
</tbody>
</table>
Selection, installation and maintenance of electrical equipment intended for use in potentially explosive atmospheres.

International and national standard requirements for the safe use of electrical equipment in potentially explosive atmospheres as follows:

<table>
<thead>
<tr>
<th>International</th>
<th>Europe</th>
<th>U.S.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Recommendations</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
<tr>
<td>Classification of Hazardous Areas</td>
<td>IEC60079-10</td>
<td>EN60079-10</td>
</tr>
<tr>
<td>Inspection and Maintenance of Electrical Equipment</td>
<td>IEC60079-17</td>
<td>EN60079-17</td>
</tr>
<tr>
<td>Requirements for Flameproof Enclosures</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
<tr>
<td>Requirements for Intrinsically Safe Equipment</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
<tr>
<td>Requirements for Increased Safety Equipment</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
<tr>
<td>Requirements for Purged and Pressurized Equipment</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
<tr>
<td>Requirements for Non-Sparking Equipment</td>
<td>IEC60079-14</td>
<td>EN60079-14</td>
</tr>
</tbody>
</table>

Cooper Crouse-Hinds advises that all Explosionproof electrical equipment is maintained, by suitably trained personnel, in accordance with the Manufacturers’ recommendations.

Any spare parts used should be purchased from the original Manufacturer and repairs should be carried out by the Manufacturer or under his supervision, in order that the item remains in conformance with the certification documents.

The Certification Process

All electrical equipment, intended for use in a potentially explosive atmosphere, should be certified as suitable for such use.

The methods of obtaining certification differ in detail, see below, between each certifying body or group of bodies (e.g. CENELEC). Basically this process consists of supplying a representative sample of the equipment along with a set of drawings to a recognised test/certification body e.g. Baseefa 2001 who in turn test the equipment against a recognised Standard e.g. EN60079-14 and issues a Certificate. The user of the equipment can then refer to this Certificate to enable him to safely put the item into service in a zone appropriate to the Certification.

European Practice

ALL EQUIPMENT, BOTH ELECTRICAL AND MECHANICAL, INTENDED TO BE PUT INTO SERVICE WITHIN THE EEC HAS TO BE CERTIFIED IN ACCORDANCE WITH THE ATEX DIRECTIVE.

It should be noted also that MECHANICAL equipment is covered by the ATEX Directive so for the first time items such as gearboxes will have to carry ATEX certification.

The equipment coding signifying compliance with ATEX is as follows:

- II2G i.e. Explosionproof in accordance with ATEX.
- II – Group II surface industries.
- 2 – category 2 equipment (suitable for use in Zone 1) note: Category 1 is suitable for Zone 0. Category 3 is suitable for Zone 2.
- G – suitable for atmospheres containing gas (D is suitable for atmospheres containing dusts).

Equipment will be CE marked when certified to ATEX.

North American Practice

Sample equipment and supporting documentation are submitted to the appropriate authority e.g. U.L., F.M., C.S.A.

The equipment is tested in accordance with relevant standards for explosion protection and also for general electrical requirements e.g. light fittings.

After successful testing, a listing is issued allowing the manufacturer to place the product on the market. The product is marked with the certification details such as the gas groups A,B,C,D and the area of use e.g. Class I, Division 1.
Applicable UL, cUL, ULC, CSA Certifications

UL1638 Visual Signaling Appliances—Private-mode emergency and general utility signaling.
ULC S526-02—Visual signal devices for fire alarm systems.
UL1971—Listed for signaling devices for the hearing impaired.
ULC S526-02—Visual signal devices for fire alarm systems
UL38—Manual signaling boxes for fire alarm systems.
Similar to CAN/ULC S58-M91—Standard for manual pull stations for fire alarm systems
UL464—Audible signal appliances.
ULC S525-99—Audible signal devices for fire alarm systems
UL11604—Electric equipment for use in Class II, Division 2, and Class III, hazardous locations.
UL844—Electric lighting fixtures for use in hazardous locations.
CSA C22.2 No. 137-M1981—Electric Luminaires for use in hazardous locations
UL1203—Explosionproof and dust ignitionproof electrical equipment for use in hazardous locations.
CSA C22.2 No. 30-M1986—Explosionproof enclosures for use in Class I Locations.
CSA C22.2 No. 25-1966—Explosionproof enclosures for use in Class II Groups E, F and G hazardous locations.
UL1598A—Supplemental requirements for luminaires for installation on marine vessels.
Refer to Transport Canada Technical Publication TP127E-Ships Electrical Standards.

Worldwide Certification

Most countries outside Europe or North America use the IEC Standards as a basis for their own national standards.

The Russian Federation certifies equipment to GOST ‘R’ standards, these closely follow CENELEC practice.

In Russia, certain products used in fire alarm systems may be required to carry the Russian fire approval (VNIIPo). Note that not all Cooper Crouse-Hinds products that have been certified to GOST ‘R’ are VNIIPo approved. Check specification on technical data sheets before ordering.

Kazakhstan has a certification process (GOST ‘K’) where approval is normally based on compliance with CENELEC standards.

Certification in China is based on compliance with international standards such as CENELEC or UL, or their own CQST standard.

There is a scheme in place which will, when fully adopted, allow for internationally recognized certification to become a reality, this is the IEC EX SCHEME. This uses the IEC standards and IEC recognised test and certification bodies to issue mutually recognised test reports and certificates. The scheme is in its infancy and its level of success cannot yet be measured.

Ingress Protection

2 digits are used to denote the level of ingress protection that a piece of apparatus enjoys:

<table>
<thead>
<tr>
<th>Solids</th>
<th>Liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>0: No protection</td>
<td>0: No protection</td>
</tr>
<tr>
<td>1: Protected against solid objects up to 50mm, e.g. hands.</td>
<td>1: Protected against vertically falling drops of water.</td>
</tr>
<tr>
<td>2: Protected against solid objects up to 12mm, e.g. fingers.</td>
<td>2: Protected against water spray up to 15 degrees from vertical.</td>
</tr>
<tr>
<td>3: Protected against solid objects up to 2.5mm, e.g. tools.</td>
<td>3: Protected against water spray up to 60 degrees from vertical.</td>
</tr>
<tr>
<td>4: Protected against solid objects over 1mm, e.g. wires.</td>
<td>4: Protected against water sprays from all directions.</td>
</tr>
<tr>
<td>5: Protected against dusts. (No harmful deposits).</td>
<td>5: Protected against water jets from all directions.</td>
</tr>
<tr>
<td>6: Totally protected against dust.</td>
<td>6: Protected against strong water jets from all directions, e.g. Offshore.</td>
</tr>
<tr>
<td>7: Protected against immersion between 15cm and 1m in depth.</td>
<td>7: Protected against long immersion under pressure.</td>
</tr>
</tbody>
</table>

NEMA Standards

North American practice is to use NEMA standards to describe ingress protection, i.e.:

NEMA 3 is similar to IP 54
NEMA 4 is similar to IP 55
NEMA 4X is similar to IP 56
NEMA 6 is similar to IP 67
Manual Call Points

Heat Detectors

Hazardous Location Input Field Devices

Fire Alarm Panel

Smoke Detector

(For illustration purposes only, not available from this catalog)
Strobe Warning Lights

Rotating Beacons

Combination Units

Remote Speaker/Amplifier

XB15 & XB16 Strobe Lights

EXSO301

Horn/Strobe Unit

Explosionproof ETH Series

Hazardous Location Output Field Devices

DB3 Horn

EXFASC Series

SM87 SL

XB12

Speakers

Fire Alarms

Status Lights

Strobe Lights
MEDC Series Fire Alarm or Emergency Call Points

These manual fire alarm call points have been designed for use in hazardous locations and harsh environmental conditions. They offer:

- The broadest range of hazardous location manual fire alarm activation devices in the industry.
- The compact design, activation choices such as pushbutton or breakglass, housing color choices and comprehensive worldwide certifications make this product family a project closer.
- Flexibility as all units accept metric cable or NPT conduit entries, and each unit can be custom designed for a specific fire alarm or emergency activation requirements.

Primary Applications
- Fire alarm activation
- Emergency evacuation
- Process shut-down

Industries
- Liquid natural gas terminals
- Energy exploration
- Chemical
- Refinery
- Power generation

Key Features & Benefits
- In-line and end-of-line resistors fitted for use in fire activation circuits
- Optional LED to indicate operation
- Plastic break glass element available—easy activation yet safe to touch
- Corrosion resistant GRP—ideal for Marine applications
- Retained stainless steel cover screws—won't corrode and never lose screws
- Optional lift flap for protection
MEDC Series Fire Alarm or Emergency Call Points—Hazardous Locations, Weatherproof, Marine

**SM87PBL**  
**Push Button Fire Alarm Call Point—Explosionproof**

- **Certification**
  - UL, CSA, Class I, Div 1, Groups C & D, Zone 1
- **UL Listed for:**
  - ATEX Class I, Div 1, Groups C & D, Class I, Zone 1
- **Certified Ambient Temperature**
  - -67°F to +158°F
  - -55°C to +70°C
- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67
- **Material**
  - Marine Grade Alloy
  - Stainless Steel (ATEX only)
- **Entries**
  - Up to 4 x ½" or ¾" NPT
- **Weight**
  - 5.5lb/2.5kg
- **Options:** Body color, certification

**SM87BG**  
**Break Glass Call Point—Explosionproof**

- **Certification**
  - ATEX, GOST ‘R’ & ‘K’, Chinese
  - Intrinsically Safe
  - Flameproof
  - ATEX Ex II 1G, EExia IIC T4
  - ATEX Ex II 2G, EExd IIC T6
- **Certified Ambient Temperature**
  - -55°C to +70°C
  - -20°C to +55°C (LED)
- **Ingress Protection**
  - IP66 & 67
- **Material**
  - Stainless Steel or Alloy
- **Entries**
  - Up to 4 x 20mm or 25mm
- **Weight**
  - 3.8kg (Steel) 2.5kg (Alloy)
- **Options:** Body color, 3 & 4 pole changeover switch, certification

**PB**  
**Push Button Fire Alarm Call Point—Hazardous Locations**

- **Certification**
  - UL, Class I, Div 2, Groups A, B, C, D, Class I, Zones 1 & 2
- **UL Listed for:**
  - ATEX Class I, Div 2, Groups A,B,C,D
  - Class I, Zones 1 & 2
- **Certified Ambient Temperature**
  - -13°F to +158°F
  - -25°C to +70°C
- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67
- **Material**
  - Corrosion-free GRP
- **Entries**
  - Up to 4 x ½" NPT, M20
- **Weight**
  - 2.6lb/1.2kg
- **Options:** Body color, certification

**Certification Ordering Code Catalog # Standard Product Configuration**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, CSA, Class I, Div 1, Groups C &amp; D, Zone 1</td>
<td>36200102</td>
<td>SM87PBLAUL3T3B3NNR</td>
<td>Explosion protected, 2 x ⅜&quot; NPT entries, duty label “Fire—Press Here,” single push button switch—latching, marine grade alloy, red finish</td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>16200174</td>
<td>SM87BGLAD1B1NNR</td>
<td>Break glass call point, Ex II 2GD, EExd IIC T6, IP 66 &amp; 67, 1 x M20 bottom entries, duty label, “Fire Breakglass,” alloy material, red finish</td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>869105</td>
<td>PBU4G6C0DSN7R</td>
<td>Explosion protected, 2 x ⅜&quot; NPT bottom entries, no duty label, DC, single push button switch latching, painted red GRP</td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>800010</td>
<td>PBE4B6B0DSN6R</td>
<td>Explosion protected, Ex II 2GD, EExe, IIC, T6, Zone 1 &amp; 2, 2 x M20 entries, DC, single switch, red finish</td>
</tr>
</tbody>
</table>
### MEDC Series Fire Alarm or Emergency Call Points—Hazardous Locations, Weatherproof, Marine

#### BG

**Break Glass Fire Alarm Call Point—Hazardous Locations**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed, Class I, Div 2, Groups A, B, C, D, Zone 2</td>
<td>Haz. Loc.</td>
<td>869101</td>
<td>BGULC6C1DSN7R</td>
<td>Explosion protected, 2 x ½&quot; NPT bottom entries, single break glass switch latching, painted red GRP finish</td>
</tr>
<tr>
<td>ATEX Ex II 1G</td>
<td>Intrinsicly Safe</td>
<td>800002</td>
<td>BGIB66B1DSN6R</td>
<td>Explosion protected, Zone 0, 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, single switch, red finish</td>
</tr>
<tr>
<td>ATEX Ex II 2G</td>
<td>Increased Safety</td>
<td>800003</td>
<td>BGEB66B1DSN6R</td>
<td>Explosion protected Ex II 2GD, EExed, IIC, T6, Zone 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish</td>
</tr>
<tr>
<td>IP66 &amp; 67</td>
<td>Waterproof</td>
<td>800001</td>
<td>BGWN66B1ASN6R</td>
<td>Dust-tight and weatherproof, Uncertified AC, 2 x M20 bottom entries, single break glass switch latching, red finish</td>
</tr>
</tbody>
</table>

**Options:** Body color, certification, lift flap, LED, tag & duty label, series and EOL resistor

#### BG2

**Break Glass Call Point—Hazardous Locations**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Ex II 1G</td>
<td>Intrinsically Safe</td>
<td>800005</td>
<td>BG2INN1N</td>
<td>Explosion protected, Zone 0, 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish</td>
</tr>
<tr>
<td>Increased Safety</td>
<td>Increased Safety</td>
<td>800004</td>
<td>BG2EC1N</td>
<td>Explosion protected, Zone 1 &amp; 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish</td>
</tr>
</tbody>
</table>

**Options:** Lift flap

#### BG3

**Break Glass Call Point—Explosionproof & Weatherproof**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Ex II 1G</td>
<td>Intrinsically Safe</td>
<td>800007</td>
<td>BG3INB8N</td>
<td>Explosion protected, Zone 0 / 1 &amp; 2 DC, standard models are surface mount version, have 2 x M20 bottom entries, single break glass switch latching, duty label &quot;Burning House,&quot; red GRP finish</td>
</tr>
<tr>
<td>IP66 &amp; 67</td>
<td>Weatherproof</td>
<td>800006</td>
<td>BG3W1N8N</td>
<td>Uncertified, Dust-tight &amp; weatherproof, 24V DC, Single break glass switch latching, duty label &quot;Burning House,&quot; red GRP finish</td>
</tr>
</tbody>
</table>
MEDC Series Fire Alarm or Emergency Call Points—Hazardous Locations, Weatherproof, Marine

Field Installed Duty Labels

Use with SM87 Call Points: | Duty Label | Ordering Code |
--- | --- | --- |
SM87PBL/SM87BGL | Blank | 869530 |
SM87PBL/SM87BGL | FIRE | 869526 |
SM87PBL/SM87BGL | Emergency Shut Down | 869532 |
SM87PBL/SM87BGL | Suppression Release | 869534 |

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Model</th>
<th>Material</th>
<th>Certification</th>
<th>Entries</th>
<th>Duty Label</th>
<th>Tag Label</th>
<th>Features</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM87</td>
<td>PBL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Material Code
- Stainless Steel: S
- Alloy: A

*UL version only available in Alloy.

Certification Code
- ExdIICT6: D
- UL Listed: UL
- CSA Certified: C

Entries Code
- 20mm Left/Right: 1L1R
- 20mm Top/Bottom: 1T1B
- 20mm Bottom: 1B
- 25mm Left/Right: 2L2R
- 25mm Top/Bottom: 2T2B
- 25mm Bottom: 2B
- ½" NPT Left/Right: 3L3R
- ½" NPT Top/Bottom: 3T3B
- ½" NPT Bottom: 3B
- ¾" NPT Left/Right: 4L4R
- ¾" NPT Top/Bottom: 4T4B
- ¾" NPT Bottom: 4B

Finish Code
- Red: R
- Blue: B
- Yellow: Y
- Yellow/Black Stripes: X
MEDC Series Fire Alarm or Emergency Call Points—Hazardous Locations, Weatherproof, Marine

Ordering Requirements
The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Model</th>
<th>Material</th>
<th>Certification</th>
<th>Entries</th>
<th>Duty Label</th>
<th>Tag Label</th>
<th>Features</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM87</td>
<td>BGL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: the units can be internally wired to suit customers' specifications. Please discuss your requirements with us.
MEDC Series Fire Alarm or Emergency Call Points—Hazardous Locations, Weatherproof, Marine

Field Installed Duty Labels

<table>
<thead>
<tr>
<th>Use with PB Call Points:</th>
<th>Duty Label</th>
<th>Ordering Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB</td>
<td>Blank</td>
<td>869530</td>
</tr>
<tr>
<td>PB</td>
<td>FIRE</td>
<td>869526</td>
</tr>
<tr>
<td>PB</td>
<td>Emergency Shut Down</td>
<td>869532</td>
</tr>
<tr>
<td>PB</td>
<td>Suppression Release</td>
<td>869534</td>
</tr>
</tbody>
</table>

Specify—PB Unit

Certification:
UL Listing No. E186629.
ATEX Approved: EN50014, EN50018, EN50019, EN50028.
Cert. No. BAS22ATEX2105X (BG & PB), EEexed II C T6 (switch only), EEexed IIC T4 (other versions).

Certified Temperature:
BG/UL: -13°F to +131°F (-25°C to +55°C); PB/UL: -13°F to +131°F (-25°C to +55°C).
P B (CSA): -58°F to +104°F (-50°C to +40°C).

Ingress Protection:
NEMA 4X & 6, IP66 & 67.

Switches Rating (1 or 2 changeover switches fitted): Max Rating 240VAC, 3A.

Cable Entries: Up to 4 entries ½" NPT or 20mm.

Weight: 2.6 lb/1.2kg (Varies with model & entries).

Material: Glass reinforced polyester.

Resistors: Various configurations available on versions up to 24V, 470R minimum.

LED Indication: A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V.

Labeling:
PB & BG Duty label — worded to Client’s requirements. Riveted on.
PB & BG Tag label — worded to Client’s requirements. Screwed on.

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model</th>
<th>Certification</th>
<th>Entries</th>
<th>Labels</th>
<th>Switches</th>
<th>Features</th>
<th>Terminals</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>PB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Certification Code
ATEX/CENELEC – EEex EB
ATEX/CENELEC – EEexi IB
CSA – Exi (PBI only) IC
UL – Class I, Div. 2 UL

Entries Code
1 Bottom M20 5B
2 Bottom M20 4B 6B
1 Top, 1 Bottom M20 2B 5B
1 Bottom 1/2" NPT 5C
2 Bottom 1/2" NPT 4C 6C
1 Top, 1 Bottom 1/2" NPT 2C 5C
16 mm 1A
20 mm *B
1/2" NPT *C
*Prefix entry size (see diagram above) with entry position code e.g. 1A, 2A.

UL & CSA Versions only available with 1/2" NPT entries

Finish Code
Red (Standard) R
Natural Black N
Blue B
Yellow Y
Gray G
**MEDC Series Fire Alarm or Emergency Call Points**—Hazardous Locations, Weatherproof, Marine

**Specification—BG Unit**

- **CSA Certified** to c22.2 (PB only), Nos. 0-M, 0.4-M, 14-M, 25,30-M, 94, 142-M 1987, 157M 1987, 157–92, Enclosure Type 4, 4A, Class I, Groups A, B, C, D, Cert. No. 79120.
- **ATEX Approved:** EN50014, EN50018, EN50019, EN50028.
- **Certification No:** BAS02ATEX2105X (BG & PB), EExed II C T6 (switch only), EExedm IIC T4 (other versions).
- **Voltage:** Up to 240V.
- **Certified Temperature:** BGUL: -13°F to +131°F (-25°C to + 55°C); PBUL: -13°F to +131°F (-25°C to +55°C).
- **PB (CSA):** -58°F to +104°F (-50°C to +40°C).
- **Ingress Protection:** NEMA 4X & 6, IP66 & 67.
- **Terminals:** 7 x 14 AWG standard.
- **Switch Rating (1 or 2 changeover switches fitted):** Max Rating 240VAC, 3A.
- **Cable Entries:** Up to 4 entries ½” NPT or 20mm.
- **Weight:** 2.6 lb/1.2kg (Varies with model & entries).
- **Material:** Glass reinforced polyester.
- **Finish:** Red epoxy painted finish as standard or to Customer’s specification.
- **Resistors:** Various configurations available on versions up to 24V, 470R minimum.
- **LED Indication:** A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V.

**Labelling:**
- **BG Glass label** — reads either (1) Fire Break glass—press here. (2) Break glass—press here. (3) Worded to Client’s requirements.
- **PB & BG Duty label** — worded to Client’s requirements. Riveted on.
- **PB & BG Tag label** — worded to Client’s requirements. Screwed on.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model</th>
<th>Certification Code</th>
<th>Entries</th>
<th>Labels Code</th>
<th>Switches</th>
<th>Features</th>
<th>Terminals</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG</td>
<td></td>
<td></td>
<td>DS N 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Certification Code**

- ATEX/CENELEC – EExe EB
- ATEX/CENELEC – EExi IB
- CSA – Exi (PBI only) IC
- UL – Class I, Div. 2 UL

**Entries Code**

- 1 Bottom M20 5B
- 2 Bottom M20 4B 6B
- 1 Top, 1 Bottom M20 2B 5B
- 1 Bottom 1/2” NPT 5C
- 2 Bottom 1/2” NPT 4C 6C
- 1 Top, 1 Bottom 1/2” NPT 2C 5C
- 16 mm “A
- 20 mm “B
- 1/2” NPT “C
- *Prefix entry size (see diagram above) with entry position code e.g. 1A, 2A.

**UL & CSA Versions only available with 1/2” NPT entries**

**Labels Code**

- Glass Label (1) 1
- "Fire Break Glass—Press Here"
- Glass Label (2) 2
- "Break Glass—Press Here"

**Switches Code**

- DC double changeover DD
- AC single changeover AS
- AC double changeover AD
- Change over

**Finish Code**

- Red (Standard) R
- Natural Black N
- Blue B
- Yellow Y
- Gray G
The most rugged and reliable status lights for harsh and hazardous applications.
Available as Xenon, incandescent and fluorescent beacons/strobes.
The SM87 SL range is manufactured in marine grade alloy and the XB12 SL in corrosion-free GRP to provide a wide range of status lights to suit your requirements.
All units can be supplied as 1, 2, 3, 4 or 5 stacks.

Primary Applications
- Process status
- Messaging
- Alert or emergency condition indication

Industries
- Offshore & onshore
- Energy exploration & transmission
- Refining
- Chemical & petrochemical
- Pharmaceutical

Certifications & Compliances
- UL Listed for USA and Canada*
  - Class I, Div. 1 & 2, Groups C & D
  - Class I, Zone 1, AExd IIB T6
- CSA certified*
- ATEX approved
- Xenon, fluorescent, incandescent*
- NEMA 4X & 6, IP66 & 67
- Certified temperature -67°F to +131°F*
  -55°C to +55°C

Key Features & Benefits
- 4-wire monitored connection for supervisory circuits*
- Marine grade alloy or GRP
- Pre-wired to customer’s requirements

*Depending on model

Note: Units shown are for representation only. Other variations are available.
SM87 SL | Xenon, Incandescent & Fluorescent Status Lights—Explosionproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200043</td>
<td>SM87SL3</td>
<td>Explosion protected, <strong>three stack</strong>, one (\frac{1}{2})&quot; NPT entry on bottom, no lens guards, xenon strobe with red, green, and clear lens</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200055</td>
<td>SM87SL2</td>
<td>Xenon status lamp, <strong>two stack</strong> 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200056</td>
<td>SM87SL2</td>
<td>Incandescent status lamp, <strong>two stack</strong> 40 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200057</td>
<td>SM87SL2</td>
<td>Fluorescent status lamp, <strong>two stack</strong> 5 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>26200058</td>
<td>SM87SL2</td>
<td>Xenon status lamp, <strong>two stack</strong> 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200059</td>
<td>SM87SL3</td>
<td>Xenon status lamp, <strong>three stack</strong> 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24VDC</td>
<td>26200060</td>
<td>SM87SL3</td>
<td>Incandescent status lamp, <strong>three stack</strong> 40 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>26200061</td>
<td>SM87SL3</td>
<td>Fluorescent status lamp, <strong>three stack</strong> 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>26200062</td>
<td>SM87SL3</td>
<td>Xenon status lamp, <strong>three stack</strong> 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>26200066</td>
<td>SM87SL3</td>
<td>Incandescent status lamp, <strong>three stack</strong> 40 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>220V AC</td>
<td>26200063</td>
<td>SM87SL3</td>
<td>Fluorescent status lamp, <strong>three stack</strong> 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, (\frac{1}{2})&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
</tbody>
</table>
MEDC Series Status Lights—Explosionproof, Weatherproof

**XB11 SLUL**  
**Xenon Strobe & Incandescent Status Lights—Hazardous Locations**

- **Certification**
  - UL Listed for: Class I, Div 2, Groups C & D, Class I, Zones 1 & 2, AExd IIB T4
- **Certified Ambient Temperature**
  - -67°F to +158°F
  - -55°C to +70°C
- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67
- **Material**
  - Corrosion-free GRP
- **Entries**
  - 1 x ½" NPT
- **Max. No. of Ways**
  - 5
- **Options**
  - Body & lens color, tag & duty labels

**Certification Ordering Code Catalog # Standard Product Configuration**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42500005</td>
<td>XB11ULSL3</td>
<td>Explosion protected, 3 stack, one ½&quot; NPT entry on bottom, 24V DC, green incandescent on top, yellow xenon flashing in middle, red xenon flashing on bottom, no lens guards, red finish</td>
</tr>
</tbody>
</table>

**XB12 SL/FB12 SL**  
**Xenon Strobe & Incandescent Status Lights—Hazardous Locations**

- **Certification**
  - UL Listed, Class I, Div 2, Groups C & D, Class I, Zones 1 & 2, AExd IIB T4
- **Certified Ambient Temperature**
  - -67°F to +158°F
  - -55°C to +70°C
- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67
- **Material**
  - Corrosion-free GRP
- **Entries**
  - 1 x ½" NPT
- **Max. No. of Ways**
  - 5
- **Options**
  - Body & lens color, certification, voltages 24V DC, 110–254V AC

**Certification Ordering Code Catalog # Standard Product Configuration**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42600001</td>
<td>XB12ULSL3</td>
<td>110V AC, explosion protected, three stack, one ½&quot; NPT entries, red xenon flashing on top, amber xenon flashing in middle, clear xenon flashing on bottom; no lens guards, red finish</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42600007</td>
<td>XB12ULSL2</td>
<td>24V DC xenon status lamp, two stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42600008</td>
<td>FB12ULSL2</td>
<td>24V DC incandescent status lamp, two stack 60W beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, ½&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42600009</td>
<td>XB12ULSL3</td>
<td>24V DC xenon status lamp, three stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>42600010</td>
<td>FB12ULSL3</td>
<td>24V DC incandescent status lamp, three stack 60W beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, ½&quot; NPT entry in the bottom unit for customer connection</td>
</tr>
</tbody>
</table>
## MEDC Series Status Lights—Explosionproof, Weatherproof

**SM87 SL**

Typical four unit assembly. Various options are available.

**XB12 SL**

Typical two unit assembly. Various options are available.

### Specifying SM87SL Unit and XB12SL Unit

<table>
<thead>
<tr>
<th>Lamp Types</th>
<th>SM87 SL</th>
<th>XB12 SL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lamp Types</strong></td>
<td>Xenon 5 joules maximum.</td>
<td>Xenon 21 joules.</td>
</tr>
<tr>
<td></td>
<td>Fluorescent 10W or 5W.</td>
<td>Incandescent 40W maximum.</td>
</tr>
<tr>
<td>Voltage Frequency</td>
<td>50 Hz as standard. 60 Hz available if required.</td>
<td>50 Hz as standard. 60 Hz available if required.</td>
</tr>
<tr>
<td>Xenon Voltages</td>
<td>24, 48V DC 110, 120, 240, 254V AC</td>
<td>24V DC, 110V, 240V AC</td>
</tr>
<tr>
<td></td>
<td>(see SM87 HXB data sheet for further information)</td>
<td>(see XB12 data sheet for further information)</td>
</tr>
<tr>
<td>Incandescent Voltages</td>
<td>12, 24, 48V DC, 110, 220, 240, 254V AC</td>
<td>120V AC</td>
</tr>
<tr>
<td></td>
<td>(see SM87 LU3 data sheet for further information)</td>
<td>(see FB12 data sheet for further information)</td>
</tr>
<tr>
<td>Fluorescent Voltages</td>
<td>12, 24, 48V, 220, 240, 254V AC</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>(see SM87 LU1 data sheet for further information)</td>
<td></td>
</tr>
<tr>
<td>Lamp Colors</td>
<td>Red, Amber, Yellow, Green, Blue or Clear.</td>
<td></td>
</tr>
<tr>
<td>Terminals</td>
<td>Will accept up to 14AWG cable.</td>
<td>Will accept up to 6 off 10AWG cable.</td>
</tr>
<tr>
<td>Wiring</td>
<td>Standard configuration of internal wiring is to common the negative/neutral connections. If individually wired lamps are required, please state requirements.</td>
<td>Will accept up to 14AWG cable.</td>
</tr>
<tr>
<td>Entries</td>
<td>Up to 3 x ½” or ¾” NPT.</td>
<td>1 x ½” NPT.</td>
</tr>
<tr>
<td>Enclosure</td>
<td>LM 25TF Marine Grade Alloy.</td>
<td>GRP.</td>
</tr>
<tr>
<td>Lens</td>
<td>Glass</td>
<td>Glass</td>
</tr>
<tr>
<td>Finish</td>
<td>Epoxy paint as standard or to customer’s specification.</td>
<td>Natural Black or Epoxy paint to customer’s specification.</td>
</tr>
<tr>
<td>Ambient Temp.</td>
<td>-13°F to 131°F (-25°C to +55°C) – Class I, Div 1.</td>
<td>-67°F to +158°F (-55°C to +70°C).</td>
</tr>
</tbody>
</table>

Note: XB11 SLUL also available.
Cooper Crouse-Hinds and MEDC provides a complete line of Strobe Lights and rotating beacons for harsh and hazardous visual indications.

- Products that meet world-wide standards such as UL, cUL, CSA, ATEX and GOST, and all Class, Division & Zone area classifications
- Products designed for both conduit wiring and/or cable connection, NPT or metric
- Complete line of strobe light output intensities, strobe light colors and operating voltages
- Units designed for use in fire alarm circuits meeting National Fire Protection Agency requirements for visual signaling for the hearing impaired

What Types of Signals are Available?

1. **Strobe Lights** — Used for signaling or warning of various conditions. Emits a powerful blast of bright light.
2. **Rotating Beacons** — Used to signal over a large area when the light must be seen from a long distance.
3. **Steady-on Beacons** — Typically used as a continuous source to warn, communicate or draw attention to an area, machine or process.
4. **Stack Lights** — Used for multiple indication in one signaling device. Compact and versatile, the three-color (red, amber and green) is most popular.

**Lens Color and Their Applications**

Most Cooper Crouse-Hinds strobes, steady and flashing beacons come in six lens colors: amber, blue, clear, green, magenta and red. Cooper Crouse-Hinds LED signals come in amber, blue, green, red and, in some cases, white. The following are examples of how various lens colors are used in industrial and commercial signaling environments:

- **Amber** — Denotes caution.
- **Blue** — Used for safety and security.
- **Clear (or White) & Green** — Used to indicate normal run operation.
- **Clear for Fire Alarm Applications** — Used to indicate a fire emergency.
- **Magenta** — Used for radiation alarms.
- **Red** — Denotes emergency or warning.
These listed strobes have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where a lightweight product combined with corrosion resistance is required.

The housing is manufactured from a U.V. stable, glass reinforced polyester, with the lens manufactured from a U.V. stable polycarbonate. Stainless steel screws are used ensuring a totally corrosion-free product.

The strobes contain supervisory diode and four wire leads for fire alarm applications. This strobe is also available UL 1971 (ADA) Listed for hearing impaired applications.

Units can be painted to customer specification and supplied with identification labels.

**Primary Applications**
- Condition signaling
- Security alert
- Equipment obstruction warning
- Emergency evacuation signaling

**Typical Industries**
- Utility gas plants
- Wastewater treatment plants
- Mining
- Petroleum refineries
- Chemical & petrochemical
- Pulp & paper

**Certifications & Compliances**
- UL Listed for USA and Canada
  - Hazardous locations for USA and Canada
    - Class I, Div. 2, Groups A, B, C & D
    - UL 1971 compliant version available
  - Ordinary locations: Visual Signal Device
    - NEMA 4X and 6, IP66 & 67
    - Certified temperature -67°F to +158°F
      - -55°C to +70°C

**Key Features & Benefits**
- Pipe mount with ½" NPT entry
- Corrosion resistant GRP enclosure
- XB16 580,000 peak candlepower
- XB15 520,000 peak candlepower
- Polycarbonate lens, various colors available
- 4 wire diode monitored board
- Optional relay initiate
- Optional lens guard

*Conforms to UL regulated voltage
UL 1971 version available with clear lens only (XB16 only)
## MEDC Series Strobe Warning Light—Hazardous Locations, Weatherproof

### XB15

- **Certification**: ATEX, UL Listed for: Class I, Div 2, Groups A,B,C,D, Class I, Zones 1 & 2, AExd IIC T5/T6
- **Certified Ambient Temperature**: -67°F to +158°F, -55°C to +70°C
- **Ingress Protection**: NEMA 4X & 6, IP66 & 67
- **Material**: Corrosion-free GRP
- **Entries**: Up to 3 x ½” NPT or 3 x ¾” NPT
- **Weight**: 6–8lb/2.6-3.6kg

### Options:
- Body & lens color, voltages 12–48V DC, 110–254V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Red</td>
<td>869400</td>
<td>XB15UL12006RWBNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Amber</td>
<td>869401</td>
<td>XB15UL12006AWBNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Red</td>
<td>869402</td>
<td>XB15UL12006RWPNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Amber</td>
<td>869403</td>
<td>XB15UL12006AWPN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Clear</td>
<td>27600042</td>
<td>XB15UL02406CWPNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Green</td>
<td>27600043</td>
<td>XB15UL02406GWPN</td>
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<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Blue</td>
<td>869393</td>
<td>XB15UL02406BPNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Red</td>
<td>869398</td>
<td>XB15UL02406RPWNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869399</td>
<td>XB15UL02406AWPN</td>
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<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Clear</td>
<td>27600047</td>
<td>XB15UL02406CWPNN</td>
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<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Green</td>
<td>27600048</td>
<td>XB15UL02406GWPN</td>
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<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Blue</td>
<td>869394</td>
<td>XB15UL02406BPNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Red</td>
<td>869396</td>
<td>XB15UL02406RPWNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869397</td>
<td>XB15UL02406AWPN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Clear</td>
<td>27600052</td>
<td>XB15UL12006CWPNN</td>
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<tr>
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<td>120V AC</td>
<td>Green</td>
<td>27600053</td>
<td>XB15UL12006GWPN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Blue</td>
<td>869405</td>
<td>XB15UL12006BPWN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Clear</td>
<td>27600057</td>
<td>XB15UL12006CWPNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Green</td>
<td>27600058</td>
<td>XB15UL12006GWPN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Blue</td>
<td>869404</td>
<td>XB15UL12006BPWN</td>
</tr>
</tbody>
</table>

New! Strobes, Rotating Beacons & Indicating Lights
**XB16 UL**

**10 Joule Flashing Xenon—Hazardous & Ordinary Locations**

- **Certification**: UL 1971 compliant
- **UL Listed for**: Class I, Div 2, Groups A, B, C, D
- **Certified Ambient Temperature**: -67°F to +158°F, -55°C to +70°C
- **Ingress Protection**: NEMA 4X & 6, IP66 & 67
- **Material**: Corrosion-free GRP
- **Entries**: Standard 1 x ½” NPT
- **Weight**: 2.2lb/1kg

**Options**: Body & lens color, lens guard, voltages 12–48V DC, 110–254V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL 1971 compliant</td>
<td>24V DC</td>
<td>Clear</td>
<td>29600023</td>
<td>XB16US02460CYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Blue</td>
<td>869406</td>
<td>XB16UL12060BYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Red</td>
<td>869407</td>
<td>XB16UL12060RYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Amber</td>
<td>869408</td>
<td>XB16UL12060AYNN</td>
</tr>
<tr>
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<td>120V AC</td>
<td>Clear</td>
<td>29600013</td>
<td>XB16UL12060CYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Green</td>
<td>29600014</td>
<td>XB16UL12060GYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Blue</td>
<td>29600011</td>
<td>XB16UL12060BYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Red</td>
<td>29600003</td>
<td>XB16UL12060RYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>120V AC</td>
<td>Amber</td>
<td>29600004</td>
<td>XB16UL12060AYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Green</td>
<td>29600016</td>
<td>XB16UL02460GYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Blue</td>
<td>29600017</td>
<td>XB16UL02460BYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Red</td>
<td>869410</td>
<td>XB16UL02460RYNN</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869411</td>
<td>XB16UL02460AYNN</td>
</tr>
</tbody>
</table>

**New!**

**Strobes, Rotating Beacons & Indicating Lights**

- **UL 1971 Listed for Signaling devices for the hearing impaired. Suitable for fire alarm indication.** 10 joule beacon, 60 flashes per minute, lens guard, pipe mounting, 1 x ½” NPT entry, natural black enclosure
- **UL Listed for Class I, Div 2, Groups A, B, C, D**

**Options for Strobes, Rotating Beacons & Indicating Lights**

- Body & lens color, lens guard, voltages 12–48V DC, 110–254V AC
MEDC Series Strobe Warning Light—Hazardous Locations, Weatherproof

**Specification—XB15 Unit**

- Certifications:
  - UL Listed for USA and Canada:
    - Class I, Div 2, groups A, B, C & D
    - Class I, Zone 1, AExd IIC T5/T6
    - Ordinary locations: Visual Signal Device
    - UL listing No. 58128
    - CENELEC/ATEX approved.
    - CENELEC EN50014 & EN50018
    - ATEX Cert. No. Baseefa 04ATEX0009X.
  - ATEX B
  - UL UL

- Material:
  - Body: Glass reinforced polyester.
  - Lens: Glass.
  - Backstrap: Stainless steel 316.
  - Wire Guard (optional): Stainless steel wire.
  - Cast Guard (optional): Aluminium LM25M.

- Finish:
  - Natural black or epoxy painted to customer specification.

- Voltage:
  - 24, 48V DC
  - 110, 120, 230, 240, 254V AC

- Tube Energy:
  - 15 joules.

- Tube Life:
  - >1 x 10⁶ flashes.

- Flash Rate:
  - 60, 80, 120 fpm.

- Certified:
  - -67°F to +131°F (-55°C to +55°C) T6.
  - -67°F to +158°F (-55°C to +70°C) T5.

- Weight:
  - Pipe mount: 5½lb/2.6kg; Direct mount: 6½lb/3.0kg.

- Ingress:
  - NEMA 4X & 6, IP66 & IP67.

- Entries:
  - Supplied as 2 x ¾” NPT (direct mount) or ¾” (pipe mount) as standard.
  - Other options available:
    - Up to 3 x ½” NPT or 3 x ¾” NPT (direct mount);
      - ½” NPT (pipe mount) — contact sales office to order.

- Terminals:
  - Direct mount: 12 x 14AWG.
  - Pipe mount: 8 x 14AWG.

- Relay Initiate:
  - Available on all units — suitable for 24V DC supplies only.

- Labels:
  - Tag/Duty label option.

**Electrical Ratings:**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>DC</th>
<th>24</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current (A) at 60 fpm</td>
<td>.78</td>
<td>.67</td>
<td>.4</td>
</tr>
<tr>
<td>Current (A) at 80 fpm</td>
<td>.99</td>
<td>.73</td>
<td>.4</td>
</tr>
<tr>
<td>Current (A) at 120 fpm</td>
<td>.99</td>
<td>.73</td>
<td>.4</td>
</tr>
</tbody>
</table>

- Effective Candlepower: 330 (Effective candlepower is the intensity that would appear to an observer if the light was burning steadily)
- Peak Candlepower: 520,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse)

- Multiplying Factor for Colored Lenses:

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

- **Model**: XB15
- **Certification Code**: ATEX B, UL UL
- **Voltage Code**: 24V DC 024, 110V AC 110, 120V AC 120, 240V AC 240
- **Guard Code**: None N, Cast C, Wire W
- **Color Code**: Red R, Blue B, Amber A, Yellow Y, Clear C
- **Unit Fixing Code**: Pipe mount P*, Direct w/backstrap B

*Not available on ATEX version.
MEDC Series Strobe Warning Light—Hazardous Locations, Weatherproof

XB16 RANGE
(Shown with optional guard fitted)
All dimensions in inches and millimeters

Specification—XB16UL Unit

Certification: UL Listed for USA and Canada:
- Hazardous locations for USA and Canada
  Class I, Div 2, groups A, B, C & D.
UL listing No. E251185.
UL listing No. E251185.
UL listing No. E251185.

Material: Body: Glass reinforced polyester.
Lens: U.V. stable polycarbonate.
Lens screws: stainless steel 316.

Finish: Natural black or painted to customer specification.

Voltage: 24, 48V DC
110, 120, 230, 240, 254V AC
Conforms to UL regulated voltage output (12V DC, 24V DC,
120V AC, 240V AC).

Certified: -67°F to +158°F (-55°C to +70°C)

Tube Energy: 10 joules.
Tube life: >1 x 10⁵ flashes.

Weight: 2.2lbs/1.0kg.


Protection: Standard 1 x ½” NPT pipe mount.

Terminals: 8 x 14AWG.

Labels: Tag/Duty label option.

Electrical Ratings:

For Hazardous Locations and Ordinary Locations (UL1638) Units

<table>
<thead>
<tr>
<th>Voltage</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>012</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>024</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Current (A) at 60 fpm
- 0.89
- 0.30
- 0.38
- 0.38
- 0.22
- 0.22
- 0.18

Current (A) at 80 fpm
- 0.89
- 0.30
- 0.38
- 0.38
- 0.22
- 0.22
- 0.18

Current (A) at 120 fpm
- 0.89
- 0.30
- 0.38
- 0.38
- 0.22
- 0.22
- 0.18

Effective intensity (Cd): 240 at 80 f.p.m.

Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity
generated by a flashing light during its light pulse)

For UL1971 Units Only

<table>
<thead>
<tr>
<th>Voltage</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>012</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>024</td>
<td></td>
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<tr>
<td>110</td>
<td>110</td>
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</tr>
<tr>
<td>120</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Current (A) at 60 fpm
- 1.22
- 1.52
- 0.38
- 0.38
- 0.78
- 0.78
- 0.18

Current (A) at 80 fpm
- 1.22
- 1.52
- 0.38
- 0.38
- 0.78
- 0.78
- 0.18

Current (A) at 120 fpm
- 1.22
- 1.52
- 0.38
- 0.38
- 0.78
- 0.78
- 0.18

Effective intensity (Cd): 240 at 80 f.p.m.

Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity
generated by a flashing light during its light pulse)

Note: on UL1971 units, max. current rating is based on in-rush current. This is
why the current ratings are not proportionals as with other beacons/strobes.

UL 1971 On-axis output: 15 Cd.

Multiplying factor for colored lenses:

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>R</td>
<td>B</td>
<td>A</td>
<td>G</td>
<td>Y</td>
</tr>
<tr>
<td>Value</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Relay Initiate: 24V DC relay initiate only.
Relay Initiate: 24V DC relay initiate only.

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the
code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model</th>
<th>Certification</th>
<th>Voltage</th>
<th>Flashrate</th>
<th>Lens Color</th>
<th>Guard</th>
<th>Options</th>
<th>Unit Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB16</td>
<td>UL</td>
<td>UL</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12V DC</td>
<td>012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24V DC</td>
<td>024</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>110V AC</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V AC</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>240V AC</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lens Flashrate Code
- 80 fpm
- 120 fpm

Color Code
- Red: R
- Blue: B
- Green: G
- Amber: A
- Yellow: Y
- Clear: C

Guard Code
- Yes: Y
- None: N
### MEDC Series Strobe Lights—Medium Intensity

#### SM87 HXB

**5 Joule Xenon Strobe—Explosionproof**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed for:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEX EX II 2GD</td>
<td>24V DC</td>
<td>Red</td>
<td>813005</td>
<td>SM87HXBAB024RN1R1LNNR</td>
<td>5 joules, 2 x M20 Entries, 29Cd, EExd IIc</td>
</tr>
<tr>
<td></td>
<td>24V DC</td>
<td>Amber</td>
<td>813006</td>
<td>SM87HXBAB024AN1R1LNNR</td>
<td>7 joules, 2 x M20 Entries, 39Cd, EExd IIc</td>
</tr>
<tr>
<td></td>
<td>240V AC</td>
<td>Red</td>
<td>813007</td>
<td>SM87HXBAB240RN1R1LNNR</td>
<td>Standard models are in alloy, red body color, no tag or duty labels, 2 x ½” NPT entries, 29Cd, 60 flashes per minute</td>
</tr>
<tr>
<td></td>
<td>240V AC</td>
<td>Amber</td>
<td>813008</td>
<td>SM87HXBAB240AN1R1LNNR</td>
<td>Standard models are in alloy, red body color, no tag or duty labels, 2 x ½” NPT entries, 32Cd, AExd IIB, 60 flashes per minute</td>
</tr>
<tr>
<td></td>
<td>24V DC</td>
<td>Red LED</td>
<td>813009</td>
<td>SM87LEDAB024RN1R1LNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>869161</td>
<td>SM87XBAUL024RN3R3LNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869162</td>
<td>SM87XBAUL024AN3R3LNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>Red</td>
<td>869165</td>
<td>SM87XBAUL110RN3R3LNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>Amber</td>
<td>869166</td>
<td>SM87XBAUL110AN3R3LNNR</td>
<td></td>
</tr>
</tbody>
</table>

#### XB11

**5 Joule Xenon Strobe—Hazardous Locations**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Body Color</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>Red</td>
<td>869171</td>
<td>XB11UL02406RN8NNNR</td>
<td>No tag or duty labels, 2 x ½” NPT entries, 60 flashes per minute</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>Amber</td>
<td>869172</td>
<td>XB11UL02406AN8NNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Natural Black</td>
<td>Clear</td>
<td>869173</td>
<td>XB11UL02406CNBNNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>Red</td>
<td>869174</td>
<td>XB11UL02406CNBNNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>110V AC</td>
<td>Red</td>
<td>Red</td>
<td>869175</td>
<td>XB11UL11006RN8NNNR</td>
<td></td>
</tr>
<tr>
<td>ATEX EX II 2GD</td>
<td>24V DC</td>
<td>Natural Black</td>
<td>Red</td>
<td>811101</td>
<td>XB11B02406RN8NNNR</td>
<td></td>
</tr>
<tr>
<td>ATEX EX II 2GD</td>
<td>24V DC</td>
<td>Natural Black</td>
<td>Amber</td>
<td>811102</td>
<td>XB11B02406AN8NNNR</td>
<td></td>
</tr>
<tr>
<td>ATEX EX II 2GD</td>
<td>24V DC</td>
<td>Natural Black</td>
<td>Red</td>
<td>811103</td>
<td>XB11B24006RN8NNNR</td>
<td></td>
</tr>
<tr>
<td>ATEX EX II 2GD</td>
<td>24V DC</td>
<td>Natural Black</td>
<td>Amber</td>
<td>811104</td>
<td>XB11B24006AN8NNNR</td>
<td>GRP, natural black body, no tag or duty labels, backstrap mounting, 2 x M20 entries, 60 flashes per minute</td>
</tr>
</tbody>
</table>
**Specification—SM87HXB Unit**

**Certification:**
UL Listed for USA and Canada for Class I, Div. 1, Groups C & D and Class I, Zone 1. Listing No. E187894.
CSA Certification to C22.2, Nos. 0, 0.4, 0.5, 9, 30-M 1986, 94-M91, 137-M 1981, Class I, Div 1, Group 0, Enclosure ¾, Cert. No. 96406.

**Material:**
LM25 TF Marine Grade Alloy.

**Lens:**
Toughened Glass.

**Finish:**
Epoxy paint finish as standard or to customer’s specification.

**Weight:**
4.4lb/2.0kg. approx.

**Certified Standard unit SM87 HXB:**
-67°F to +158°F, -55°C to +70°C.

**Temperature:**
High temperature unit: -67°F to +185°F, -55°C to +85°C.

**Ingress Protection:**
NEMA 4X & 6, IP66 & 67.

**Terminals:**
4 off suitable for up to 14AWG conductor size.

**Labels:**
Duty & Tag Labels optional.

**Entries:**
Up to 4 off ½" or ¾" NPT.

---

**FOR COLORED LENSES**

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplying Factor</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The photometric data has been independently verified. A report is available if required.

---

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

**SM87HXB**

<table>
<thead>
<tr>
<th>Model</th>
<th>Material</th>
<th>Certification</th>
<th>Voltage</th>
<th>Lens/LED color</th>
<th>Lens Guard</th>
<th>Entries</th>
<th>Tag/Duty Label</th>
<th>Initiate Option</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM87HXB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type Code</th>
<th>A</th>
<th>S*</th>
</tr>
</thead>
</table>

*Not UL Listed*
### Specification—XB11 Unit

**Certification:**
- UL Listed for USA and Canada
  - Hazardous locations:
    - Class I, Div. 2, Groups C & D
    - Class I Zones 1 & 2, AExIB T5
  - Ordinary locations: Visual-Signal Device
    - UL Listing No. S8128.
    - Cert. No. 99 ATEX 2195X.
    - CENELEC EN50014 and EN50018.

**Material:**
- Body: Glass reinforced polyester.
- Lens: Glass
- Cover Screws + Backstrap: Stainless steel 316.

**Finish:**
- Natural black or painted to customer specification.

**Weight:**
- 5½ lb/2.5kg.

**Certified Temperature:**
- -6°F to +158°F (-55°C to +70°C) hazardous locations.
- -6°F to +131°F (-55°C to +55°C) ordinary locations.

**Ingress Protection:**
- NEMA 4X and 6, IP66 & 67.

**Terminals:**
- 6 off suitable for up to 14 AWG conductor size.

**Labels:**
- Duty/Tag Label optional.

**Entries:**
- 2 x ½” NPT, 20mm

**Strobe/Sounder Unit:**
- The beacon may be combined with an MEDC sounder to create a visual/audible alarm.
- Contact MEDC for price and specification.

**FOR COLORED LENSES**

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplying Factor</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The photometric data has been verified by BSI. A report is available if required.

### Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Certification Code</th>
<th>Voltage Code</th>
<th>Flash Rate</th>
<th>Lens Color</th>
<th>Lens Guard</th>
<th>Unit Fixing</th>
<th>Earth Continuity</th>
<th>Tag/Duty Label</th>
<th>Options</th>
<th>Unit Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB11</td>
<td></td>
<td>24 110 240</td>
<td>06</td>
<td></td>
<td>B</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Natural Black</td>
</tr>
</tbody>
</table>

- **Guard Code:**
  - Yes Y
  - No N

- **Voltage Code:**
  - 24V DC 024
  - 110V AC 110
  - 240V AC 240
  - Other voltages available, please specify.

- **Color Code:**
  - Red R
  - Blue B
  - Green G
  - Yellow Y
  - Amber A
  - Clear C

- **Finish Code:**
  - Natural Black N
  - Red R

---

MEDC Series Strobe Lights—Medium Intensity

Cooper Crouse-Hinds
**MEDC Series Strobe Lights—High Intensity for Outdoor Use**

### XB4

**21 Joule Xenon Strobe—Explosionproof**

- **Certification**
  - UL Listed: ATEX
  - ATEX: Ex II 2G
  - UL, cUL Listed: Class I, Div 1, Groups C & D, Class I, Zone 1, AExd IIB T4, T5

- **Certified Temperature**
  - -67°F to +158°F
  - -55°C to +70°C

- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67

- **Material**
  - Alloy

- **Entries**
  - Up to 3 ½" or ¾" NPT, 20mm, 25mm

- **Weight**
  - 14.5lb/6.6kg

- **Options**:
  - Body & lens color, lens guard, certification, voltages 24V DC, 110V AC & 240V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>24V DC</td>
<td>Red</td>
<td>814001</td>
<td>XB4BB8D2B3B06ANORNNR</td>
<td>21 joules, 2 x M20 entries, 355Cd, 60 flashes per minute, no labels, red finish</td>
</tr>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>240V AC</td>
<td>Red</td>
<td>814002</td>
<td>XB4BH8D2B3B06ANORNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>869121</td>
<td>XB4ULB8D2E3O6ANRNNR</td>
<td>Marine grade alloy, 2 x ¾’’ NPT entries, no lens guard, 60 flashes per minute, red finish</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869122</td>
<td>XB4ULB8D2E3O6ANAN1R</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>Red</td>
<td>869125</td>
<td>XB4ULE8D2E3O6ANRNNR</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>110V AC</td>
<td>Amber</td>
<td>869126</td>
<td>XB4ULE8D2E3O6ANAN1R</td>
<td></td>
</tr>
</tbody>
</table>

### XB12

**21 Joule Xenon Strobe—Hazardous Locations**

- **Certification**
  - UL Listed: ATEX
  - ATEX: Ex II 2G
  - UL, cUL Listed: Class I, Div 2, Groups C & D, Class I, Zones 1 & 2, AExd IIB T4

- **Certified Temperature**
  - -67°F to +158°F
  - -55°C to +70°C

- **Ingress Protection**
  - NEMA 4X & 6
  - IP66 & 67

- **Material**
  - Corrosion-free GRP

- **Entries**
  - Up to 2 x ½’’ NPT, 20mm

- **Weight**
  - 15.5lb/7.0kg

- **Options**:
  - Body & lens color, lens guard, certification, voltages 24V DC, 110-254V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>24V DC</td>
<td>Red</td>
<td>812101</td>
<td>XB12802406RNNN1N</td>
<td>21 joules, 2 x M20 entries, 355Cd, 60 flashes per minute, no labels, black body</td>
</tr>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>24V DC</td>
<td>Amber</td>
<td>812102</td>
<td>XB12802406ANBNNN1N</td>
<td></td>
</tr>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>24V DC</td>
<td>Red</td>
<td>812103</td>
<td>XB12824006RNNN1N</td>
<td></td>
</tr>
<tr>
<td>ATEX Approved Ex II 2G</td>
<td>240V AC</td>
<td>Amber</td>
<td>812104</td>
<td>XB12824006ANBNNN1N</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red</td>
<td>869181</td>
<td>XB12UL02406RNNN1N</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Amber</td>
<td>869182</td>
<td>XB12UL02406ANBNNN1N</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>110V AC</td>
<td>Red</td>
<td>869185</td>
<td>XB12UL11006RNNN1N</td>
<td>Red painted GRP, no tag or duty labels, 2 x ½’’ NPT, 60 flashes per minute, 355 Cd</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>110V AC</td>
<td>Amber</td>
<td>869186</td>
<td>XB12UL11006ANBNNN1N</td>
<td></td>
</tr>
</tbody>
</table>
XB13 10 Joule Flashing Xenon—Weatherproof and Heavy Duty

Certification
UL Listed for: Weatherproof IP66 & 67

Certified Temperature
-67°F to +158°F
-55°C to +70°C

Ingress Protection
NEMA 4X & 6
IP66 & 67

Material
Corrosion-free GRP

Entries
Up to 3 x 20mm via knockouts

Weight
1.1kg

Options: Body & lens color, lens guard, voltages 12–24V DC, 115–230V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weatherproof, IP66 &amp; 67</td>
<td>24V DC</td>
<td>Red</td>
<td>813101</td>
<td>XB13024RNNN</td>
<td>Dust-tight and weatherproof, uncertified, no tag or duty labels, 3 x 20mm entries via knockouts, 60 flashes per minute, dual and single flash modes, natural red GRP</td>
</tr>
<tr>
<td>Weatherproof, IP66 &amp; 67</td>
<td>24V DC</td>
<td>Amber</td>
<td>813102</td>
<td>XB13024ANNN</td>
<td></td>
</tr>
<tr>
<td>Weatherproof, IP66 &amp; 67</td>
<td>230V AC</td>
<td>Red</td>
<td>813103</td>
<td>XB13230RNNN</td>
<td></td>
</tr>
<tr>
<td>Weatherproof, IP66 &amp; 67</td>
<td>230V AC</td>
<td>Amber</td>
<td>813104</td>
<td>XB13230ANNN</td>
<td></td>
</tr>
</tbody>
</table>
**MEDC Series Strobe Lights**—High Intensity for Outdoor Use

**Specification—XB4 Unit**

Certification: UL Listed for USA and Canada

- Hazardous locations:
  - Class I, Div. 1, Groups C & D
  - Class I, Zone 1, AExd IIB T4.
  - UL Listing No. E187894.
- Ordinary locations: Visual-Signal Device.
  - UL Listing No. S8126.
  - ATEX approved: Exd IIC T5.
  - Cert. No. Baseefa 02ATEX0224X.


- Grade 316 ANC4B Stainless Steel body.
- Toughened Wellglass.

Finish: Red epoxy paint finish as standard or to customer’s specification.

Weight: LM25: 14.5lb/6.6kg. Stainless Steel: Add 18.5lb/8.5kg.

Certified: -67°F to +158°F.

Temperature: -55°C to +70°C.

Ingress Protection: NEMA 4X & 6, IP66 & 67.

Entries: 8 off suitable for up to 8 AWG conductor size.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Certification</th>
<th>Voltage</th>
<th>Terminals</th>
<th>Cable Entries</th>
<th>Flash Rate</th>
<th>Initiate Options</th>
<th>Lens Guard</th>
<th>Lens Color</th>
<th>Tag/Duty Label</th>
<th>Material</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB4</td>
<td></td>
<td></td>
<td>8D</td>
<td></td>
<td>06</td>
<td>A</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>R</td>
</tr>
</tbody>
</table>

- **Certification Code**
  - ATEX: B
  - UL: UL

- **Voltage Code**
  - 24V DC: B
  - 110V AC: E
  - 240V AC: H

- **Entries Code**
  - 1: M25 Entry: 1C
  - 2: M25 Entries: 2C3C
  - 1¼” NPT Entry: 1E
  - 2¼” NPT Entry: 2E3E
  - 1-20mm Entry: 1B
  - 2-20mm Entries: 2B3B
  - 1-½” NPT: 1D
  - 2-½” NPT: 2D3D

- **Guard Code**
  - Yes: Y
  - No: N

- **Color Code**
  - Red: R
  - Blue: B
  - Green: G
  - Yellow: Y
  - Amber: A
  - Clear: C

- **Material Code**
  - Alloy: 1
  - Stainless Steel: 0

**Note:** The photometric data has been independently verified. A report is available if required.
### Specification—XB12

**Certification:** UL listed for USA and Canada
- Hazardous locations:
  - Class I, Div. 2, Groups C & D
  - Class I, Zone 1 & 2, AExd IIB T4/T5
  - UL Listing No. E187894.
- Ordinary locations: Visual-Signal Device
  - UL Listing No. S8128.
- ATEX approved: Exed IIB T4/T5.
  - Cert. No. 99 ATEX 2196.

**Material:**
- Body: Glass reinforced polyester.
- Lens: Toughened Glass
- Cover Screws + Backstrap: Stainless steel 316.

**Finish:** Natural black or painted to customer specification.

**Weight:** 15½ lb/7.0kg.

**Certified Temperature:**
- -67°F to +131°F (-55°C to +55°C) ordinary locations.
- -67°F to +158°F (-55°C to +70°C) hazardous locations.

**Ingress Protection:** NEMA 4X and 6, IP66 & 67.

**Terminals:** 6 off suitable for up to 10 AWG conductor size.

**Labels:** Duty/Tag Label optional.

**Entries:** 2 x ½" NPT, 20mm

### Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Certification</th>
<th>Voltage</th>
<th>Flash Rate</th>
<th>Lens Color</th>
<th>Lens Guard</th>
<th>Unit Fixing</th>
<th>Earth Continuity</th>
<th>Tag/Duty Label</th>
<th>Options</th>
<th>Unit Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB12</td>
<td></td>
<td>DC</td>
<td>AC50/60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>24V DC</td>
</tr>
<tr>
<td>110V AC</td>
</tr>
<tr>
<td>240V AC</td>
</tr>
<tr>
<td>Other voltages available, please specify.</td>
</tr>
</tbody>
</table>

### FOR COLORED LENSES

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplying Factor</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The photometric data has been verified by BSI. A report is available if required.
**MEDC Series Strobe Lights—High Intensity for Outdoor Use**

**Specification—XB13 Unit**

- **Material:** UV stable glass reinforced polyester body. UV stable polycarbonate cover/lens. Retained stainless steel cover screws.
- **Finish:** Self colored red as standard or epoxy coated to customer’s specification.
- **Tube Energy:** 10 joules (second flash 7.5 joules).
- **Weight:** 1.1kg.
- **Operating Temperature:** –55°C to +70°C.
- **Ingress Protection:** IP66 & IP67.
- **Tube Life:** >1 x 10^6 flashes.
- **Voltage:** 12V DC, 24V DC, 115V AC, 230V AC

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>1.4A</td>
</tr>
<tr>
<td>24V DC</td>
<td>650mA</td>
</tr>
<tr>
<td>115V AC</td>
<td>180mA</td>
</tr>
<tr>
<td>230V AC</td>
<td>100mA</td>
</tr>
</tbody>
</table>

- **Tube Type:** Xenon discharge.
- **Lens Color:** Various colors available.
- **Terminals:** 8 x 2.5mm².
- **Flash Rate:** 1 flash per second.
- **Dual Flash Rate:** Time between dual flashes = 0.5 seconds. Charging time = 1 second. Cycle repeats every 1.5 seconds.
- **Labels:** Duty and tag labels available.
- **Cable Entries:** Up to 3 x M20 via knockouts.
- **Intensity:** Effective intensity 220 Cd. Peak intensity 75,000 Cd. (Figures are for clear lens at 1Hz flash rate).

**FOR COLORED LENSES**

<table>
<thead>
<tr>
<th>Color</th>
<th>Red</th>
<th>Blue</th>
<th>Amber</th>
<th>Green</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
<td>0.15</td>
<td>0.12</td>
<td>0.51</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Voltage Code</th>
<th>Lens Color Code</th>
<th>Lens Guard Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB13</td>
<td>24V DC 024</td>
<td>Red R</td>
<td>Yes Y</td>
</tr>
<tr>
<td></td>
<td>115V AC 115</td>
<td>Blue B</td>
<td>No N</td>
</tr>
<tr>
<td></td>
<td>230V AC 230</td>
<td>Green G</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yellow Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amber A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clear C</td>
<td></td>
</tr>
</tbody>
</table>
The Hazard•Gard Series is our new line of visual and audible signaling and communication products for industrial use. The Hazard•Gard Series of visual signals is available in Division 1, Zone 1 and Division 2, Zone 2 applications. This new visual product offering provides three methods of light generation for visual indication: Xenon strobe, rotating beacon and steady-on indicators. All models come in red, amber, green, blue, clear and magenta, and AC and DC voltage.

The Hazard•Gard Division 1, Zone 1 EX Series is a compact, rugged cast aluminum visual signaling device for use in explosionproof and corrosive applications. The Hazard•Gard delivers six color choices and a complete range of operating voltages for AC and DC circuits. The Hazard•Gard UL approved fire alarm strobe delivers the industry required 16–33VDC voltage for light output for Fire Alarm circuits. With powerful light output, compact design and Crouse-Hinds explosionproof integrity, the Hazard•Gard is applicable for safety, indication, evacuation, and security uses. All are marine rated and offer four mounting methods—pendant, ceiling, wall and stanchion.
Types of visual signals that are available:

1. **Rotating lights**—our line uses halogen lights for brightness in areas that have high ambient light levels or when the light must be seen from a long distance.

2. **Steady-on or flashing lights** using a halogen incandescent lamp or LED. Used as a continuous source to warn, communicate or draw attention to an area, machine or process.

3. **Strobe lights** use a strobe light (for more on strobe technology, see section “Strobe, Principle of Operation” below) for signaling or warning of various conditions. A strobe emits a powerful blast of bright light.

### Description Catalog Reference Operating Voltage Operating Circuit

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Reference</th>
<th>Operating Voltage</th>
<th>Operating Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Alarm Strobe</td>
<td>EXFASC301</td>
<td>16–33V DC</td>
<td>Fire alarm circuits and other applications requiring electrical supervision of signaling.</td>
</tr>
<tr>
<td>Strobe Light</td>
<td>EXS301</td>
<td>120VAC or 12–48V DC</td>
<td>Standard electrical circuits 12–48V DC either AC or DC operation.</td>
</tr>
<tr>
<td>Strobe Light Diode Polarized</td>
<td>EXDS301</td>
<td>24V DC</td>
<td>Standard electrical circuits or auxiliary fire or warning circuits requiring electrical supervision.</td>
</tr>
<tr>
<td>Strobe Light Non-Marine, Fused</td>
<td>EXSNM301</td>
<td>12–48V DC</td>
<td>Fused for use on standard electrical DC circuits.</td>
</tr>
<tr>
<td>Rotating Beacon</td>
<td>EXR301</td>
<td>120V AC</td>
<td>Standard electrical circuits, AC operation.</td>
</tr>
<tr>
<td>Rotating Beacon Diode Polarized</td>
<td>EXDR301</td>
<td>24–28V DC</td>
<td>Standard electrical circuits or auxiliary fire or warning circuits requiring electrical supervision.</td>
</tr>
<tr>
<td>Steady-On Beacon</td>
<td>EXSO301</td>
<td>120VAC or 24–28V DC</td>
<td>Standard electrical circuits either AC or DC operation.</td>
</tr>
</tbody>
</table>

All Hazard•Gard Series explosionproof visual signals are marine rated (except the EXSNM), NEMA 4X and offer 6 color choices of lens: Amber, Blue, Clear, Green, Magenta & Red.
For Class I areas, consider the following:
- Utility gas plants
- Petroleum refining production and dispensing locations
- Cleaning facilities
- Dip tanks containing combustibles or flammable liquids
- Plant facilities extracting solvents
- Inhalation anesthetics areas

For Class II areas, consider the following:
- Flour mills
- Feed mills
- Grain elevators and grain handling facilities
- Aluminum manufacturing and storage areas
- Magnesium manufacturing and storage areas
- Coal preparation and handling facilities
- Starch manufacturing and storage areas
- Confectionery plants
- Pulverized sugar and cocoa manufacturing and storage plants

For Class III areas, consider the following:
- Textile mills
- Woodworking plants & furniture manufacturers
- Cotton gins
- Cotton seed milling plants
- Flax plants
- Carpet manufacturers

STANDARD MATERIALS AND FINISHES:

Class I, Division 1, Zone 1 Visual Signaling Devices
- Bodies, mounting modules and guards are die cast copper free aluminum
- Globe is heat and impact resistant glass
- Gaskets—silicone
- Internal components are solid-state electronics in a moisture-resistant and heat-dissipating epoxy

Ratings (electrical/size):

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Reference</th>
<th>Operating Voltage</th>
<th>Amperage</th>
<th>Peak Candlepower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Alarm Strobe</td>
<td>EXFASC301</td>
<td>16–33V DC</td>
<td>0.95–0.55 amps</td>
<td>800,000</td>
</tr>
<tr>
<td>Strobe Light</td>
<td>EXS301</td>
<td>120V AC or 12–48V DC</td>
<td>0.1 amps</td>
<td>800,000</td>
</tr>
<tr>
<td>Strobe Light Diode Polarized</td>
<td>EXDS301</td>
<td>24V DC</td>
<td>0.8 amps</td>
<td>800,000</td>
</tr>
<tr>
<td>Rotating Beacon</td>
<td>EXR301</td>
<td>120V AC</td>
<td>0.35 amps</td>
<td>3328</td>
</tr>
<tr>
<td>Rotating Beacon Diode Polarized</td>
<td>EXDR301</td>
<td>24–28V DC</td>
<td>0.8 amps</td>
<td>2838</td>
</tr>
<tr>
<td>Steady-On Indication</td>
<td>EXSO301</td>
<td>120V AC or 24–28V DC</td>
<td>0.35 amps</td>
<td>3328</td>
</tr>
</tbody>
</table>
CERTIFICATIONS AND COMPLIANCES:

IEC/NEC/CEC
- Class I, Division 1, Groups C & D
- Class I, Zone 1 & 2, Group IIIB
- Class II, Groups E, F, & G
- Class III & Simultaneous Presence
- Wet locations
- Marine locations for the 151XST only
- NEMA/Type 4X, IP66
- UL listed: UL1638, UL 1203, UL844
- Fire Alarm Strobe (EXFASC) is UL 1971
- cUL Listed (Certified by UL to CSA Standards)

UL Standards
- 844 — Hazardous (Divisions Classified) Locations
- 1598 — Luminaires
- 1598A — Luminaires for Installation on Marine Vessels
- 1638 — Indicating Appliance Circuits
- 1971 — Indicating Appliance for Fire Alarm

CSA Standards
- C22.2 No. 137
- CAN/CSA-E79 Series

IEC Standards
- 6079-15

MOUNTING MODULE HUB SIZES:

<table>
<thead>
<tr>
<th>Type</th>
<th>Conduit</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pendant</td>
<td>¾ inch 1 inch</td>
<td>EVMP2 EVMP3</td>
</tr>
<tr>
<td>Ceiling</td>
<td>¾ inch 1 inch</td>
<td>EV22 EV33</td>
</tr>
<tr>
<td>(and for use with wall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall bracket arm</td>
<td>¾ inch 1 inch</td>
<td>EV87 and EV22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EV87 and EV33</td>
</tr>
<tr>
<td>Stanchion</td>
<td>1¼ inch</td>
<td>EVMJ4</td>
</tr>
</tbody>
</table>
The Hazard•Gard™ EXFASC Series is a visual fire alarm signaling device for hazardous areas. The EXFASC Series strobes are UL 1971 Listed for indoor signaling applications for the hearing impaired in non-sleeping areas. They are also UL Listed for Type 3R, 4X installations. The strobes are available for pendant, wall and ceiling mounts.

The EXFASC Series Fire Alarm Explosionproof Strobe contains a supervisory diode for use in fire alarm applications. Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe light and prevents it from lighting. When a fire-initiating device such as a smoke alarm is activated, the diode's polarity is reversed through a fire alarm panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

Primary Applications
- Visual fire alarm signaling device for hazardous areas

Typical Industries
- Energy exploration
- Utilities
- Petrochemical plants
- Petroleum refineries
- Wastewater treatment plants
- Oil rigs
- Pulp & paper plants

Key Features & Benefits
- Meets NFPA requirements for fire safety warning devices
- State of the art electronic design (full wave rectified design)
  - Low current draw is efficient
  - 24V DC regulated full wave rectified
  - Limited in-rush current favorable to other fire alarm system components
  - Proven, reliable circuitry designed specifically for use with fire alarm control panels
- Available in pendant, wall and ceiling mount
- Strobe light produces 65 flashes per minute
- Factory sealed—no external seals required
- Quick connect—Strobe fixture threads onto mounting module for easy installation
- Small compact size—ceiling mount is 13 ¾-inch long

Certifications & Compliances
- Class I, Division 1, Groups C & D
- Class I, Zones 1 & 2, Group IIB
- Class II, Division 1, Groups E, F & G
- Class III
- UL 1638 and 1203 Listed
- UL 1971 Listed for indoor visual signaling for the hearing impaired in non-sleeping areas
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP 66

Materials & Finishes
- Body, mounting modules and guard—Copper-free aluminum
- Globe—Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware—Stainless steel
- Internal components—Solid-state electronics in a moisture-resistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings
- 16–33V DC
- Operating Current: 1.08–0.83 amps
- Peak Candlepower: 800,000

Hub Size
- ¾-inch NPT pendant, ceiling and wall mount
### Ordering Information

**Step 1** Order Strobe Type

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>NEMA Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE ALARM RATED EXPLOSIONPROOF STROBES</td>
<td>24V DC regulated full wave rectified</td>
<td>Clear</td>
<td>3R, 4X</td>
</tr>
</tbody>
</table>

**Step 2** Order Strobe Type

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Hub Size</th>
<th>Mounting Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVMP2</td>
<td>¾&quot;</td>
<td>Pendant</td>
</tr>
<tr>
<td>EV22 &amp; EV87</td>
<td>¾&quot;</td>
<td>Wall</td>
</tr>
<tr>
<td>EV22</td>
<td>¾&quot;</td>
<td>Ceiling</td>
</tr>
<tr>
<td>EVMJ4</td>
<td>1¾&quot;</td>
<td>Stanchion</td>
</tr>
</tbody>
</table>

### Temperature Performance Data

<table>
<thead>
<tr>
<th>Class I Div. 1, 2 Groups C, D Class I, Zone 1 Group II B</th>
<th>Class II, Class III Div. 1 Groups E, F, G</th>
<th>Class II, Class III Div. 2 Groups F, G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Max. Temp.</td>
<td>Supply Wire</td>
<td>Voltage</td>
</tr>
<tr>
<td>40°C</td>
<td>75°C</td>
<td>T6(85°C)</td>
</tr>
<tr>
<td>55°C</td>
<td>90°C</td>
<td>T5(100°C)</td>
</tr>
</tbody>
</table>

EXFASC Series Fire Alarm Voltage 24VDC Regulated Full Wave Rectified (Marine Listed)
The Hazard•Gard EXS and EXDS Series Explosionproof Strobe Lights are designed for installation indoors and outdoors in locations which are hazardous due to the presence of flammable vapors or gases, ignitible dusts or ignitible fibers and flyings. The units are UL Listed for Type 3R and 4X installations. The 120V and 24V DC models are Marine Rated. The strobes are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The EXDS Series is diode polarized for use in electrically supervised circuits. Electrically supervised circuits are typically used in life-safety or security applications.

Under normal operation the diode is reversed biased, meaning it blocks voltage from being applied to the strobe and prevents it from lighting. When an initiating device such as a smoke detector is activated, the diode’s polarity is reversed through a circuit panel. The diode becomes forward biased, allowing voltage to the device and activating the strobe.

**Primary Applications**
- Condition signaling
- Equipment obstruction warning
- Security alert
- Emergency evacuation signaling
- In areas where audible signals cannot be heard

**Typical Industries**
- Utility gas plants
- Petroleum refineries
- Wastewater treatment plants
- Chemical & petrochemical
- Mining
- Pulp & paper

**Key Features & Benefits**
- Strong strobe signal that produces 65 flashes per minute.
- Compact design will not obstruct in low ceiling or small areas, ceiling mount is only 13¾-inch long
- Quick connect—Strobe fixture threads onto mounting module for easy installation
- Factory sealed—No external seals required
- Available in pendant, wall, stanchion and ceiling mount
- Available in six different globe colors—clear, red, blue, amber, green and magenta
- Silicone gasket seals out dirt and moisture

**Certifications & Compliances**
- Class I, Division 1, Groups C & D
- Class I, Zones 1 & 2, Group II
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed (120V AC and 24V DC only)
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP 66

**Materials & Finishes**
- Body, mounting modules and guard—Copper-free aluminum
- Globe—Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware—Stainless steel
- Internal components—Solid-state electronics in a moisture-resistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

**Ratings**
- 120V AC (EXS), 12–48V DC (EXSNM) and 24V DC nominal, voltage operating range is 16–33V DC (EXDS)
- Operating Current: 0.10 amps at 120V AC
  1.2–3.8 amps at 12–48V DC
  0.8 amps at 24V DC
- Peak Candlepower: 800,000

**Hub Size**
- ¾-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount
**Ordering Information**

**Step 1** Order Strobe Type

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>NEMA Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPLOSIONPROOF STROBES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXS301A/120</td>
<td>120V AC</td>
<td>Amber</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXS301B/120</td>
<td>120V AC</td>
<td>Blue</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXS301C/120</td>
<td>120V AC</td>
<td>Clear</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXS301G/120</td>
<td>120V AC</td>
<td>Green</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXS301M/120</td>
<td>120V AC</td>
<td>Magenta</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXS301R/120</td>
<td>120V AC</td>
<td>Red</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSNM301A/12 48</td>
<td>12–48V DC</td>
<td>Amber</td>
<td>3R, 4X</td>
</tr>
<tr>
<td>EXSNM301B/12 48</td>
<td>12–48V DC</td>
<td>Blue</td>
<td>3R, 4X</td>
</tr>
<tr>
<td>EXSNM301C/12 48</td>
<td>12–48V DC</td>
<td>Clear</td>
<td>3R, 4X</td>
</tr>
<tr>
<td>EXSNM301G/12 48</td>
<td>12–48V DC</td>
<td>Green</td>
<td>3R, 4X</td>
</tr>
<tr>
<td>EXSNM301M/12 48</td>
<td>12–48V DC</td>
<td>Magenta</td>
<td>3R, 4X</td>
</tr>
<tr>
<td>EXSNM301R/12 48</td>
<td>12–48V DC</td>
<td>Red</td>
<td>3R, 4X</td>
</tr>
<tr>
<td><strong>DIODE POLARIZED EXPLOSIONPROOF STROBES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXDS301A/24</td>
<td>24V DC</td>
<td>Amber</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDS301B/24</td>
<td>24V DC</td>
<td>Blue</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDS301C/24</td>
<td>24V DC</td>
<td>Clear</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDS301G/24</td>
<td>24V DC</td>
<td>Green</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDS301M/24</td>
<td>24V DC</td>
<td>Magenta</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDS301R/24</td>
<td>24V DC</td>
<td>Red</td>
<td>3R, 4X, Marine</td>
</tr>
</tbody>
</table>

**Step 2** Order Mounting Module

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Hub Size</th>
<th>Mounting Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVMP2</td>
<td>¾”</td>
<td>Pendant</td>
</tr>
<tr>
<td>EV22 &amp; EV87</td>
<td>¾”</td>
<td>Wall</td>
</tr>
<tr>
<td>EV22</td>
<td>¾”</td>
<td>Ceiling</td>
</tr>
<tr>
<td>EVMJ4</td>
<td>1¼”</td>
<td>Stanchion</td>
</tr>
</tbody>
</table>

**Temperature Performance Data**

| Strobe Type | Ambient Max. Temp. | Supply Wire | Class I Div. 1, 2 Groups C, D Class II, Class III Div. 1 Groups E, F, G Class II, Class III Div. 2 Groups F, G |
|-------------|--------------------|-------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| **EXFASC Series Fire Alarm Voltage 24V DC Regulated Full Wave Rectified (Operating Range 16–33V DC)** | 40°C | 75°C | T6(85°C) | T4A(120°C) | T4A(120°C) |
| | 55°C | 90°C | T5(100°C) | T4(135°C) | T4(135°C) |
| **EXS Series Strobe Light Voltage 120V AC** (Marine Listed) | 40°C | 75°C | T6(85°C) | T4A(120°C) | T4A(120°C) |
| | 55°C | 90°C | T5(100°C) | T4(135°C) | T4(135°C) |
| | 65°C | 105°C | T6(85°C) | T4A(120°C) | T4A(120°C) |
| **EXSNM Series Strobe Light Voltage 12–48V DC** (Not Marine Listed) | 40°C | 75°C | T6(85°C) | T4A(120°C) | T4A(120°C) |
| | 55°C | 90°C | T5(100°C) | T4(135°C) | T4(135°C) |
| | 65°C | 105°C | T6(85°C) | T4A(120°C) | T4A(120°C) |
| **EXDS Series Strobe Light 40°C Light-Diode Polarized Voltage 24V DC** (Marine Listed) | 75°C | T6(85°C) | T4A(120°C) | T4A(120°C) | T4A(120°C) |
| | 55°C | 90°C | T5(100°C) | T4(135°C) | T4(135°C) |
FAMILY TREE—EX STROBES, ROTATING AND STEADY-ON BEACONS

STANCHION
EVMJ4 1¼" HUB

PENDANT
EVMP2 ¾" HUB

CEILING
EV22 ¾" HUB

WALL
EV22 & EV87 ¾" HUB

HOUSING, GLOBE AND GUARD FOR EX SERIES STROBE LIGHTS, ROTATING BEACONS, AND STEADY-ON BEACONS

DIMENSIONS—EX STROBES, ROTATING AND STEADY-ON BEACONS

Wall Mount

Ceiling Mount

Stanchion Mount

Pendant Mount

Net Luminaire Weights

Luminaire Housing with Guard 11.0 lbs.

Add mounting modules
Pendant 1.0 lbs.
Ceiling 1.0 lbs.
Wall 4.5 lbs.
Stanchion 2.5 lbs.
The Hazard•Gard EXR Series Explosionproof Rotating Beacons are designed for installation in hazardous locations, such as manufacturing plants, heavy industrial facilities, refineries, chemical, petrochemical, pharmaceutical and off-shore drilling platforms.

The units are UL Listed for Type 3R, 4X and marine installations. The rotating beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

The EXDR Series Explosionproof Rotating Beacon is diode polarized for use in standard 24–28V DC electrical circuits or in electrically supervised circuits. Electrically supervised circuits are typically used in life-safety or security applications.

Under normal operation in an electrically supervised circuit, the diode is reversed biased, meaning it blocks voltage from being applied to the rotating beacon and prevents it from lighting. When a warning detecting device is activated, the diode’s polarity is reversed through a circuit panel. The diode becomes forward biased, allows voltage to the device and activates the rotating beacon.

Primary Applications
- Security alert
- Equipment obstruction warning
- Obstacle warning
- Status indication of a process
- Areas under construction
- Supplement audible signaling or off limits

Typical Industries
- Utility gas plants
- Pharmaceutical plants
- Wastewater treatment plants
- Refineries
- Chemical plants
- Mining

Key Features & Benefits
- Powerful halogen rotating beacon emits bright light to provide critical visual warning
- Available in pendant, wall, stanchion and ceiling mount
- Available in six different globe colors—amber, blue, clear, green, magenta and red
- Beacon produces 75 rotations per minute
- Factory sealed—No external seals required
- Quick connect—Strobe fixture threads onto mounting module for easy installation

Certifications & Compliances
- Class I, Division 1, Groups C & D
- Class II, Division 1, Groups E, F & G
- Class I, Zones 1 & 2, Group IIB
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed
- NEMA 4X watertight, IP 66

Materials & Finishes
- Body, mounting modules and guard—Copper-free aluminum
- Globe—Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware—Stainless steel
- Internal components—Solid-state electronics in a moisture-resistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings
- 120V AC (EXR) and 24–28V DC (EXDR)
- Operating Current: 0.382 amps at 120V AC
- 0.8 amps at 24–28V DC
- Peak Candlepower: 3328 (EXR)
- 2838 (EXDR)

Hub Size
- ¾-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount
### Ordering Information

**Step 1** Order Rotating Beacon Type

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>NEMA Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPLOSIONPROOF ROTATING BEACONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXR301A/120</td>
<td>120V AC</td>
<td>Amber</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXR301B/120</td>
<td>120V AC</td>
<td>Blue</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXR301C/120</td>
<td>120V AC</td>
<td>Clear</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXR301G/120</td>
<td>120V AC</td>
<td>Green</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXR301M/120</td>
<td>120V AC</td>
<td>Magenta</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXR301R/120</td>
<td>120V AC</td>
<td>Red</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td><strong>DIODE POLARIZED EXPLOSIONPROOF ROTATING BEACONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXDR301A/24 28</td>
<td>24–28V DC</td>
<td>Amber</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDR301B/24 28</td>
<td>24–28V DC</td>
<td>Blue</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDR301C/24 28</td>
<td>24–28V DC</td>
<td>Clear</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDR301G/24 28</td>
<td>24–28V DC</td>
<td>Green</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDR301M/24 28</td>
<td>24–28V DC</td>
<td>Magenta</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXDR301R/24 28</td>
<td>24–28V DC</td>
<td>Red</td>
<td>3R, 4X, Marine</td>
</tr>
</tbody>
</table>

**Step 2** Order Mounting Module

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Hub Size</th>
<th>Mounting Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVMP2</td>
<td>¾”</td>
<td>Pendant</td>
</tr>
<tr>
<td>EV22 &amp; EV87</td>
<td>¾”</td>
<td>Wall</td>
</tr>
<tr>
<td>EV22</td>
<td>¾”</td>
<td>Ceiling</td>
</tr>
<tr>
<td>EVMJ4</td>
<td>1¼”</td>
<td>Stanchion</td>
</tr>
</tbody>
</table>

### Temperature Performance Data

<table>
<thead>
<tr>
<th></th>
<th>Ambient Max. Temp.</th>
<th>Supply Wire</th>
<th>Class I Div. 1, 2 Groups C, D Class I, Zone 1 Group II B</th>
<th>Class II, Class III Div. 1 Groups E, F, G</th>
<th>Class II, Class III Div. 2 Groups F, G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXR Series Rotating Beacon</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage 120V AC</td>
<td>40°C</td>
<td>75°C</td>
<td>T6(85°C)</td>
<td>T4A(120°C)</td>
<td>T4A(120°C)</td>
</tr>
<tr>
<td></td>
<td>55°C</td>
<td>90°C</td>
<td>T5(100°C)</td>
<td>T4(135°C)</td>
<td>T4(135°C)</td>
</tr>
<tr>
<td></td>
<td>65°C</td>
<td>105°C</td>
<td>T5(100°C)</td>
<td>T4(135°C)</td>
<td>T4(135°C)</td>
</tr>
<tr>
<td><strong>EXR Series Rotating Beacon—</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diode Polarized</td>
<td>40°C</td>
<td>75°C</td>
<td>T6(85°C)</td>
<td>T4A(120°C)</td>
<td>T4A(120°C)</td>
</tr>
<tr>
<td>Voltage 24–28V DC</td>
<td>55°C</td>
<td>90°C</td>
<td>T6(85°C)</td>
<td>T4(135°C)</td>
<td>T4(135°C)</td>
</tr>
<tr>
<td></td>
<td>65°C</td>
<td>105°C</td>
<td>T6(85°C)</td>
<td>T4(135°C)</td>
<td>T4(135°C)</td>
</tr>
</tbody>
</table>
FAMILY TREE—EX STROBES, ROTATING AND STEADY-ON BEACONS

STANCHION
EVMJ4 1¼" HUB

PENDANT
EVMP2 ¾" HUB

CEILING
EV22 ¾" HUB

WALL
EV22 & EV87 ¾" HUB

HOUSING, GLOBE AND GUARD FOR EX SERIES STROBE LIGHTS, ROTATING BEACONS, AND STEADY-ON BEACONS

DIMENSIONS—EX STROBES, ROTATING AND STEADY-ON BEACONS

Wall Mount

Ceiling Mount

Stanchion Mount

Pendant Mount

NET LUMINAIRE WEIGHTS

Luminaire Housing with Guard 11.0 lbs.

Add mounting modules
Pendant 1.0 lbs.
Ceiling 1.0 lbs.
Wall 4.5 lbs.
Stanchion 2.5 lbs.
Steady-On Beacons

The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in a variety of globe colors. Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, off-shore oil rigs, water and filtration plants and chemical plants. The diode polarized steady-on beacon is used in electrically supervised circuitry for life-safety or security applications.

**Primary Applications**
- Safety lighting
- Continuous source to communicate
- Obstacle warning
- Exit or entrance lights
- For identifying the location of safety equipment such as showers or emergency telephones

**Typical Industries**
- Chemical plants
- Storage handling
- Dust conveyor systems
- Energy exploration
- Textile mills
- Flour and feed mills

Steady-on Beacons are designed for harsh & hazardous locations where a visual signal is required for tough environmental conditions involving corrosives, water, dust and extreme temperature.

- Broad range of light source options such as halogen, incandescent, compact & fluorescent for both indication and illumination
- Products designed for both conduit wiring and/or cable connection. NPT or metric entries meeting all installation needs
The units are UL Listed for Type 3R, 4X and marine installations. The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, off-shore oil rigs, water and filtration plants and chemical plants.

The diode polarized steady-on beacon is used in electrically supervised circuitry for life-safety or security applications.

Primary Applications

- Safety lighting
- Continuous source to communicate
- Obstacle warning
- Exit or entrance lights
- For identifying the location of safety equipment such as showers or emergency telephones

Typical Industries

- Chemical plants
- Storage handling
- Dust conveyor systems
- Energy exploration
- Textile mills
- Flour and feed mills

Certifications and Compliances

- Class I, Division 1, Groups C & D
- Class I, Zone 1 & 2, Group II B
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed
- NEMA 4X watertight, IP 66
### MEDC Series Steady-On Beacons

#### FB4 100 Watt Steady Incandescent Light—Explosionproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed for:</td>
<td></td>
<td>FB4EUL8U1N100B1N1G</td>
<td>Marine grade alloy, 120V AC, 100W bulb (not included), blue lens, lens guard, no labels, gray finish</td>
</tr>
<tr>
<td>Certified Temperature</td>
<td></td>
<td>-67°F to +131°F</td>
<td></td>
</tr>
<tr>
<td>Ingress Protection</td>
<td></td>
<td>NEMA 4X &amp; 6</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td></td>
<td>Alloy</td>
<td></td>
</tr>
<tr>
<td>Entries</td>
<td></td>
<td>Up to 3 x ½” or 2 x ¾” NPT</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>13lb/6.4kg</td>
<td></td>
</tr>
<tr>
<td>Options: Body &amp; lens color, lens guard, certification, voltage 120V AC only</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### FL4 13–39 Watt Steady Fluorescent Light—Explosionproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Listed for:</td>
<td></td>
<td>FL4BUL8U2M3M13R1N1RZ</td>
<td>Marine grade alloy, 24V DC, 2 x ½” NPT entries, 13W tube (not included), red lens, lens guard, red finish, one certified plug</td>
</tr>
<tr>
<td>Certified Temperature</td>
<td></td>
<td>-67°F to +158°F</td>
<td></td>
</tr>
<tr>
<td>Ingress Protection</td>
<td></td>
<td>NEMA 4X &amp; 6</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td></td>
<td>Alloy</td>
<td></td>
</tr>
<tr>
<td>Entries</td>
<td></td>
<td>Up to 3 x ½” NPT or 2 x ¾” NPT</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td>14.5lb/6.6kg</td>
<td></td>
</tr>
<tr>
<td>Options: Body &amp; lens color, lens guard, certification, voltages 24V DC, 120V, 240V AC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MEDC Series Steady-On Beacons

FL4/LB4 Unit

ALL DIMENSIONS IN INCHES AND MILLIMETERS

FL4 Lamp Details

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Lamp Type</th>
<th>Lamp Ref.</th>
<th>Holder Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL4 DC</td>
<td>Osram Dulux D/E 13W</td>
<td>DD/E 13/XX</td>
<td>G24q-1</td>
</tr>
<tr>
<td>FL4 AC</td>
<td>Osram Dulux D 13W</td>
<td>DD 13</td>
<td>G24d-1</td>
</tr>
<tr>
<td>FL4 AC</td>
<td>Philips PLC 13W</td>
<td>PLC 13</td>
<td>G24q-1</td>
</tr>
<tr>
<td>FB4</td>
<td>60W</td>
<td>T4</td>
<td>55°C</td>
</tr>
<tr>
<td>FB4</td>
<td>100W</td>
<td>T3</td>
<td>55°C</td>
</tr>
</tbody>
</table>

Osram Color XX = (21 = Cool white) (31 = Warm white) (41 = Interna)

Temperature Ratings

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage/Wattage</th>
<th>T Class</th>
<th>Max. Amb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL4</td>
<td>DC units</td>
<td>T5</td>
<td>55°C</td>
</tr>
<tr>
<td></td>
<td>AC units</td>
<td>T4</td>
<td>55°C</td>
</tr>
<tr>
<td>FB4</td>
<td>60W</td>
<td>T4</td>
<td>55°C</td>
</tr>
<tr>
<td></td>
<td>100W</td>
<td>T3</td>
<td>55°C</td>
</tr>
</tbody>
</table>

FL4/FB4 Unit Specification

Certification: UL Listed for USA and Canada
- Hazardous locations:
  Class I, Div. 1, Groups C & D.
  Class I, Zone 1, AExd IIB T4/T5.
  UL Listing No. E187894.
- Ordinary locations: Visual-Signal Device (FL4 only).
  UL Listing No. S8128.
  ATEX approved: EExd IIC.
  Certificate No. Baseefa 02ATEX0224X.

Material: LM25TF Marine Grade Alloy body.
Grade 316 ANC48 Stainless Steel body.
Toughened Wellglass.

Models:
FL4: Up to 3 x 13 Watt PL compact fluorescent lamps.
FB4: 100 watt GLS incandescent lamps. E27 holder as standard.

Finish: Gray epoxy paint finish as standard or to customer’s specification.

Voltage: FL4: 24V DC, 120V AC, 240V AC ± 10% 50/60hz.
FB4: 120V AC ± 10% 50/60hz.

Weight: FL4: 14–17lb/6.5–7.9kg (add 19lb/8.4kg for stainless steel).
FB4: 13lb/6.4 kg.

Certified FL4: -4°F to +131°F (-20°C to + 55°C).
Temperature: FB4: -67°F to +131°F (-55°C to + 55°C).

Protection: IP66 and IP67.

Lamps: Units are supplied without lamps.
Terminals: 8 off suitable for up to 8 AWG conductor size.
Entries: Up to 3 ½” NPT or 2 x ¾” NPT.

Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Voltage</th>
<th>Certification Code</th>
<th>Entries</th>
<th>Lamp Wattage</th>
<th>Lens Color</th>
<th>Guard Options</th>
<th>Material Code</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL4</td>
<td>B</td>
<td>ATEX B8D UL* ULBU</td>
<td>1 x 20mm</td>
<td>1B</td>
<td>Clear</td>
<td>None</td>
<td>Stainless Steel</td>
<td>0</td>
</tr>
<tr>
<td>FB4</td>
<td>E</td>
<td>ATEX B8D UL* ULBU</td>
<td>2 x M20</td>
<td>2B3B</td>
<td>Red</td>
<td>Guard 0</td>
<td>Alloy</td>
<td>1</td>
</tr>
</tbody>
</table>

*UL (FB4) – only available 24VDC, 110VAC, NPT entries.

Lamp Wattage Code

<table>
<thead>
<tr>
<th>FL4</th>
<th>13W (1 x 13W tube)</th>
<th>26W (2 x 13W tubes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB4</td>
<td>60W</td>
<td>100W</td>
</tr>
</tbody>
</table>

*Only available in the following voltages: 26W—AC only.
MEDC Series Steady-On Beacons

**FB11 UL**

10 Watt Steady Incandescent Light—Hazardous Locations

- **Certification**: UL, cUL Listed, Class I, Div 2, Groups C & D
- **UL Listed for**: Class I, Div 2, Groups C & D, Class I, Zone 1, AExd IIB T4/T5
- **Certified Temperature**: -67°F to +131°F
  - -55°C to +55°C
- **Ingress Protection**: NEMA 4X & 6
  - IP66 & 67
- **Material**: Corrosion-free GRP
- **Entries**: Up to 2 x ½" NPT, M20
- **Weight**: 6.2lb/2.8kg
- **Options**: Body & lens color, lens guard, certification, voltage 24, 48V DC, 110–120V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX</td>
<td>32500004</td>
<td>FB11B02410RNBNNN</td>
<td>24V DC, 10W bulb, red lens, mounting bracket, natural black finish</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>32500028</td>
<td>FB11UL02410GNBNNR</td>
<td>10W incandescent beacon, 24V DC, green lens, no lens guard, 2 x ½ NPT entries, painted red enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>32500029</td>
<td>FB11UL11010GNBNNR</td>
<td>10W incandescent beacon, 110V AC, green lens, no lens guard, 2 x ½ NPT, painted red enclosure</td>
</tr>
</tbody>
</table>

**FB12 UL**

60W/100W Steady Incandescent Light—Hazardous Locations

- **Certification**: UL, cUL Listed, Class I, Div 2, Groups C & D
- **UL Listed for**: Class I, Div 2, Groups C & D, Class I, Zone 1, AExd IIB T4/T5
- **Certified Temperature**: -67°F to +131°F
  - -55°C to +55°C
- **Ingress Protection**: NEMA 4X & 6
  - IP66 & 67
- **Material**: Corrosion-free GRP
- **Entries**: Up to 2 x ½" NPT, M20
- **Weight**: 2.6lb/1.2kg
- **Options**: Body & lens color, lens guard, certification, voltage 120V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>326023</td>
<td>FB12UL12060CNBNNN</td>
<td>120V AC, 60W bulb, clear lens, mounting bracket, no labels, natural black finish</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>32600035</td>
<td>FB12UL12060GNBNNR</td>
<td>60W incandescent beacon, 120V AC, green lens, no lens guard, 2 x ½ NPT entries in a painted red enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>32600036</td>
<td>FB12UL02460GNBNNR</td>
<td>60W incandescent beacon, 24V DC, green lens, no lens guard, 2 x ½ NPT entries, painted red enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>32600037</td>
<td>FB12UL120100GNBNNR</td>
<td>100W incandescent beacon, 24V DC, green lens, no lens guard, 2 x ½ NPT entries, painted red enclosure</td>
</tr>
</tbody>
</table>
### MEDC Series Steady-On Beacons

**FB15 100W Steady Incandescent Light—Hazardous & Ordinary Locations**

**Certification**
UL Listed for:
- ATEX
- Class I, Div 2, Groups A, B, C, D
- Class I, Zone 1, AExd IIC T3/T4

**Certified Ambient Temperature**
-67°F to +158°F
-55°C to +70°C

**Ingress Protection**
NEMA 4X & 6
IP66 & 67

**Material**
Corrosion-free GRP

**Entries**
Up to 3 x ½” NPT or 3 x ¾” NPT

**Weight**
6–8lb/2.6–3.6kg

Options: Body & lens color, lens guard, lamp wattage, unit fixing, mounting method, voltages 12–48V DC, 110–254V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600001</td>
<td>FB15UL120100GNANR</td>
<td>120V AC, 100W bulb, green lens, mounting bracket, no labels, red finish</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600020</td>
<td>FB15UL120100ANPNN</td>
<td>100W incandescent beacon, 120V AC, amber lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600021</td>
<td>FB15UL120100RNPNN</td>
<td>100W incandescent beacon, 120V AC, red lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600022</td>
<td>FB15UL120100GNPNN</td>
<td>100W incandescent beacon, 120V AC, green lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600023</td>
<td>FB15UL120100CPNPN</td>
<td>100W incandescent beacon, 120V AC, clear lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600024</td>
<td>FB15UL120100BNNPN</td>
<td>100W incandescent beacon, 120V AC, blue lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600025</td>
<td>FB15UL024100ANPNN</td>
<td>100W incandescent beacon, 24V DC, amber lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600026</td>
<td>FB15UL024100RNPNN</td>
<td>100W incandescent beacon, 24V DC, red lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600027</td>
<td>FB15UL024100GNPNN</td>
<td>100W incandescent beacon, 24V DC, green lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600028</td>
<td>FB15UL024100CPNPN</td>
<td>100W incandescent beacon, 24V DC, clear lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>47600029</td>
<td>FB15UL024100BNNPN</td>
<td>100W incandescent beacon, 24V DC, blue lens, no lens guard, pipe mounting, 1 x ¾ NPT entry, natural black enclosure</td>
</tr>
</tbody>
</table>
**MEDC Series Steady-On Beacons**

### Specification—FB11 and FB12 Units

**Models:** FB11 & FB12—Incandescent.

**Certification:** UL Listed for USA and Canada.
- Class I, Div 2, Groups C & D.
- Class I, Zone 1, AExd IIB T4/T5.

UL listing No. E187894.

ATEX approved:
- CENELEC EN50014 and EN50018.
- FB11: Cert. No. 99 ATEX 2195X.
- FB12: Cert. No. 99 ATEX 2196.

**Voltage:**
- FB11: 24, 48V DC
  - 110, 220, 240, 250V AC
- FB12: 120V AC

**Incandescent:**
- FB11: 10W incandescent fitted as standard.
- FB12: 60W or 100W incandescent fitted as standard.

**Material:**
- Body: Glass reinforced polyester.
- Lens: Glass.
- Cover screws + backstrap: stainless steel 316.

**Finish:** Natural black or painted to customer specification.

**Ingress Protection:** NEMA 4X & 6, IP66 & IP67.

**Terminals:**
- FB11: 6 x 14 AWG.
- FB12: 6 x 10 AWG.

**Labels:** Duty/Tag Label optional.

**Entries:** 2 x ½" NPT.

Certified:
- FB11: -67°F to +131°F (-55°C to +55°C) T4.
- FB12: -67°F to +131°F (-55°C to +55°C) T4.

**Temperature:**
- FB11: -67°F to +104°F (-55°C to +40°C) T5.
- FB12: -67°F to +104°F (-55°C to +40°C) T5.

**Weight:**
- FB11: 6.2lb / 2.8kg.
- FB12: 16.7lb / 7.6kg.

### Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Certification</th>
<th>Voltage</th>
<th>Lamp Wattage</th>
<th>Lens Color</th>
<th>Lens Guard</th>
<th>Unit Fixing</th>
<th>Earth Continuity</th>
<th>Tag/Duty Label</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB11</td>
<td>UL Listed</td>
<td>24V DC</td>
<td>10W AC &amp; DC</td>
<td>N</td>
<td>B</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>FB12</td>
<td>ATEX B</td>
<td>110V AC</td>
<td>60W AC &amp; DC</td>
<td>B</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V AC</td>
<td>100W AC &amp; DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>240V AC</td>
<td>(1 x 10W bulb)</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1 x 60W bulb)</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1 x 100W bulb)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Voltage Code**
- 24V DC 024
- 110V AC 110
- 120V AC 120
- 240V AC 240

**Other voltages available, please specify.**

**FB12 UL Listed only**

**Lamp Wattage Code**
- FB11: 10W AC & DC (1 x 10W bulb) 10
- FB12: 60W AC & DC (1 x 60W bulb) 60
- 100W AC & DC (1 x 100W bulb) 100

**Color Code**
- Red R
- Blue B
- Green G
- Amber A
- Yellow Y
- Clear C
### MEDC Series Steady-On Beacons

**Electrical Ratings:**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>48</td>
<td>110</td>
</tr>
<tr>
<td>110</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>230</td>
<td>240</td>
<td>254</td>
</tr>
<tr>
<td>Current (A) — 60W lamp</td>
<td>2.5</td>
<td>1.25</td>
</tr>
<tr>
<td>Current (A) — 100W lamp</td>
<td>4.2</td>
<td>2.1</td>
</tr>
</tbody>
</table>

**Color Code**

- Red: R
- Blue: B
- Green: G
- Amber: A
- Yellow: Y
- Clear: C

**Material**

- Body: Glass reinforced polyester.
- Lens: Glass.
- Backstrap: Stainless steel 316.
- Wire Guard (optional): Stainless steel wire.
- Cast Guard (optional): Aluminium LM25M.

**Finish**

- Natural black or epoxy painted to customer specification.

**Voltage**

- 24, 48V DC
- 110, 120, 230, 240, 254V AC

**Lamp Type**

- 60W or 100W GLS incandescent.

**Lamp Holder**

- E27 as standard.

**Certification**

- UL Listed for USA and Canada:
  - Hazardous locations: Class I, Div 2, groups A, B, C & D.
  - Ordinary locations: Visual Signal Device.
- UL listing No. S8129
- CENELEC/ATEX approved.
- CENELEC EN50014 & EN50018
- ATEX Cert. No. Baseefa 04ATEX0009X.

**Protection**

- Ingress NEMA 4X & 6, IP66 & IP67.

**Terminals**

- Direct mount: 12 x 14AWG.
- Pipe mount: 8 x 14AWG.

**Labels**

- Tag/Duty label option.

### Specification—FB15 Unit

**Certification:**

- UL Listed for USA and Canada:
  - Hazardous locations: Class I, Zone 1, AExd IIC T3/T4.
  - Ordinary locations: Visual Signal Device.
- UL listing No. S8129
- CENELEC/ATEX approved.
- CENELEC EN50014 & EN50018
- ATEX Cert. No. Baseefa 04ATEX0009X.

**Material:**

- Body: Glass reinforced polyester.
- Lens: Glass.
- Backstrap: Stainless steel 316.
- Wire Guard (optional): Stainless steel wire.
- Cast Guard (optional): Aluminium LM25M.

**Finish:**

- Natural black or epoxy painted to customer specification.

**Voltage:**

- 24, 48V DC
- 110, 120, 230, 240, 254V AC

**Lamp Type:**

- 60W or 100W GLS incandescent.

**Lamp Holder:**

- E27 as standard.

**Certified:**

- 60W: -67°F to +131°F (-55°C to +55°C) T4.
- 100W: -67°F to +104°F (-55°C to +40°C) T4.

**Temperature:**

- 60W: -67°F to +158°F (-55°C to +70°C) T3.
- 100W: -67°F to +104°F (-55°C to +40°C) T4.

**Weight:**

- Pipe mount: 5½lb/2.6kg; Direct mount: 6½lb/3.0kg.

**Ingress:**

- NEMA 4X & 6, IP66 & IP67.

**Protection:**

- Ingress NEMA 4X & 6, IP66 & IP67.

**Entries:**

- Supplied as 2 x M20, up to 3 x M20 or 3 x M25.
- Supplied as 2 x ½” NPT (direct mount) or ¾” (pipe mount) as standard.
- Other options available:
  - Up to 3 x ½” NPT or 3 x ¼” NPT (direct mount);
  - ½” NPT (pipe mount)—contact sales office to order.

**Terminals:**

- Direct mount: 12 x 14AWG.
- Pipe mount: 8 x 14AWG.

**Labels:**

- Tag/Duty label option.

### Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box. Standard products available for immediate shipping—contact sales office for details.

<table>
<thead>
<tr>
<th>Model</th>
<th>Certification</th>
<th>Voltage</th>
<th>Lamp Wattage</th>
<th>Lens Color</th>
<th>Unit Guard</th>
<th>Fixing</th>
<th>Unit Options</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>FB15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ATEX</td>
</tr>
<tr>
<td></td>
<td>ATEX B</td>
<td>24V DC</td>
<td>024</td>
<td>60</td>
<td>None</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>UL UL</td>
<td>110V AC</td>
<td>110</td>
<td>100</td>
<td>Cast</td>
<td>C</td>
<td>Wire</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V AC</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240V AC</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

**Certification Code**

- ATEX
- UL

**Lamp Wattage Code**

- 60
- 100

**Lens Color Code**

- Red: R
- Blue: B
- Green: G
- Amber: A
- Yellow: Y
- Clear: C

**Unit Fixing Code**

- Pipe mount: P*
- Direct w/backstrap: B

*Not Available on ATEX version.
## MEDC Series Steady-On Beacons

### SM87 LU3

10 Watt Steady Incandescent Light—Explosionproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>762311</td>
<td>SM87LU3AUL024RN3R3LNR</td>
<td>24V DC, red lens, 2 x ½” NPT entries, no labels, red finish</td>
</tr>
<tr>
<td>ATEX</td>
<td>46200122</td>
<td>SM87LU3AB024GN1T1BNR</td>
<td>EExd, IIC, T4/T6 incandescent beacon, 24V DC, green lens, no lens guard, 2 x M20 cable entries, painted red enclosure</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>46200096</td>
<td>SM87LU3AUL024GN3T3BNR</td>
<td>24V DC, green lens, 10W incandescent bulb, marine grade alloy, red finish</td>
</tr>
</tbody>
</table>

### SM87 LU1

10 Watt Steady Fluorescent Light—Explosionproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>46200054</td>
<td>SM87LU1AUL024RN4T4BNR</td>
<td>24V DC, red lens, 2 x ¾” NPT entries, no labels, red finish</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>46200052</td>
<td>SM87LU1AUL024GN4T4BNR</td>
<td>24V DC, green lens, 10W fluorescent bulb, marine grade alloy, red finish</td>
</tr>
<tr>
<td>ATEX</td>
<td>46200121</td>
<td>SM87LU1AB024GN1T1BNR</td>
<td>EExd, IIC, T4/T6 fluorescent beacon, 24V DC, green lens, no lens guard, 2 x M20 cable entries, painted red enclosure</td>
</tr>
</tbody>
</table>
### Specification—SM87LU1/SM87LU3 Units

**Models:**
- SM87 LU1: Fluorescent.
- SM87 LU3: Incandescent.

**Certification:**
- UL Listed for USA and Canada: Class I, Div 1, Groups C & D and Class I, Zone 1. Listing No: E187894.
- CSA Certified for Class I, Div 1 & 2, Group D. Certificate No. 96406.
- ATEX approved: Ex db IIC T3-T6 (model dependent). Certificate No. 03ATEX0222X

**Ingress:**
- NEMA 4X and 6
- IM3 & 67.

**Material:**
- Marine Grade Aluminium Alloy LM25TF with glass lens.

**Finish:**
- Epoxy paint finish as standard or to customer’s specification.

**Fluorescent:**
- 10 Watt tube light output 600 Lumens (240V & 254V AC versions).
- 5 Watt tube max. light output 250 Lumens (DC versions).

**Incandescent:**
- Single incandescent fitted as standard 10 watts. Others may be available, please contact MEDC with your requirements.

**Weight:**
- 4.4lb/2.0kg approx.

**Certified Voltage:**
- SM87LU1/3 -67°F to +131°F
- SM87LU1 -55°C to +55°C.

**Voltage:**
- 12, 24, 48V DC, 110V (LU1 only), 220V, 240V, 254V AC 50Hz as standard. 60Hz available if required.

**Terminals:**
- 4 off for up to 14 AWG cable.

**Entries:**
- SM87LU1: 2 x ½” or ¾” NPT, 20mm, 25mm
- SM87LU3: 2 x ½” or ¾” NPT, 20mm, 25mm

**Power Consumption:**
- 7 Watts for 12V DC, 24V DC, 48V DC, 220V AC
- 14 Watts for 240V AC, 15 Watts for 254V AC
- LU3: Single incandescent fitted as standard 10W. Other options are available—please contact MEDC with your requirements.

### Ordering Requirements

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Certification Code</th>
<th>Voltage</th>
<th>Color Code</th>
<th>Lens Tag/Duty Unit</th>
<th>Entries Code</th>
<th>Unit Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent (Alloy)†</td>
<td>SM87LU1A</td>
<td>24V DC</td>
<td>Red</td>
<td>N</td>
<td>1B1L</td>
<td></td>
</tr>
<tr>
<td>Fluorescent (Stainless Steel)*</td>
<td>SM87LU1S</td>
<td>110V AC</td>
<td>Blue</td>
<td>N</td>
<td>1B</td>
<td></td>
</tr>
<tr>
<td>Incandescent (Alloy)†</td>
<td>SM87LU3A</td>
<td>240V AC</td>
<td>Green</td>
<td>N</td>
<td>3B3L</td>
<td></td>
</tr>
<tr>
<td>Incandescent (Stainless Steel)*</td>
<td>SM87LU3S</td>
<td></td>
<td>Amber</td>
<td>N</td>
<td>3B</td>
<td></td>
</tr>
</tbody>
</table>

*Not available UL Listed or GOST Certified.
† Not available CSA certified.
Steady-on Beacons are designed for harsh & hazardous locations where a visual signal is required for tough environmental conditions involving corrosives, water, dust and extreme temperature.

- Broad range of light source options such as halogen, incandescent, compact & fluorescent for both indication and illumination
- Products designed for both conduit wiring and/or cable connection. NPT or metric entries meeting all installation needs
- Six light color options: Amber, Red, Green, Clear, Blue and Magenta for all signaling conditions

The units are UL Listed for Type 3R, 4X and marine installations. The steady-on beacons are available for pendant, wall, stanchion and ceiling mounts, and come in six different globe colors.

Typical industrial and commercial applications include food processing plants, refineries, mines, tankers, laboratories, sewage treatment plants, off-shore oil rigs, water and filtration plants and chemical plants.

The diode polarized steady-on beacon is used in electrically supervised circuitry for life-safety or security applications.

Key Features & Benefits
- Powerful halogen light source for clear visual indication
- Available in six different globe colors—amber, blue, clear, green, magenta and red
- Factory sealed—no external seals required
- Quick connect—Steady-on beacon fixture threads onto mounting module for easy installation
- Small compact size—ceiling mount is 13¾-inch long
- Available in pendant, wall, stanchion and ceiling mount

Certifications & Compliances
- Class I, Division 1, Groups C & D
- Class I, Zones 1 & 2, Group II B
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 1638, UL 1203 and UL 844 Listed
- 1598A Marine Listed (120V AC and 24V DC only)
- cUL Listed C22.2 No. 205
- NEMA 4X watertight, IP 66

Materials & Finishes
- Body, mounting modules and guard—Copper-free aluminum
- Globe—Heat and impact-resistant glass
- Gaskets—Silicone
- External hardware—Stainless steel
- Internal components—Solid-state electronics in a moisture-resistant and heat-dissipating epoxy
- Epoxy powder coated for corrosion resistance

Ratings
- 120V AC and 24–28V DC
- Operating Current: 0.35 amps at 120V AC (EXSO) 0.8 amps at 24–28V DC (EXDSO, diode polarized)
- Peak Candlepower: 3328

Hub Size
- ¾-inch NPT pendant, ceiling and wall mount
- 1¼-inch NPT stanchion mount
### Ordering Information

#### Step 1
Order Steady-On Beacon Type

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Lens Color</th>
<th>NEMA Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSO301A/120</td>
<td>120V AC</td>
<td>Amber</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSO301B/120</td>
<td>120V AC</td>
<td>Blue</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSO301C/120</td>
<td>120V AC</td>
<td>Clear</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSO301G/120</td>
<td>120V AC</td>
<td>Green</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSO301M/120</td>
<td>120V AC</td>
<td>Magenta</td>
<td>3R, 4X, Marine</td>
</tr>
<tr>
<td>EXSO301R/120</td>
<td>120V AC</td>
<td>Red</td>
<td>3R, 4X, Marine</td>
</tr>
</tbody>
</table>

#### Step 2
Order Mounting Module

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Hub Size</th>
<th>Mounting Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVMP2</td>
<td>¾”</td>
<td>Pendant</td>
</tr>
<tr>
<td>EV22 &amp; EV87</td>
<td>¾”</td>
<td>Wall</td>
</tr>
<tr>
<td>EV22</td>
<td>¾”</td>
<td>Ceiling</td>
</tr>
<tr>
<td>EVMJ4</td>
<td>1 ¼”</td>
<td>Stanchion</td>
</tr>
</tbody>
</table>

### Temperature Performance Data

<table>
<thead>
<tr>
<th>Description</th>
<th>Ambient Max. Temp.</th>
<th>Supply Wire</th>
<th>Class I Div. 1, 2 Group C, D Class I, Zone 1 Group II B</th>
<th>Class II, Class II Div. 1 Group E, F, G</th>
<th>Class II, Class III Div. 2 Group F, G</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSO Series Steady-On Beacon Voltage 120V AC</td>
<td>40°C 55°C 65°C</td>
<td>75°C 90°C 105°C</td>
<td>T6(85°C) T5(100°C) T5(100°C)</td>
<td>T4A(120°C) T4(135°C) T4(135°C)</td>
<td>T4A(120°C) T4(135°C) T4(135°C)</td>
</tr>
<tr>
<td>EXDSO Series Steady-On Beacon—Diode Polarized Voltage 24–28V DC</td>
<td>40°C 55°C 65°C</td>
<td>75°C 90°C 105°C</td>
<td>T6(85°C) T4A(120°C) T4(135°C)</td>
<td>T4A(120°C) T4(135°C) T4(135°C)</td>
<td>T4A(120°C) T4(135°C) T4(135°C)</td>
</tr>
</tbody>
</table>
**Steady-On Beacons**

**Family Tree—EX Strobes, Rotating and Steady-On Beacons**

- **Stanchion**: EVMJ4 1¼" Hub
- **Pendant**: EVMP2 ¾" Hub
- **Ceiling**: EV22 ¾" Hub
- **Wall**: EV22 & EV87 ¾" Hub

**Dimensions—EX Strobes, Rotating and Steady-On Beacons**

- **Wall Mount**
- **Ceiling Mount**
- **Stanchion Mount**

**Net Luminaire Weights**

- Luminaire Housing with Guard: 11.0 lbs.
- Add mounting modules:
  - Pendant: 1.0 lbs.
  - Ceiling: 1.0 lbs.
  - Wall: 4.5 lbs.
  - Stanchion: 2.5 lbs.
This range of light weight all GRP, explosionproof horns intended for use in potentially explosive atmospheres has been designed with high ingress protection to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries. The flamepaths, flare and the body, are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths.

**Horn/Strobe Combination Unit**

A truly unique product offering with integral visual and audible signaling devices pre-wired for simultaneous output activation.

- Suitable for Class I, Division 2 applications
- Strobe light and audible tone generator in one package
- Mounts with ease and facilitates quick field wiring
- UL, cUL, Ex and ATEX for worldwide acceptance

**Certifications & Compliances**

- UL Listed for USA and Canada
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D
    - Class I, Zones 1 & 2, AExd IIC T4
  - Ordinary locations: Audible-Signal device
- ATEX approved
- NEMA 4X & 6, IP66 & 67
- Certified temperature -67°F to +158°F
  - -55°C to +70°C

**Key Features & Benefits**

- All GRP corrosion free
- Up to 108dBA output at 10 feet
- Integral volume control
- 27 tones, user selectable
- Horn/Strobe Combination Unit available
### Visual & Audible Combination Units—Hazardous Locations, Weatherproof

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Lens/Body Color</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Ex II 2GD</td>
<td>24V DC</td>
<td>Red/Red</td>
<td>803130</td>
<td>DB3/XB11B24V RED/RED</td>
<td>DB3/XB11, EExd IIB T5, choice of 27 tones, 115dB(A) at 1m output, 29 Cd, no labels, 1 x M20 entry</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red/Natural Black</td>
<td>869200</td>
<td>DB3/XB11UL24V RED/NB</td>
<td>DB3/XB11, GRP material, NEMA 4X &amp; 6, choice of 27 tones, 106dB(A) at 10 feet output, 29 Cd, no labels, 1 x ½&quot; NPT entries</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red/Red</td>
<td>869205</td>
<td>DB3/XB11UL24V RED/RED</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>110V AC</td>
<td>Red/Red</td>
<td>869210</td>
<td>DB3/XB11UL110V RED/RED</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 1, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red/Red</td>
<td>62500182</td>
<td>DB1P/SM87HX8UL 24V RED/RED</td>
<td>24V DC, alloy sounder, interconnected to, painted red stainless steel baseplate, alloy 5 joule beacon</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>24V DC</td>
<td>Red/Red</td>
<td>62500183</td>
<td>DB3/SM87HX8UL 24V RED/RED</td>
<td>GRP sounder interconnected to, painted red stainless steel baseplate, alloy 5 joule beacon</td>
</tr>
</tbody>
</table>
This range of loudspeakers, intended for use in potentially explosive gas and dust atmospheres, has a power rating of up to 30 Watts and is suitable for use in the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries. The flamepaths, flare and body, are manufactured from a UV stable glass reinforced polyester. Stainless steel screws and mounting stirrup are incorporated to ensure a corrosion-free product.

**Primary Applications**
- Plant-wide alarm notification
- Audible process alarms

**Typical Industries**
- Refineries
- Chemical plants
- Oil and gas exploration
- Marine terminals for transportation & storage

**Loudspeakers and tone generators** provide high decibel communication for messaging, alert and evacuation in harsh and hazardous locations.

- Metallic and non-metallic housings
- Explosionproof and Class I, Division 2 horns and speakers
- Mounting brackets that allow a full 180° swivel
- Products designed for both conduit wiring and/or cable connection (NPT or metric entries available)
- Selectable tones

**Certifications & Compliances**
- UL Listed for USA and Canada
  - Hazardous locations:
    - Class I, Div 2, Groups A, B, C, D*
    - Class I, Zone 1, AExde IIB/IIC T3/T4*
  - Ordinary locations: Signalling Speaker
- ATEX approved
- NEMA 4X & 6, IP66 and IP67
- Certified temperature -67°F to +104°F
  -50°C to +40°C

**Key Features & Benefits**
- GRP corrosion-free flamepath
- Up to 112dBA at 30 Watts at 10 feet*
- Power tappings via integral transformer
- Ratcheted swivel mounting stirrup
- Stainless steel fixtures
- 100V line or 8 ohm versions available

*Model dependent
### MEDC Series Speakers & Tone Generators—Up to 30 Watts Hazardous Locations, Weatherproof

#### DB1 103dB(A) @ 10ft Horn—Explosionproof

- **Certification**: ATEX
- **UL Listed for**: Class I, Div 1, Groups C & D, Class I, Zone 1
- **Certified Temperature**: -13°F to +158°F, -25°C to +70°C
- **Ingress Protection**: NEMA 4X IP66
- **Material**: Alloy
- **Entries**: Up to 3 x ½” or ¾” NPT, 20mm, 25mm
- **Weight**: 7.7lb/3.5kg (model dependent)
- **No. of Tones**: Multiple tones available
- **Options**: Body color, certification, voltages 12–48V DC, 110V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Output</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX approved Ex II 2GD</td>
<td>103dB(A)</td>
<td>801001</td>
<td>DB1BA24A1A3NNNR</td>
<td>Choice of 6 tones, red finish</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>Up to 96dB(A) @ 10ft</td>
<td>869111</td>
<td>DB1PULA024D1D2NNNR</td>
<td>Two-stage alarms, with 26 tones, 24V DC, alloy, red body color, no tag or duty labels, 2 x ½” NPT entries</td>
</tr>
<tr>
<td>UL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>Up to 103dB(A) @ 10ft</td>
<td>869115</td>
<td>DB1HPULA024D1D2NNNR</td>
<td>Sounder, 110V AC, 2 x ½” NPT entries, red painted enclosure</td>
</tr>
</tbody>
</table>

#### DB3 108dB(A) @ 10ft Horn—Hazardous Locations

- **Certification**: UL, cUL Listed, Class I, Div 2, Groups A, B, C, D
- **UL Listed for**: Class I, Div 2, Groups A, B, C, D Class I, Zones 1 & 2, AExd IIC T4
- **Certified Temperature**: -67°F to +158°F, -55°C to +70°C
- **Ingress Protection**: NEMA 4X & 6 IP65 & 67
- **Material**: Corrosion-free GRP
- **Entries**: Up to 2 x ½” NPT, 20mm
- **Weight**: 13.2lb/6.0kg
- **No. of Tones**: 27 + 5 Programmable
- **Options**: Body color, certification, voltages 12–48V DC, 110V–254V AC

<table>
<thead>
<tr>
<th>Certification</th>
<th>Body Color</th>
<th>Voltage</th>
<th>Type*</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>Red</td>
<td>12–48V DC</td>
<td>Single Stage</td>
<td>869131</td>
<td>DB3UL048N2CNRZ</td>
<td>27 tones, no tag or duty labels, 108 dB(A) output, NEMA 4X &amp; 6, 2 x ½” NPT entries with certified plug</td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>Red</td>
<td>12–48V DC</td>
<td>Two Stage</td>
<td>869132</td>
<td>DB3PUL048N2CNRZ</td>
<td></td>
</tr>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups A, B, C, D</td>
<td>Red</td>
<td>110V AC</td>
<td>Single Stage</td>
<td>869135</td>
<td>DB3UL110N2CNRZ</td>
<td></td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Natural Black</td>
<td>12–48V DC</td>
<td>Two Stage</td>
<td>803121</td>
<td>DB3PD048N2BNRZ</td>
<td></td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Natural Black</td>
<td>240V AC</td>
<td>Single Stage</td>
<td>803122</td>
<td>DB3D048N2BNRZ</td>
<td></td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Red</td>
<td>12–48V DC</td>
<td>Two Stage</td>
<td>803123</td>
<td>DB3PD048N2CNRZ</td>
<td></td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Red</td>
<td>240V AC</td>
<td>Single Stage</td>
<td>803124</td>
<td>DB3D240N2BNRZ</td>
<td></td>
</tr>
<tr>
<td>ATEX Ex II 2GD</td>
<td>Red</td>
<td>12–48V DC</td>
<td>Single Stage</td>
<td>803125</td>
<td>DB3D048N2CNRZ</td>
<td></td>
</tr>
</tbody>
</table>

*Single Stage*

4 wired diode monitored connection—on board diode allows unit to be operated in supervisory mode when monitoring line in reverse polarity.

*Two Stage*

Switchable unit available in DC versions only either by:

(i) Reversing the polarity of the supply, or,

(ii) By a 3 wire common +ve system, switching between the –ve lines.
Speakers & Tone Generators—Up to 30 Watts Hazardous Locations, Weatherproof

**Specification—DB1 Unit**

**Certification:** UL Listed for Class I, Div. 1, Groups C & D and Class I, Zone 1. UL Listing No. E187688.

**ATEX Approved:** EExd, IIB T3.

**Cert. No. Baseefa 02ATEX0207 for DB1(P).**

**Cert. No. Baseefa 02ATEX0209 for DB1(H).**

**Material:** LM25 corrosion resistant alloy with stainless steel cover screws. ABS flare.

**Finish:** Epoxy paint finish as standard or to customer’s specification.

**Max Sound Levels:**
- **DB1P**: 93±3dB(A) (86±3dB(A) for 12V DB1).
- **DB1HP**: 100 ± 3dB(A) @ 10 feet.

*Note: Sound level is dependent upon the tone selection.*

**Weight:**
- **DB1P**: 7.7lb/3.5kg approx.
- **DB1HP**: 12.3lb/5.6kg approx.

**Certified**
- -13°F to +158°F.
- -25°C to +70°C.

**Ingress Protection:** NEMA 4X, IP66.

**Tone Selection:**
- 27 user selectable tones.

**Current Consumption:**

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Voltage</th>
<th>DB1P</th>
<th>DB1HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V</td>
<td>125mA</td>
<td>900mA</td>
<td></td>
</tr>
<tr>
<td>24V</td>
<td>250mA</td>
<td>700mA</td>
<td></td>
</tr>
<tr>
<td>48V</td>
<td>250mA</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>110V</td>
<td>60mA</td>
<td>200mA</td>
<td></td>
</tr>
</tbody>
</table>

**Labels:**
- Duty and tag labels optional.

**Entries:** Up to 3 x ½” or ¾” NPT.

**Terminals:** Suitable to accept up to 12 AWG conductor size.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

**Unit Type**
- DB1
- DB1H
- DB1P
- DB1HP

**Certification**
- ATEX/CENELEC B
- UL(DB1P & DB & IHP only) UL
- UL – available Alloy only.
- – 12V DC, 24V DC, 48V DC, 110V AC only

**Material**
- Stainless Steel S
- Alloy A

**Voltage**
- 12V DC
- 24V DC
- 110V AC
- 240V AC

**Entries**
- 1 x 20mm A3
- 1 x 25mm B3
- 1 x ½” NPT (UL only) C3
- 1 x ¼” NPT (UL only) D3
- 2 x M20 A1A2
- 2 x M25 B1B2
- 2 x ½” NPT C1C2
- 2 x ¼” NPT D1D2

**Cable Code**
- 012
- 024
- 110
- 240

**Features**
- N
- N
- N
- R
MEDC Series Speakers & Tone Generators—Up to 30 Watts Hazardous Locations, Weatherproof

Terminals: 4 x 14 AWG (AC), 6 x 14 AWG (DC).
Mounting: Stainless steel bracket with ratchet facility.
Labels: Duty and tag labels optional.
Cable Entries: UP TO 2 x ½" NPT. 
Tone Selection: 27 user selectable tones available.
Horn/Strobe Unit: The DB3 may be combined with an MEDC strobe to create a combined audio/visual alarm.
Contact MEDC for price and specification.
Two Stage Unit: Switchable between any two tones by either:
(i) Reversing the polarity of the supply, or
(ii) by a 3 wire common +ve system, switching between the two –ve lines.
Note: Two stage unit available in DC versions only.
3 & 4 Tone unit: Remote 3 & 4 tone unit available—contact sales office for details.

Ordering Requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

Unit Type | Certification | Voltage Code | Labels | Entries Options Color
--- | --- | --- | --- | --- | ---
DB3 | D | 048 | N | N | Natural Black
DB3P | UL Listed | 12V–48V DC | N | N | Red

Specifying—DB3 Unit

Certification: UL Listed for USA and Canada
– Hazardous locations:
  Class I, Div. 2, Groups A, B, C, D.
  Class I, Zones 1 & 2, AExd IIC T4.
UL Listing No. E203310.
– Ordinary locations: Audible-Signal device.
UL Listing No. SS116.

ATEX approved: CENELEC EN50014, 18, 19.
Cert. No. BAS00ATEX2097X, EExd IIC.
Cert. No. BAS00ATEX2098X, EExde IIC.
Zones 1 & 2.

Material: Body & horn in anti-static, UV stable, glass reinforced polyester.
Swivel bracket and captive cover screws in stainless steel.

Finish: Body and horn, natural black or epoxy paint coated to client’s color requirements.

Sound Output: DB3 105 ±3dB(A) Typical at 10 feet (tone dependent).

Volume Control: Integral volume control

<table>
<thead>
<tr>
<th>Nominal Output (dBa)</th>
<th>Input Current (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>50</td>
</tr>
<tr>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>98</td>
<td>150</td>
</tr>
<tr>
<td>101</td>
<td>200</td>
</tr>
<tr>
<td>102</td>
<td>250</td>
</tr>
<tr>
<td>104</td>
<td>300</td>
</tr>
<tr>
<td>105</td>
<td>350</td>
</tr>
</tbody>
</table>

*Output measured with 24V input voltage. Tone set to 970Hz continuous.

Weight: 13.2lb/6.0kg approx.
Certified -67°F to +158°F.
Temperature: -55°C to +70°C.
Ingress Protection: NEMA 4X & 6, IP66 & 67.
Voltage: Up to 48V DC Up to 254V AC.

Common Consumption:

<table>
<thead>
<tr>
<th>V</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>760mA</td>
</tr>
<tr>
<td>24V DC</td>
<td>380mA</td>
</tr>
<tr>
<td>48V DC</td>
<td>190mA</td>
</tr>
<tr>
<td>110V AC</td>
<td>135mA</td>
</tr>
<tr>
<td>120V AC</td>
<td>124mA</td>
</tr>
<tr>
<td>220V AC</td>
<td>68mA</td>
</tr>
<tr>
<td>230V AC</td>
<td>65mA</td>
</tr>
<tr>
<td>240V AC</td>
<td>62mA</td>
</tr>
<tr>
<td>254V AC</td>
<td>59mA</td>
</tr>
</tbody>
</table>

* Common version available in AC or DC supply.
**DB4**

**8-25 Watt Speaker—Hazardous Locations**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Power</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed Class I, Div 2, Groups A, B, C, D</td>
<td>25W</td>
<td>869142</td>
<td>DB425ULX100IN2CNR</td>
<td>100V line transformer, no labels, 2 x ½&quot; NPT entries, red finish</td>
</tr>
<tr>
<td>UL, cUL Listed Class I, Div 2, Groups A, B, C, D</td>
<td>25W</td>
<td>869144</td>
<td>DB425ULX70IN2CNR</td>
<td>70V line transformer, no labels, 2 x ½&quot; NPT entries, red finish</td>
</tr>
<tr>
<td>ATEX Approved ExII 1G</td>
<td>15W</td>
<td>804215</td>
<td>DB415DIN28NZ</td>
<td>100V line transformer, no labels, 2 x M20, one certified plug, flameproof enclosure, natural black finish</td>
</tr>
<tr>
<td>ATEX Approved ExII 1G</td>
<td>25W</td>
<td>804225</td>
<td>DB425DIN28NZ</td>
<td></td>
</tr>
</tbody>
</table>

**Options:** Body color, transformer, certification, power 25W, 15W, 8W

**DB5**

**Up to 93dB(A) @ 10ft Horn—Intrinsically Safe**

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Approved ExII 1G</td>
<td>12V DC</td>
<td>805001</td>
<td>DB5B012NR</td>
<td>Intrinsically safe, up to 3 x M20 entries via knockouts, no labels, natural red finish</td>
</tr>
<tr>
<td>ATEX Approved ExII 1G</td>
<td>24V DC</td>
<td>805002</td>
<td>DB5B024NR</td>
<td></td>
</tr>
<tr>
<td>FM Approved for Class I, Div 1 &amp; 2, Groups A, B, C, D</td>
<td>24V DC</td>
<td>869150</td>
<td>DB5FM2NR</td>
<td>Intrinsically safe, 26 tones, 93 dB(A) output, natural red body color, no tag or duty labels, 2 x 13/16&quot; entries via knockouts</td>
</tr>
</tbody>
</table>

**Certification**

- UL Listed: Class I, Div 2, Groups A, B, C, D
- ATEX Approved: ExII 1G

**Ingress Protection**

- NEMA 4X & 6
- IP66 & 67

**Material**

- Corrosion-free GRP

**Output**

- 97 dB(A) at 1W at 10 feet
- 109 dB(A) at 25W at 10 feet

**Entries**

- Up to 2 x ½" NPT, 20mm

**Weight**

- 11lb/5.0kg
### MEDC Series Speakers & Tone Generators—Up to 30 Watts Hazardous Locations, Weatherproof

#### DB12 110dB(A) Sounder—Weatherproof & Heavy Duty

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Certification</td>
<td>115/230V AC</td>
<td>Single Stage</td>
<td>808003</td>
<td>DB12115NN</td>
<td>Weatherproof, dust-tight, no labels, choice of 27 tones, natural red finish, 3 x M20 knockouts</td>
</tr>
<tr>
<td>CE Certification</td>
<td>24V DC</td>
<td>Two Stage</td>
<td>869155</td>
<td>DB12P024NN</td>
<td>Weatherproof, choice of 27 tones, natural red finish, 3X M20 knockouts</td>
</tr>
</tbody>
</table>

#### DB15 110dB(A) Tone Generator—Weatherproof & Heavy Duty

<table>
<thead>
<tr>
<th>Certification</th>
<th>Voltage</th>
<th>Type</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Certification</td>
<td>12–48V DC</td>
<td>Two Stage</td>
<td>808110</td>
<td>DB15P048NN</td>
<td>Weatherproof, dust-tight, no labels, choice of 27 tones, painted gray finish</td>
</tr>
<tr>
<td>CE Certification</td>
<td>12–48V DC</td>
<td>Two Stage</td>
<td>808115</td>
<td>DB15P048NR</td>
<td>Weatherproof, dust-tight, no labels, choice of 27 tones, painted red finish</td>
</tr>
<tr>
<td>CE Certification</td>
<td>240V AC</td>
<td>Single Stage</td>
<td>808120</td>
<td>DB15240NN</td>
<td>Weatherproof, dust-tight, choice of 27 tones, natural gray finish</td>
</tr>
<tr>
<td>CE Certification</td>
<td>240V AC</td>
<td>Single Stage</td>
<td>808125</td>
<td>DB15240NR</td>
<td>Weatherproof, dust-tight, choice of 27 tones, painted red finish</td>
</tr>
</tbody>
</table>
**MEDC Series Speakers & Tone Generators**—Up to 30 Watts Hazardous Locations, Weatherproof

## DB16 UL 30 Watt Speaker — Hazardous & Ordinary Locations

<table>
<thead>
<tr>
<th>Certification</th>
<th>Ordering Code</th>
<th>Catalog #</th>
<th>Standard Product Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL Listed, Class I, Div 2, Groups C &amp; D</td>
<td>28600006</td>
<td>DB16UXN2MPN</td>
<td>Unit suitable for gas Groups A, B, C, D, 70V line transformer, 2 x ½” NPT, one certified plug, natural black finish</td>
</tr>
</tbody>
</table>

- **UL Listed for:**
  - Class I, Div 2, Groups C & D/A,B,C,D
  - Class I, Zone 1, AExde IIB T3/C T110°C
- **Certified Ambient Temperature:**
  - -61°F to +90°F
  - -50°C to +40°C
- **Ingress Protection:**
  - NEMA 4X & 6
  - IP66 & 67
- **Material:**
  - Corrosion-free GRP
- **Output:**
  - Groups C & D: 100dB(A) at 1Watt at 10 ft.
  - 112dB(A) at 30 Watts at 10 ft.
  - 3dB(A) less than C & D versions
- **Entries:**
  - Up to 2 x ½” NPT or 2 x ¾” NPT, 20mm, 25mm
- **Weight:**
  - 12.1lb/5.5kg
- **Tappings @ 30 Watts:**
  - 30, 25, 12, 6, 4, 2
- **Options:** Body color, transformer
**MEDC Series Speakers & Tone Generators**—Up to 30 Watts Hazardous Locations, Weatherproof

**8W VERSION**

- **Dimensions:**
  - Body: 7 19/32” (193mm)
  - 7 1/4” (184mm)
  - Frequency Response @1W, 10’ for 25W Unit
  - Polar Plot (1kHz) @1W, 10’ for 25W unit

- **Position 2 is used if only 1 x ½” NPT entry is required**

- **Fixing Holes:** Ø 1/13mm

- **All Dimensions in Inches and Millimeters**

**15W TO 25W VERSIONS**

- **Dimensions:**
  - Body: 10 11/16” (271mm)
  - Ø 6 7/8” (170mm)

- **Fixing Holes:** Ø 1/13mm

- **Position 2 is used if only 1 x ½” NPT entry is required**

**Speakers & Tone Generators**

**Specification—DB4 Unit**

- **Rated Power:** 8, 15 or 25 watts RMS continuous (at 77°F).
- **Certification:**
  - UL Listed for USA and Canada
    - Class I, Div 2, Groups A, B, C, D.
    - Class I, Zone 1, AExd IIC T4.
  - UL Listing No. E203310.
  - ATEX approved: EN50014, 18, 19.
  - Cert. No. BAS00ATEX0397X, Exed IIC T4/T5.
  - Cert. No. BAS00ATEX0598X, Exed DC IIC T4/T5.
- **Material:**
  - Body & horn in anti-static, UV stable, glass reinforced polyester.
  - Swivel bracket in stainless steel.
  - Captive cover screws in stainless steel.
- **Finish:**
  - Body and horn, natural black or epoxy paint coated to client’s color requirements.
- **Output:**
  - 97 dB(A) at 1 watt at 10 feet.
  - 109 dB(A) at 25 watts at 10 feet.
  - Measured in accordance with IEC 268.
- **Weight:** 11lb/5.0kg approx. dependent on model.
- **Certified Temperature:**
  - -67°F to +158°F.
  - -55°C to +70°C.
- **Ingress Protection:**
  - NEMA 4X and 6, IP66 & 67.
- **Frequency Range:** 400Hz to 8kHz.
- **Voice Coil Impedence:** 8 ohms.
- **Transformer:**
  - Used to vary the rated power by selecting different tappings (see table below).

<table>
<thead>
<tr>
<th>Transformer Tappings</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25W</td>
</tr>
<tr>
<td>1:2</td>
<td>25.0</td>
</tr>
<tr>
<td>2:3</td>
<td>12.5</td>
</tr>
<tr>
<td>3:4</td>
<td>6.0</td>
</tr>
<tr>
<td>1:3</td>
<td>4.0</td>
</tr>
<tr>
<td>2:4</td>
<td>2.0</td>
</tr>
<tr>
<td>1:4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

- **Transformer Options:**
  - Loop in/Loop out: (4 x 2) terminal tap change (8 terminals).
  - Optional Tapping: 4 terminal tap change with 2 terminals (5 & 6) directly connected to driver (8 ohms).

- **Other tappings & driver impedances available on request.**
- **Terminals:** 8 x 14AWG
  - Other terminal arrangements available on request.
- **Mounting:**
  - Bracket with ratchet facility.
- **Labels:**
  - Duty and tag labels optional.
- **Cable Entries:**
  - Up to 2 x ½” NPT.

**Ordering Requirements**

<table>
<thead>
<tr>
<th>Max. Rated Power</th>
<th>Certification</th>
<th>Transformer</th>
<th>Labels</th>
<th>Entries</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 watt</td>
<td>UL listed</td>
<td>EEExd</td>
<td>X*</td>
<td>N</td>
<td>Natural Black</td>
</tr>
<tr>
<td>15 watt</td>
<td>UL listed</td>
<td>EEExd</td>
<td>None</td>
<td>N</td>
<td>Red</td>
</tr>
<tr>
<td>25 watt</td>
<td>UL listed</td>
<td>EEExd</td>
<td>None</td>
<td>N</td>
<td>Red</td>
</tr>
</tbody>
</table>

To specify certified plug, suffix appropriate code with “P”.
  - e.g. 2BP is 2 x M20 entries with one certified plug.

---

**Transformer Code**

<table>
<thead>
<tr>
<th>DB4 Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
</tr>
<tr>
<td>Code</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>25</td>
</tr>
</tbody>
</table>

**Transformer**

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEExd</td>
<td>D</td>
</tr>
<tr>
<td>UL</td>
<td>lised UL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>X*</td>
</tr>
</tbody>
</table>

* Std 100V Other values available, specify voltage.
**MEDC Series Speakers & Tone Generators**—Up to 30 Watts Hazardous Locations, Weatherproof

**DIMENSIONAL DRAWING**

ALL DIMENSIONS IN INCHES AND MILLIMETERS

**Specification—DB5 Unit**

Certification:
1. FM approved for Class I, Div 1, Groups A, B, C, D. J.I. 3001835.
2. CSA certified to C22.2 Nos. 0, 0.4, 0.5, 25, 30, 205, Class I, Groups A, B & D, Cert. No. 79122.
3. ATEX approved, EN50014 and EN50020 & EN50284 EEixa IICT4. 12/24V version Cert. No. BAS00ATEX 1259 (unit) and 01E2024 (system).
4. HSE(M) to EN50014, EN50020 and EN50303. EEixa 1 Cert. No. MECS01ATEX4260 (unit) and 94Y7095 (system).


Finish: Available in Red as standard.

Certified: -4°F to +131°F.

Temperature: -20°C to +55°C.

Weight: 0.7lb/0.3kg.

Entries: Up to 1 x 13/16” on each side via knockouts.

Terminals: 6 off suitable to accept up to 14 AWG.

Sound Output: 90± 3dB(A) at 10 feet for 12V and 24V versions. Typical max value only—variable with tone.

Current Consumption
24V model—14 mA max. nominal.
12V model—12 mA max. nominal.
**MEDC Series Speakers & Tone Generators**—Up to 30 Watts Hazardous Locations, Weatherproof

### Specification—DB12 Unit

**Material:** UV stable glass reinforced polyester. Retained stainless steel cover screws.

**Finish:** Self colored red as standard or epoxy coated to customer’s specification.

**Sound Output:** $107 \pm 3\text{dB(A)}$ at 1 meter.

Typical value only—variable with tone.

**Volume Control:** Integral volume control.

<table>
<thead>
<tr>
<th><em>Nominal Output (dBa)</em></th>
<th><em>Input Current (mA)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>92</td>
<td>60</td>
</tr>
<tr>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>104</td>
<td>80</td>
</tr>
<tr>
<td>109</td>
<td>90</td>
</tr>
</tbody>
</table>

*Output measured with 24V input voltage. Tone set to 2850Hz continuous.

**Tone Selection:**

- **Single Stage DB12:** 27 user selectable tones.
- **Two stage Unit DB12P:** Switchable between any two tones by either:
  1. Reversing the polarity of the supply, or
  2. By a 3 wire common +ve system, switching between the two -ve lines.

Note: Two stage unit available in DC versions only.

**Weight:** 1.0 kg. DC, 1.2kg AC

**Operating Temperature:** $-55^\circ\text{C}$ to $+70^\circ\text{C}$.

**Ingress Protection:** IP66 & IP67.

**Voltage:** DC: 12V, 24V AC: 115/230V.

**Current Consumption:**

- 24V operation: 55mA–100mA.
- 12V operation: 55mA–90mA.
- 115V operation: 85mA–140mA.
- 230V operation: 45mA–60mA.

**Terminals:** 6 x 2.5mm².

**Labels:** Duty and tag labels available.

**Cable Entries:** Up to 3 x M20 via knockouts.

AFNOR NF S 32 001 compliant version available—contact sales office for details.

### Ordering Requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Voltage</th>
<th>Labels</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td><strong>Voltage</strong></td>
<td><strong>Code</strong></td>
<td><strong>N</strong></td>
</tr>
<tr>
<td>DB12</td>
<td>12V DC</td>
<td>012</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>24V DC</td>
<td>024</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>115/230V AC</td>
<td>115</td>
<td>N</td>
</tr>
<tr>
<td>DB12P</td>
<td>(DC only)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MEDC Series Speakers & Tone Generators—Up to 30 Watts Hazardous Locations, Weatherproof

**Specification—DB15 Unit**

- **Material:** Body & horn in UV stable, glass reinforced polyester. Swivel bracket in stainless steel. Cover screws in stainless steel.
- **Finish:** Body and horn, natural gray to RAL 7035 or epoxy paint coated to client’s color requirements.
- **Sound Output:** DB15 117dB(A) Maximum.
- **Volume Control:** Integral volume control

<table>
<thead>
<tr>
<th>*Nominal Output (dBa)</th>
<th>Input Current (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>105</td>
<td>250</td>
</tr>
<tr>
<td>108</td>
<td>350</td>
</tr>
<tr>
<td>110</td>
<td>450</td>
</tr>
<tr>
<td>112</td>
<td>550</td>
</tr>
</tbody>
</table>

* Output measured with 24V input voltage. Tone set to 970Hz continuous.

- **Weight:** 2.6kg approx. dependent on model.
- **Temperature Range:** –55°C to +70°C.
- **Ingress Protection:** IP66 and IP67.
- **Voltage:** Up to 48V DC Up to 254V AC
- **Current Consumption:**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current Consumption (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V DC</td>
<td>900mA</td>
</tr>
<tr>
<td>24V DC</td>
<td>600mA</td>
</tr>
<tr>
<td>48V DC</td>
<td>280mA</td>
</tr>
<tr>
<td>110V a.c</td>
<td>150mA</td>
</tr>
<tr>
<td>120V AC</td>
<td>175mA</td>
</tr>
<tr>
<td>220V AC</td>
<td>93mA</td>
</tr>
<tr>
<td>240V AC</td>
<td>86mA</td>
</tr>
<tr>
<td>254V AC</td>
<td>80mA</td>
</tr>
</tbody>
</table>

- **Terminals:** 4 x 2.5mm² (AC), 6 x 2.5mm² (DC).
- **Earth Continuity:** Available.
- **Mounting:** Stainless steel bracket with ratchet facility.
- **Labels:** Duty and tag labels optional.
- **Cable Entries:** 2 x M20 ISO.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component in the appropriate box.

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Voltage Options</th>
<th>Color Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB15</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DB15P</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

**Voltage Code**

- **12V DC** 012
- **24V–48V DC** 048
- *110V AC* 110
- *120V AC* 120
- *240V AC* 240
*DB15P not available in AC version.

**Tone Selection**

- **DB15:** 27 user selectable tones available. Additional 5 tones may be programmed.
- **DB15P (Two stage unit):** Switchable between any two of the 27 tones by either:
  1. Reversing the polarity of the supply, or
  2. By a 3 wire common +ve system, switching between the two –ve lines.

Note: Two stage unit available in DC versions (DB15P) only.

AFNOR NF S 32 001 compliant version available—contact sales office.
**MEDC Series Speakers & Tone Generators**—Up to 30 Watts Hazardous Locations, Weatherproof

**Specification—DB16 Unit**

- **Rated Power:** 30 Watts RMS continuous (at 77°F/25°C).
- **Certification:** UL Listed for USA and Canada
  - Hazardous locations:
    - Class I, Div 2, Groups C & D, Class I, Zone 1, ATEX IIB T3
    - Class I, Div 2, Groups A, B, C, D, Class I, Zone 1, ATEX IIC T110°C
    - UL Listing No. E203310
  - Ordinary locations: Signalling Speaker. UL Listing No. 58847
    - IIB Version: Cert. No. Baseefa04ATEX0166X
      - ATEX Ex II 2G EExde IIB T3 (Tamb. -50°C to +40°C)
    - IIC Version: Cert. No. Baseefa04ATEX0167X
      - ATEX Ex II 2GD EExde IIC T110°C (Tamb. -50°C to +40°C)
    - Zones 1 and 2.
- **Material:** Body & horn in anti-static, UV stable, glass reinforced polyester. Mounting stirrup and fixtures in stainless steel.
- **Finish:** All natural or body and horn can be painted to client’s requirements.
- **Output:**
  - Groups C & D Version: Maximum output at 1W at 10 feet is 100dBA
    - Maximum output at 30W at 10 feet is 112dBA
  - Groups A, B, C, D Version: Maximum output at 1W at 10 feet is 97dBA
    - Maximum output at 30W at 10 feet is 109dBA
- **Weight:** 12lb/5.5kg approx.
- **Certified Temperature:** -67°F to +104°F (-50°C to +40°C).
- **Ingress Protection:** NEMA 4X & 6, IP66 & IP67.
- **Frequency Range:** 370Hz to 8kHz.
- **Voice Coil Impedence:** 8 ohms.
- **Transformer:** Used by combining the rated power tappings below.

<table>
<thead>
<tr>
<th>Transformer Tappings</th>
<th>Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:2</td>
<td>30</td>
</tr>
<tr>
<td>2:3</td>
<td>25</td>
</tr>
<tr>
<td>3:4</td>
<td>12</td>
</tr>
<tr>
<td>1:3</td>
<td>6</td>
</tr>
<tr>
<td>2:4</td>
<td>4</td>
</tr>
<tr>
<td>1:4</td>
<td>2</td>
</tr>
</tbody>
</table>

(i) Loop in/loop out (4 x 2) power tap change; 8 terminals

(ii) Loop in/loop out (2 x 2) 8 ohm; 4 terminals.

- **Terminals:** 8 x 2.5mm².
- **Earth Continuity:** Available via optional earthing stud or by internal earth plate.
- **Mounting:** Via stirrup with ratchet facility.
- **Labels:** Optional stainless steel tag and duty labels.
- **Cable Entries:** Up to 2 x ½” NPT or 2 x ¾” NPT into termination chamber, 20mm, 25mm

**Ordering Requirements**

The following code is designed to help you in the selection of the correct unit. Build up the reference number by inserting the code for each feature into the appropriate box.

```
DB16

Certification Code
UL (A, B, C, D) UC
ATEX IIC BC

Transformer Code
Yes X*
No N

*Std 100V.
Other voltages available, specify voltage.

Options

Transformer Code

Entries

1 x M20 1B
2 x M20 2B
1 x M25 1C
2 x M25 2C
1 x ½” NPT 1M
2 x ½” NPT 2M
1 x ¾” NPT 1N
2 x ¾” NPT 2N
To specify certified plug, suffix appropriate code with 'P', e.g. 2BP is 2 x M20 entries with one certified plug.

Entries

DB16

Option Code
Certified Plug Code
Natural Black N
Red R
```
The Flex-Tone ETH & ETHD are heavy-duty, explosionproof tone-selectable signaling devices. Both are designed for Class I, Division 1, Groups B, C & D areas and are ideal for signaling warning or emergency conditions within process or manufacturing facilities.

The Flex-Tone ETH tone-selectable signalers (ETH655 & ETH855) are for use on standard electrical circuits and accept up to two contact closures providing two audible output signals selected from 55 tone choices. The ETHD855 tone-selectable signaler is used for applications (e.g., mining, tankers, laboratories) requiring electrical supervision of circuits.

The Flex-Tone ETH remote speaker amplifier (ETH645 & ETH845) is a speaker/amplifier for remote mounting and designed for use with the Flex-Tone (ETH640 & ETH840) Panel Control Signal Generator. The Control Panel Generator is mounted in a Division 2 area while the Flex-Tone ETH remote speaker amplifiers are remotely mounted in Division 1 areas. The ETH remote speaker amplifier (ETH645 & ETH845) operates from local available power sources. Because the Flex-Tone ETH remote speaker amplifier is available in multiple AC and DC voltages, your customer can mix and match speakers throughout their facility using available line power.

The Flex-Tone Panel Control Signal Generator (ETH640 & ETH840) controls a synchronous signaling sound to all ETH remote speaker amplifiers. It is ideal for applications where simultaneous signaling of a high decibel signal is needed. The Flex-Tone Panel Control Signal Generator generates 27 sounds. Four tones may be activated from field-wired, normally open contacts, or a 24V DC or 120V AC external voltage source such as an output of a PLC.
### Product Breakdown — New Audible Products, Class I Division 1

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Reference</th>
<th>Operating Voltage</th>
<th>Operating Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex-Tone heavy-duty tone-selectable signaling device</td>
<td>ETH655 &amp; ETH855</td>
<td>24V DC, 36V DC, 24AC/DC, 120V AC, 240V AC, 125V DC, 250V DC</td>
<td>Standard electrical circuits, AC or DC operation.</td>
</tr>
<tr>
<td>Heavy-duty tone-selectable signaling device, diode polarized</td>
<td>ETHD855</td>
<td>20–31V DC</td>
<td>Standard electrical circuits or auxiliary fire or warning circuits requiring electrical supervision.</td>
</tr>
<tr>
<td>Flex-Tone Panel Control Signal Generator Suitable for Div. 2 areas only</td>
<td>ETH640 &amp; ETH840</td>
<td>24V DC, 24AC/DC, 120V AC, 240V AC, 125V DC, 250V DC</td>
<td>Standard electrical circuits, AC or DC operation and communication to remote speaker amplifiers can be connected to a network by RS485 serial protocol.</td>
</tr>
<tr>
<td>Flex-Tone remotespeaker/amplifier for use with Flex-Tone Panel Control Signal Generator</td>
<td>ETH645 &amp; ETH845</td>
<td>24V DC, 24AC/DC, 120V AC, 240V AC, 125V DC, 250V DC</td>
<td>Standard electrical circuits, AC or DC operation.</td>
</tr>
</tbody>
</table>

### Application — Flex-Tone Explosionproof Audible Signals Are Used

#### Industries
- Offshore platforms and drilling rigs
- Refineries, chemical and petrochemical plants
- Pharmaceutical plants
- Food and Beverage plants
- Waste water and sewage treatment plants
- Pulp and paper mills

#### Uses
- Communication
- Security alert
- Safety signaling in industrial and process facilities
- Emergency evacuation signaling
- Messaging
Cooper Crouse-Hinds Flex-Tone Series Electronic Signals are explosionproof, heavy-duty, tone-selectable signaling devices capable of producing volume-controlled, high-decibel tones. Certified for use in Class I, Division 1, Group B, C & D applications, the Flex-Tone Series is ideal for signaling warning or emergency conditions.

The Flex-Tone ETH855 accepts up to two contact closures and delivers two audible output signals selected from 55 available tones. The two tones are selected by setting miniature switches within the unit. One of the tones can be assigned a priority status to override the other tone.

The Flex-Tone ETHD855 is diode polarized for applications requiring electrical supervision of signaling circuit field wiring. The signal delivers one audible output signal selected from the 55 tones available.

### Primary Applications
- For use where a high-decibel sound is required for alert or evacuation in hazardous locations

### Key Features & Benefits
- Heavy duty zinc cast construction.
- 55 tone capacity—No additional tone modules needed
- Internal volume control with internal potentiometer.
- Corrosion-resistant heat-flowed epoxy finish
- Supplied with factory sealed ½-inch threaded fitting for quick installation
- Speaker can swivel 180° vertically or horizontally depending on orientation of mounting bracket
- Mounts onto any surface using only three bolts
- 30-inch numbered wire leads

### Certifications & Compliances
- Class I, Division 1, Groups B, C & D
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 464 and 1203 Listed

### Materials & Finishes
- Body—Heavy-duty zinc cast construction
- External hardware—Stainless steel

### Output Sound Pressure
- 109 decibel (dBA) output

### Ordering Information

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Signal OFF Standby Current (Amps)</th>
<th>Signal ON Operating Current (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH855/24</td>
<td>24V DC</td>
<td>0.061</td>
<td>0.470</td>
</tr>
<tr>
<td>ETH855/36</td>
<td>36V DC</td>
<td>0.077</td>
<td>0.600</td>
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<td>ETH655/24</td>
<td>24V AC, 50/60Hz</td>
<td>0.250</td>
<td>1.320</td>
</tr>
<tr>
<td>ETH655/120</td>
<td>120V AC</td>
<td>0.088</td>
<td>0.260</td>
</tr>
<tr>
<td>ETH655/240</td>
<td>240V AC</td>
<td>0.091</td>
<td>0.190</td>
</tr>
<tr>
<td>ETH855/125</td>
<td>125V DC</td>
<td>0.031</td>
<td>0.130</td>
</tr>
<tr>
<td>ETH855/250</td>
<td>250V DC</td>
<td>0.019</td>
<td>0.070</td>
</tr>
<tr>
<td>ETHD855/24</td>
<td>20–31V DC</td>
<td>0.061</td>
<td>0.400</td>
</tr>
</tbody>
</table>

Meets min. 75 dBA for fire alarm indication
Cooper Crouse-Hinds Flex-Tone Series Explosionproof Remote Speaker/Amp is designed for remote mounting in Division 1 areas where simultaneous high-decibel signaling is required.

Used in connection with the Panel Control Signal Generator, the Flex-Tone ETH845 operates directly from local power sources, allowing remote speaker/amplifiers of different voltages to be connected within the same system. Available in both AC and DC voltages, the Flex-Tone 3 can be mixed and matched throughout an application using the available line power.

ETH845 Series Remote Speaker/Amplifiers must be used with Cooper Crouse-Hinds Flex-Tone Panel Control Signal Generator on the following page.

Primary Applications
- For use where simultaneous signaling of a high-decibel sound is required for alert or evacuation in hazardous locations.

Key Features & Benefits
- Heavy duty zinc cast construction.
- Individual volume control.
- Corrosion-resistant heat-flowed epoxy finish.
- Supplied with factory sealed 1/2-inch threaded fitting for quick installation.
- Speaker can swivel 180° vertically or horizontally depending on orientation of mounting bracket.
- Mounts onto any surface using only three bolts.
- 30-inch numbered wire leads.

Certifications & Compliances
- Class I, Division 1, Groups B, C & D
- Class II, Division 1, Groups E, F & G
- Class III
- UL and cUL 464 and 1203 Listed

Materials & Finishes
- Body—Heavy-duty zinc cast construction
- External hardware—Stainless steel

Ratings
- 120V AC, 240V AC, 125V DC and 250V DC
- Output Sound Pressure
- 109 decibel (dBA) output

Ordering Information

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Signal OFF Standby Current (Amps)</th>
<th>Signal ON Operating Current (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH845/24</td>
<td>24V DC</td>
<td>0.061</td>
<td>0.470</td>
</tr>
<tr>
<td>ETH645/24</td>
<td>24V AC, 50/60Hz</td>
<td>0.250</td>
<td>1.320</td>
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<tr>
<td>ETH645/120</td>
<td>120V AC</td>
<td>0.088</td>
<td>0.260</td>
</tr>
<tr>
<td>ETH645/240</td>
<td>240V AC</td>
<td>0.091</td>
<td>0.190</td>
</tr>
<tr>
<td>ETH845/125</td>
<td>125V DC</td>
<td>0.031</td>
<td>0.130</td>
</tr>
<tr>
<td>ETH845/250</td>
<td>250V DC</td>
<td>0.091</td>
<td>0.070</td>
</tr>
</tbody>
</table>

* ETH845 Series Remote Speaker/Amplifiers must be used with Cooper Crouse-Hinds Flex-Tone Panel Control Signal Generator on the following page.

ETH845 Series Remote Speaker/Amplifiers accept a 10V AC audio signal from Flex-Tone Panel Control Signal Generator.
Cooper Crouse-Hind/MEDC Flex-Tone Series Panel Control Signal Generator controls and initiates a synchronous signaling sound from all Flex-Tone 3 remote Speaker/Amps installed in a system. The Panel Control Signal Generator is mounted in a Division 2 area, while controlling the Flex-Tone 3 Speaker/Amps that are remotely mounted in Division 1 areas.

The Panel Control Signal Generator produces 27 sounds. Four tones may be activated from field-wired, normally open contacts, or a 24V DC or 120V AC external voltage source such as an output from a PLC.

**Primary Applications**
- Hazardous area applications calling for high-decibel output with simultaneous signal delivery over all speakers installed in a system
- Emergency warning systems, plant evacuation alarms, security intrusion alarms, process monitoring, shift start and dismissal horns, and paging signals

**Key Features & Benefits**
- 27 tone capability—No additional tone modules needed
- Centralized programmable tone selection
- PLC compatible
- System-wide priority tone
- 24V DC battery backup terminals
- Short circuit protected

**Certifications and Compliances**
- Class I, Division 2, Groups A, B, C & D
- Class II, Division 2, Groups F & G
- Class III
- UL 464 and 1604 Listed
- cUL C22.2 No. 205
- CE Marked—Cenelec LV & EMC Directives
- NEMA 3R, IP 44

**Materials & Finishes**
- Zinc-cast construction with an epoxy powder coat finish

**Ratings**
- See table below

---

### Ordering Information

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Input Card Activation Voltage</th>
<th>Signal OFF Standby Current (Amps)</th>
<th>Signal ON Operating Current (Amps)</th>
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<tr>
<td>ETH840/247E74</td>
<td>24V DC</td>
<td>24V DC</td>
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<tr>
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<td>24V DC</td>
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<td>1.30</td>
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<td>ETH640/120E36</td>
<td>120V AC, 50/60Hz</td>
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<td>0.36</td>
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<td>0.38</td>
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<td>ETH640/240E20</td>
<td>240V AC, 50/60Hz</td>
<td>24V DC</td>
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<td>0.20</td>
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<td>ETH840/250E10</td>
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<td>24V DC</td>
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<td>0.10</td>
</tr>
<tr>
<td>ETH640/120M31</td>
<td>120V AC, 50/60Hz</td>
<td>120V AC</td>
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<td>0.31</td>
</tr>
<tr>
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<td>240V AC, 50/60Hz</td>
<td>120V AC</td>
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<td>0.20</td>
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<tr>
<td>ETH840/125M20</td>
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<td>0.10</td>
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<td>ETH640/120R31</td>
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<td>RS485</td>
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<td>0.31</td>
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<td>ETH640/240R20</td>
<td>240V AC, 50/60Hz</td>
<td>RS485</td>
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<tr>
<td>ETH840/125R20</td>
<td>125V DC</td>
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<td>0.10</td>
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<td>ETH840/250R10</td>
<td>250V DC</td>
<td>RS485</td>
<td>0.02</td>
<td>0.10</td>
</tr>
</tbody>
</table>

* Flex-Tone Panel Control Signal Generator must be used with Cooper Crouse-Hinds ETH845 Remote Speaker/Amps on page 77.
DIMENSIONS—FLEX-TONE SERIES AUDIBLE SIGNALING DEVICES

Speakers & Tone Generators
The MEDC heat detector has been designed for use in hazardous environments. These units are suitable for fire alarm and/or suppression systems in offshore and onshore applications including paint spray booths, flammable material stores, turbine rooms, extract ductwork and other hazardous areas throughout the oil & gas, petrochemical and process industries.

Comprising a Fenwal rate-compensated detector with all-stainless steel external construction, mounted to either a type SM87 marine grade alloy enclosure (EExd version) or JB10 corrosion-free GRP enclosure (EExia, EExem/UL versions). The contact in the detector CLOSES at alarm temperature.

To select appropriate temperature setting see specification on reverse.

**Primary Applications**
- Compressor turbine/generator skids
- Switchgear or motor control status rooms
- Process tank areas or transmission lines

**Typical Industries**
- Power generation
- Nuclear plants
- Chemical processing
- Upstream/downstream oil & gas

**Certifications & Compliances**
- Zone 0, Zone 1 and Zone 2
- EExia IIC T4/T6, EExd IIB T3/T6 or EExem II T6
- ATEX approved – Ex II 1G (EExia)
  - Ex II 2G (EExd/EExem)
- BASEEFA certified
- UL listed for USA and Canada
  - Class I, Div 2, Groups A, B, C, D
- GOST ‘R’ & ‘K’ certified
- Chinese (CQST) certified
- IP66 & IP67
- Certified temperature:
  - -20°C to +125°C (EExd)*
  - -20°C to +55°C (EExem/UL)
  - -55°C to +55°C (EExia)
- Stainless steel probe
- Detector temperature settings:
  - 60°C to 385°C, (140°F to 725°F)
- Marine grade Alloy or GRP enclosure
- Optional guard
  - *Model dependent
# MEDC Series Heat Detectors — Control & Distribution

## Heat Detector — Explosionproof & Intrinsically Safe

**Certification**
- ATEX, GOST ‘R’ & ‘K’, Chinese
- ATEX Ex II 2G, Exd IIB T6
- ATEX Ex II 2G, Exem II T6
- ATEX Ex II 1G, Exia IIC T6

**Flameproof**
- ATEX Ex II 2G, EExd IIB T6
- ATEX Ex II 2G, EExem II T6
- ATEX Ex II 1G, EExia IIC T6

**Increased Safety**
- 20°C to +125°C (Exd) or 12°C to +125°C (Exem)

**Intrinsically Safe**
- 20°C to +55°C EExd (T6)
- 20°C to +55°C EExem
- 55°C to +55°C EExia

**Certified Ambient Temperature**
- -20°C to +125°C (EExd)
- -20°C to +55°C (EExem)
- -55°C to +55°C (EExia)

**Ingress Protection**
- IP66 & 67

**Material**
- Marine Grade Alloy (EExd)
- Corrosion-free GRP (EExia/EExem)

**Temperature Settings**
- 140°F to 725°F (60°C to 385°C)

**Entries**
- 2 x M20

**Weight**
- 1.1–2.0kg (model dependent)

**Options:**
- Enclosures, color, tag and duty labels, temperature setting

## Compensated Heat Detector with Guard Fitted Natural Black Finish

To select appropriate temperature settings, choose detector at 56°C (100°F) above maximum ambient temperature.

<table>
<thead>
<tr>
<th>Certification</th>
<th>Temperature Setting (°F)</th>
<th>Tolerance (°F)</th>
<th>Color Code</th>
<th>Ordering Code</th>
<th>Catalog #</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC</td>
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<td>60</td>
<td>+7/8</td>
<td>±4</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>71</td>
<td>+7/8</td>
<td>±4</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>190</td>
<td>88</td>
<td>+7/8</td>
<td>±4</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>225</td>
<td>107</td>
<td>+7/8</td>
<td>±4</td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>275</td>
<td>135</td>
<td>±10</td>
<td>±6</td>
<td>Blue</td>
</tr>
<tr>
<td></td>
<td>325</td>
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<tr>
<td></td>
<td>360</td>
<td>182</td>
<td>±10</td>
<td>±6</td>
<td>Red</td>
</tr>
<tr>
<td></td>
<td>450</td>
<td>232</td>
<td>±15</td>
<td>±8</td>
<td>Green</td>
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</table>

<table>
<thead>
<tr>
<th>Certification</th>
<th>Standard Product Configuration</th>
<th>Ordering Code</th>
<th>Catalog #</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX EExd</td>
<td>140°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655607 HD1BD140NG</td>
<td></td>
</tr>
<tr>
<td>ATEX EExd</td>
<td>160°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655602 HD1BD160NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>190°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655603 HD1BD190NG</td>
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<tr>
<td>ATEX EExd</td>
<td>225°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655614 HD1BD225NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>275°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655609 HD1BD275NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>325°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655605 HD1BD325NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>360°F detector, marine grade alloy enclosure, painted gray</td>
<td>46550043 HD1BD360NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>450°F detector, marine grade alloy enclosure, painted gray</td>
<td>4655601 HD1BD450NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>600°F detector, marine grade alloy enclosure, painted gray</td>
<td>46550045 HD1BD600NG</td>
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</tr>
<tr>
<td>ATEX EExd</td>
<td>725°F detector, marine grade alloy enclosure, painted gray</td>
<td>46550104 HD1BD725NG</td>
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</tr>
<tr>
<td>ATEX EExem</td>
<td>140°F detector, GRP enclosure, natural black</td>
<td>46550026 HD1BE140NN</td>
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</tr>
<tr>
<td>ATEX EExem</td>
<td>160°F detector, GRP enclosure, natural black</td>
<td>465301 HD1BE160NN</td>
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<tr>
<td>ATEX EExem</td>
<td>190°F detector, GRP enclosure, natural black</td>
<td>465305 HD1BE190NN</td>
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<tr>
<td>ATEX EExem</td>
<td>225°F detector, GRP enclosure, natural black</td>
<td>465304 HD1BE225NN</td>
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</tr>
<tr>
<td>ATEX EExem</td>
<td>275°F detector, GRP enclosure, natural black</td>
<td>46500031 HD1BE275NN</td>
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<tr>
<td>ATEX EExem</td>
<td>325°F detector, GRP enclosure, natural black</td>
<td>465306 HD1BE325NN</td>
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<tr>
<td>ATEX EExem</td>
<td>360°F detector, GRP enclosure, natural black</td>
<td>46500072 HD1BE360NN</td>
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</tr>
<tr>
<td>ATEX EExem</td>
<td>450°F detector, GRP enclosure, natural black</td>
<td>465303 HD1BE450NN</td>
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</table>
**MEDC Series Heat Detectors—Control & Distribution**

**Specification—HD1 Unit**

Certification: CENELEC EN50014, 19 & 28.
- EExd IB T6 (T3 at +125°C), Cert.No. Baseefa 03ATEX0447.
- EExia IC T6 (T4 with diodes/resistors), Cert. No. Baseefa 03ATEX0427.
- EExem II T6, Cert. No. Baseefa 03ATEX0428.
- UL listed for USA and Canada
  - Class I, Div 2, Groups A, B, C & D.
- UL Listing No. E252920.
- Russian Fire Alarm (VNIIPO) approved.

Material:
- Detector: 316 stainless steel
  - EExia/EExem/UL – GRP (anti-static).
- Stainless steel cover screws.
- Optional Guard: 316 stainless steel.

Finish:
- Detector: Sand blasted.
- Enclosures: EExd – Epoxy painted gray as standard or to customer’s specification.
  - EExia/EExem/UL – Self colored black or epoxy painted to customer’s specification.

Weight:
- EExd, 2kg.
- EExia/EExem/UL, 1.1kg.

Certified:
- Temperature: –20°C to +125°C EExd (T3) ATEX & GOST ‘R’ only.
- Operation: The detector contact is normally open and CLOSES at alarm temperature.

**Temperature Setting**

<table>
<thead>
<tr>
<th>Temperature Setting (°F)</th>
<th>Tolerance (°F)</th>
<th>Color Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>+7/-8</td>
<td>Black</td>
</tr>
<tr>
<td>160</td>
<td>+7/-8</td>
<td>Black</td>
</tr>
<tr>
<td>190</td>
<td>+7/-8</td>
<td>White</td>
</tr>
<tr>
<td>225</td>
<td>+7/-8</td>
<td>White</td>
</tr>
<tr>
<td>275</td>
<td>±10</td>
<td>Blue</td>
</tr>
<tr>
<td>325</td>
<td>±10</td>
<td>Red</td>
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<tr>
<td>360</td>
<td>±10</td>
<td>Red</td>
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<tr>
<td>450</td>
<td>±15</td>
<td>Green</td>
</tr>
<tr>
<td>600</td>
<td>±20</td>
<td>Orange</td>
</tr>
<tr>
<td>725</td>
<td>±25</td>
<td>Orange</td>
</tr>
</tbody>
</table>

**Contact Rating:**
- EExd/EExem/UL: 125V AC – 5A, 125V DC – 0.5A, 48V DC – 1A. EExia: 30V – 300mA.
- Terminals: 6 x 4mm² (BK6).
- Labels: Optional stainless steel tag and duty labels.
- Cable Entries: 2 x M20 ISO (ATEX/EEx/EExi versions) 2 x ½” NPT via adaptors (UL version).
- Resistor: Series & EOL resistor (maximum total 2) minimum value (each) 470Ω – only available Exd & Exi versions.
- Diodes: Up to 2 off available in Exd, Exi & UL versions—contact sales office.

**Ordering Requirements**

The following code is designed to help in the selection of the correct unit. Build up the reference number by inserting the code for each component in the appropriate box.

<table>
<thead>
<tr>
<th>Model</th>
<th>Certification</th>
<th>Type</th>
<th>Temp. Settings</th>
<th>Options</th>
<th>Enclosure Finish</th>
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<tbody>
<tr>
<td>HD1</td>
<td>ATEX B</td>
<td>Exd D</td>
<td>140</td>
<td>Natural Black (EExd/EExi/UL only) N</td>
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<tr>
<td></td>
<td>UL listed UL</td>
<td>Exi I</td>
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<tr>
<td></td>
<td></td>
<td>UL U*</td>
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<td></td>
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<td></td>
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<td>325</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>360</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>450</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diode Polarized Technology: Also known as supervisory diode circuit for use in fire alarm applications or other critical warning requirements such as industrial hazards and process control emergency indication. Units with a supervisory diode typically have four wires.

In fire alarm technology, when a fire-initiating device such as a smoke alarm is activated, circuit resistance on the initiating circuit goes to zero. The fire alarm panel goes into alarm mode when it senses the resistance at zero. See diagram below.

With the fire alarm panel in alarm mode, voltage polarity is reversed (under normal operation the diode is reversed biased blocking voltage) on the circuit powering the notification device or strobe light. The strobe light is activated (diode is now forward biased allowing voltage through) when it senses a change in polarity. All NFPA approval visual indication for fire alarm must use a clear lens.

**Terms used in fire alarm circuits**
Initiating Device Circuits (IDC) connect the fire alarm panel to the system components that detect the fire. System components such as smoke detectors, manual pull stations, and water flow switches.

Appliance Circuits connect the fire alarm panel to the signaling devices such as strobe lights, bells, horns and speakers that alert building occupants of a fire.
INTRODUCTION
The installation of fire alarm system wiring is similar in many respects to any other low-voltage system wiring. Because the nature of the system affects life and property, additional measures are required during installation to ensure the system is operational at all times. The most sophisticated of control panels will not operate properly if the field wiring is installed incorrectly. It is the goal of this section to explain why correctly installed field wiring is vital in the operation of a fire alarm system, and how to recognize proper and improper installations. The process requires four basic steps: SELECT the proper cable for the application; INSTALL the cable properly; TEST the cable to make sure it is free of shorts, opens, and ground faults; and TERMINATE the cable properly.

BASIC CIRCUIT SUPERVISION
There are two types of circuit supervision widely used in fire alarm systems today. Direct Current (DC) continuity supervision is used extensively on small systems. Large fire alarm systems use sophisticated electronic multiplex circuitry and “electronic questions and answers” to supervise field wiring and devices.

Figure 1 shows a simplified fire alarm panel supervising a single Initiating Device Circuit or zone using Direct Current (DC) continuity supervision. The supervisory current from the battery flows through terminal #1, the field wiring, the EOL resistor, terminal #2 of the control panel through a second resistor, and returns to the battery. The internal resistor and EOL resistor have equal resistance values. The voltage at the zone test point is measured by voltage sensing circuits. As long as the supervisory current flows through the EOL resistor, the voltage at is one half the supply voltage and the voltage sense circuitry generates a normal panel response.

Figure 2 shows when a smoke detector or pull station operates, it effectively puts a short across terminals #1 and #2. This brings the zone test point voltage up to the supply voltage. When the voltage sense circuitry sees the voltage sense circuitry generates an alarm response, such as ringing a bell.

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Figure 3 shows should the field wiring open, the supervisory current no longer flows through the field wiring and EOL resistor and $V_z$ goes to zero. When the voltage sense circuitry sees $V_z = 0$, it generates a trouble response, such as sounding the trouble buzzer.

Figure 4 shows an improperly wired Initiating Device Circuit. Because the supervisory current is not forced to flow through the top and bottom branches, the break in the top branch doesn’t interrupt the supervisory current, and there is no indication of the trouble. Should the top device detect a fire, the signal would never reach the control panel. Note that the lower device would send a fire alarm signal but would not send a trouble signal to the fire alarm panel, a classic symptom of miswiring.

Large multiplex systems use sophisticated electronics that employ a system of "electronic questions and answers" to verify circuit viability. The control panel knows the “names” of all the devices that should be connected to it. After asking a “question” of each name or device on its list, the control panel must receive an answer from that device only. Failure to receive the proper answer causes the panel to generate a trouble signal. Because multiplex systems do not depend on the wiring path for supervision, some multiplex systems permit limited branch wiring or T-taps.
When using decibels, to double the loudness you only have to add 3 dB. For example, if a signal is rated at 85 dB at 10 feet, then a signal twice as powerful would be rated at 88 dB at 10 feet. The table below illustrates how the sound pressure level changes with distance under good conditions.

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Things to consider when specifying audible signals.

1. Define the function of the signal: For example, general alarm, emergency, shift dismissal, paging, and process indication.
2. Uniform sound distribution: A larger number of smaller devices evenly distributed throughout the signaling area are better than a single large/loud device.
3. Ambient Sound: The signal should exceed the surrounding ambient noise by 6 decibels.
4. Size of the area: Common sense applies here, the larger the area, the louder the signal required and/or the greater the number of signaling devices required.
5. Mounting: As with all our products, consider mounting constraints and choose a suitable device and mount. Horns and speakers perform best when rigidly mounted to the structure.
**Glossary and Explanations:**

**Candela Seconds:** Actual light energy contained in a pulse of light. Used to specify the minimum requirements for light output from a flashing light. Candela seconds is a relative measure of how bright a flash of light will appear to a human eye. (Candela: The intensity base unit for light.) Candela seconds and candela effective (below) are the primary metrics by which to compare flashing warning lights.

**Candela Effective or Effective Candlepower:** Equates the brightness of a flashing light source to the brightness of a steady burning source. If a flashing light has a candela effective rating of 100 then it will be visible at the same distance as a 100 candela steady burning source. Candela effective is used in specifying intensities of flashing light sources because it compares flashing warning lights with steady burning light sources.

**Peak Candela or Peak Candlepower:** The maximum light intensity generated by a flashing light during its light pulse.

**Strobe, Principle of Operation:** A strobe light consists of a xenon strobe lamp, power supply, energy storage capacitor and a trigger circuit.

The strobe bulb consists of a glass tube that has an electrode at either end called an anode (+) and cathode (-). The tube is filled with xenon gas and a trigger element is applied to the outside of the bulb. The trigger element could be a wire wrapped around the tube, a conductive paint stripe along one side of the glass bulb or clear conductive coating over the outside of the tube.

The power supply charges a large capacitor with the voltage needed to “strike” the bulb and is applied to the anode and cathode. The voltage is generally between 200 and 500 VDC depending on the design of the light.

The trigger circuit applies 7,000 to 10,000 volts (low current) to the trigger element of the bulb causing the xenon gas to ionize and discharge the capacitor.

The energy excites the xenon gas and produces a very short burst of high intensity white light.

**Watts (Power):** joules x flash rate

\[
\text{Joules} = \frac{\text{Watts}}{\text{Flash Rate}}
\]

\[
\text{Joules} = \frac{(\text{Capacitance in Microfarads}) \cdot \left( \frac{\text{lamp voltage}^2}{1000} \right)}{2}
\]

**Things that impact light output:**

- Physical shape of the strobe lamp and arrangement within lens
- Efficiency of the strobe lamp—its ability to turn electricity into a bright white light
- Color of the lens
- Size and efficiency of the lens
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Visual and Audible Signaling Products
For Harsh and Hazardous Areas

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