The safety you rely on
Delivering proven solutions for harsh and hazardous environments
Explosion-proof & hazardous location solutions

• Process shutdown
• Alarm and emergency signaling
• Condition signaling
• Security alert
• Equipment obstruction warning
• Individual building notification
• General alarm
• System status/general warning
A best-in-class partner

When you are working on a project, you need a partner that can provide you with proven reliability and expertise, tried-and-tested products and support. Eaton offers a comprehensive range of innovative industrial signaling solutions designed for potentially explosive atmospheres and harsh industrial and marine environments.

Proven solutions for harsh and hazardous environments
MEDC signaling products, part of Eaton’s Crouse-Hinds series, are specifically designed for harsh environmental conditions and where there is a risk of explosion due to the presence of flammable atmospheres both offshore and onshore. The extensive range of manual, visual, audible alarms and loudspeakers has been developed in close collaboration with customers to deliver the best combination of performance and safety. Meeting a multitude of standards, our products provide a vast array of solutions for industries including oil & gas, petrochemical, marine and mining.

Technical solutions and superior performance
MEDC products utilize glass reinforced polyester (GRP) in explosion-proof products to deliver solutions with reduced maintenance, extended lifetime and lower cost of ownership. Our MEDC products have a long heritage as the most reliable and highly respected alarms and loudspeakers serving the Oil & Gas industry.

Extensive quality certifications include ATEX, CQST, UL, ULC, CSA, GOST R, GOST K, IECEx and Inmetro.

- Broad line of harsh and hazardous signaling, alarm and communication products available to maximize safety and standardization
- 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

Our hazardous area signaling products include:
- Manual alarm call points—designed for the purpose of raising an alarm manually by operating the push button or by breaking the glass
- Strobes—including flashing, steady-state indicators and rotating units
- Sounders and horns—featuring a variety of tone settings, voice messaging or traditional bells
- Speakers—featuring heavy duty, industrial design to meet the requirements for public address, voice evacuation and background music
Strobes & warning lights

Range of signals for warning of potential hazards, indication of plant item status, gas and oil leaks, evacuation alerts and other items in explosive areas

SM87HXB Strobe
- LM25 TF Marine Grade Alloy
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4-wire monitored connection
- 24 VDC, 48 VDC, 110 VAC, 120 VAC, 230 VAC, 240 VAC, 254 VAC
- UL listed for US and Canada for Class I, Div 1, Groups C & D and Class I, Zone 1, AExd IIB; cUL; CSA Certified

XB11 Strobe
- Corrosion-free GRP
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4-wire monitored connection
- 24 VDC, 48 VDC, 110 VAC, 120 VAC, 230 VAC, 240 VAC
- UL listed for US and Canada for Class I, Div 2, Groups C&D and Class I, Zones 1 and 2, AExd IIB T4/T5

XB12 Strobe
- Corrosion-free GRP
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4-wire monitored connection
- 24 VDC, 110–240 VAC
- UL listed for US and Canada for Class I, Div 2, Groups C&D and Class I, Zones 1 and 2, AExd IIB T4/T5

XB15 Strobe
- Corrosion-free GRP
- 330cd (AC); 382cd (DC)
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4 wire monitored connection
- 24 VDC, 48 VDC, 110 VAC, 120 VAC, 230 VAC, 240 VAC, 254 VAC
- UL listed for US and Canada for Class I, Div 1, Groups C & D and Class I, Zone 1, AExd IIB; cUL; CSA Certified

XB16 Warning Light
- Corrosion-free GRP
- Listed strobes for use in harsh environments
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4 wire monitored connection
- 24 VDC, 48 VDC, 110 VAC, 120 VAC, 230 VAC, 240 VAC, 254 VAC
- UL listed for US and Canada for Class I, Div 2, Groups C&D and Class I, Zones 1 and 2, AExd IIB T4/T5
- UL 1971 version available

XB4 Strobe
- Alloy or Stainless Steel
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- 4 wire monitored connection
- 24VDC, 110 VAC, 240 VAC
- UL listed for US and Canada for Class I, Div 1, Groups C&D, Class I, Zone 1, AExd IIB T4

*Not applicable for Canada
Horns, speakers, and call points

Variety of speakers and horns used to warn of potentially dangerous situations or to relay instructions and call points designed for the purpose of raising an alarm.

**PB Call Points**

- Manual Alarm Call Points designed for hazardous locations
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -67°F to 158°F
- In line and end of line resistors fitted
- Glass Reinforced Polyester (GRP)
- UL listed for Class I, Div 1, Groups C&D; NFPA 72 Compliant

**SM87PBL Call Point**

- Call Point designed for arduous environmental conditions
- Easy to install and maintain
- NEMA 4x & 6, IP66 & 67
- Certified temperature: -13°F to 131°F
- UL Listed for Class I, Div 1, Group C&D, Class I, Zone 1; CSA Certified

**DB1 Horn**

- Flameproof horns
- NEMA 4x, IP66
- Up to 103 dBA output @ 10 ft
- Certified temperature: -13°F to 158°F
- 27 output tones, user selectable
- UL listed for Class I, Div 1, Groups C&D; NFPA 72 Compliant

**DB3B Horn**

- Glass Reinforced Polyester (GRP) with high-impact thermoplastic polyester
- Integral volume control
- NEMA 4x, IP66 & 67
- Up to 115 dB output @ 10 ft.
- Certified temperature: -67°F to 158°F
- 28 Tones, user selectable
- UL listed for US and Canada for Class I, Div 2, Groups A-D, Class I, Zone 1, Ex d IIC, Class II, Div 2, Groups F and G, Zone 21, AEx tb IIIC, Class III, Div 1

**DB4B Speaker**

- Corrosion resistant GRP
- NEMA 4x & 6, IP66 & 67
- 117 dB at 25 watts @ 10 ft, depending on version
- 8, 15, and 25 watt versions
- Power tappings, via integral transformer
- Certified temperature: -67°F to 158°F
- UL, listed for US and Canada or Class I, Div 2, Groups A-D, Class I, Zone 1, Class II, Div 2, Groups F and G, Zone 21, AEx tb IIIC, Class III, Div 1
**Hazardous area guide**

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.

**Definition:**
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. Where electrical equipment has to be used in these areas, it must be so designed and constructed such that it does not create sources of ignition capable of igniting these mixtures.

**Area classification:**
Process 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>Definition of zone or division</th>
<th>North American classification</th>
<th>European &amp; IEC classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>An area in which an explosive mixture is continuously present or present for long periods</td>
<td>Class I Division 1 (gases)</td>
<td>Zone 0 (gases)</td>
</tr>
<tr>
<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>
<td>Zone 1 (gases), Zone 21 (dusts)</td>
</tr>
<tr>
<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 (fibres), Class III Division 2 (fibres)</td>
<td>Zone 2 (gases), Zone 22 (dusts)</td>
</tr>
</tbody>
</table>

**Gas groups (plus dusts and fibers):**

- **Group I (Mining only)** – concerned only with underground mining where methane and coal dust are present

- **Group II (Surface Industries)** – 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>North American Gas Group</th>
<th>European &amp; IEC Gas Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methane</td>
<td>–</td>
<td>I</td>
</tr>
<tr>
<td>Acetylene</td>
<td>A</td>
<td>IIC</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>B</td>
<td>IIC</td>
</tr>
<tr>
<td>Ethylene</td>
<td>C</td>
<td>IIIB</td>
</tr>
<tr>
<td>Propane</td>
<td>D</td>
<td>II A</td>
</tr>
<tr>
<td>Metal dust</td>
<td>E</td>
<td>–</td>
</tr>
<tr>
<td>Coal dust</td>
<td>F</td>
<td>–</td>
</tr>
<tr>
<td>Grain dust</td>
<td>G</td>
<td>–</td>
</tr>
</tbody>
</table>
Product information & certifications

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 55mm (e.g., hands)</td>
<td>1 = Protected against vertically falling drops of water</td>
</tr>
<tr>
<td>2 = Protected against solid objects up to 12 mm (e.g., fingers)</td>
<td>2 = Protected against water spray up to 15° 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° 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 immersion between 15cm and 1m in depth</td>
</tr>
<tr>
<td>8 = Protected against long immersion under pressure</td>
<td>8 = Protected against long immersion under pressure</td>
</tr>
</tbody>
</table>

NEMA standards:

North American practice is to use NEMA standards to describe ingress protection.

- 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

North American certification:

MEDC equipment is tested in accordance with the relevant standards for explosion protection and also for general electrical requirements. After successful testing, a listing is issued and 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). Refer to individual product specifications sheets for complete approval listings.

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
- UL464 — audible signal appliances
- ULC S525-99 — audible signal devices for fire alarm systems
- UL38 — manual signaling boxes for fire alarm systems
- CAN/ULC S58-M91 — standard for manual pull stations for fire alarm systems
- CSA C22.2 No. 30-M1986 — explosion-proof enclosures for use in Class I locations
- CSA C22.2 No. 25-1966 — explosion-proof enclosures for use in Class II Groups E, F and G hazardous location

Ordering Information:

<table>
<thead>
<tr>
<th>Model number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horns</td>
<td></td>
</tr>
<tr>
<td>DB1HPULA024D1D2NNNR</td>
<td>24VDC, 100dBA, CL 1 DIV 1, RD</td>
</tr>
<tr>
<td>DB1PULA024D1D2NNNR</td>
<td>24VDC, 93dBA, CL 1 DIV 1, RD</td>
</tr>
<tr>
<td>DB3BULG048N2CPNR</td>
<td>48 VDC, 115 dBA, CL 1 DIV 2, RD</td>
</tr>
<tr>
<td>DB3BULG120N2CPNR</td>
<td>110 VAC, 115 dBA, CL 1 DIV 2, RD</td>
</tr>
<tr>
<td>Speakers</td>
<td></td>
</tr>
<tr>
<td>DB4BULG1570N2CPCR</td>
<td>70 VRMS, 15W TRANSFORMER, CL 1 DIV 2, RD, 1.5 μF cap</td>
</tr>
<tr>
<td>DB4BULG2570N2CPCR</td>
<td>70 VRMS, 25W TRANSFORMER, CL 1 DIV 2, RD, 1.5 μF cap</td>
</tr>
<tr>
<td>Strobes</td>
<td></td>
</tr>
<tr>
<td>XB16UL02460RYNNZ</td>
<td>STRB, RED LENS, 24VDC, 295CD, CL 1 DIV 2, BLK</td>
</tr>
<tr>
<td>XB16US02460CYNRZ</td>
<td>STRB, CLEAR LENS, UL 1971, 24VDC, 295CD, CL 1 DIV 2, RD</td>
</tr>
</tbody>
</table>

Additional custom models available. Contact your local sales representative for more information. For details on availability, contact our Customer Service Representatives at 800-631-2148.