Main Catalogue

MEDC

Introducing Eaton's Crouse-Hinds Business

World Class Manufacturers of alarm, signalling, control and notification products for use in hazardous and industrial areas.

Crouse-Hinds
by EATON



Shell – Kittiwake photographic services / Shell International

Statoil – Norne FPSO – Kenneth Engelsvold/Statoil

The safety you rely on.

Delivering proven solutions for harsh and hazardous environments

Only MEDC can deliver...

- An unrivalled range of made to order products designed to protect the safety of people and assets around the world
- Industry leading innovation and product efficiency
- Product solutions designed and certified for global specifications
- Best-in-class, global sales, and customer service teams that provide local support

The Eaton advantage.






Crouse-Hinds remains the brand that stands for safety in the harshest of environments when power management is most critical. While it all began with the Condulet®, the Crouse-Hinds brand has grown into the premier name for a comprehensive portfolio of solutions for high consequence harsh and hazardous environments.

And now, the next phase in the evolution of the brand you trust: Crouse-Hinds joins the leading Eaton portfolio of reliable, client and safe electrical power management solutions.

More protection. More technology.
Expect more.

Crouse-Hinds
by EATON

Crouse-Hinds by EATON

Contents

Hazardous Area Communications

MEDC

Since 1975, the Oil and Gas industry has relied on MEDC's highly respected signalling and alarm products. Designed for potentially explosive atmospheres and harsh industrial and marine environments, MEDC offers a comprehensive range of innovative notification solutions.

HERNIS

HERNIS is a world leading brand for high quality, durable and low maintenance Closed Circuit Television Systems. Characterized by low installation and maintenance costs and unrivalled durability, the systems are tailor made for hazardous and corrosive environments providing safety to both people and equipment.

GITIESSE

Gitiesse is the creator of IMCOS™, Integrated Multimedia Communication System. Each system is tailor made for your requirements. Gitiesse is a global brand in the Marine and Oil and Gas industries offering integrated solutions for internal communications.

FHF

Since 1897 engineers, end users and employees in a wide range of industries rely on the trend-setting products from FHF. Decades of experience in the fields of industrial communication and signalling backed up with the continuous drive for improvement and innovation, lead to products which are considered as class leading worldwide.

For more information please visit: **www.cooperhac.com**

Crouse-Hinds
by EATON

About us

Shell - Shearwater - Photographic Services/Shell International

Crouse-Hinds by Eaton

As the electrical industry's global leader for explosion proof and hazardous environments, we're constantly pushing forward and looking ahead, advancing electrical and instrumentation products in new and innovative ways.

With roots that date back over a hundred years, Crouse Hinds is a forerunner in technology and innovation, providing solutions to prestigious projects around the world. Using cutting edge techniques and state of the art technology, we design and develop products that not only meet, but exceed efficiency and legislative requirements, offering end users enhanced productivity, reduced operating costs and improved quality.

We do this with a singular goal in mind - Enhancing Safety and Productivity throughout your operation. It's all fuelled by a fierce dedication to providing

- World Class Reliability
- Global Solutions and Support
- Intelligence and Expertise
- Industry Leading Innovation

This philosophy is at the core of every product we develop and every solution we engineer.

MEDC

Part of Eaton's Crouse-hinds division, MEDC have been designers and manufacturers of signalling, communication and alarm equipment since 1975, The extensive range of manual alarm call points, loudspeakers, visual & audible alarms are part of a comprehensive portfolio including custom-made solutions which has been developed in close collaboration with our customers to deliver the best combination of performance and safety in order to meet the demands of exacting international standards.

Through its global presence, technical sales force and engineering experts, MEDC is dedicated to maximising personnel and equipment safety by meeting the demanding requirements of a multitude of industries, including explosive atmospheres, harsh industrial and marine environments.

Service
that won't let you down

Statoil – Statfjord B - Harald Petterson/Statoil

Statoil – Mongstad - Helge Hansen/Statoil

Standing behind every major project is an experienced team. From the engineers at the drawing board to the construction team on the ground, we work as partners at all levels to deliver technical, integrated solutions and logistical support at every stage of a project. With manufacturing and distribution locations worldwide and global technical sales and engineering teams, you can rely on our global expertise, locally

BP – West Azeri Platform - © BP Plc

Technical solutions and superior performance

The oil and gas industry counts on MEDC for the most reliable and highly respected alarms and loudspeakers in the industry. Extensive quality certifications include ATEX, CQST, UL, ULC, CSA, CUTR, IECEx, CCCF and INMETRO demonstrate our commitment to maintaining our leadership position in the market.

MEDC pioneered the use of glass reinforced polyester (GRP) in explosion proof products to deliver solutions with reduced maintenance, extended lifetime and lower cost of ownership, and leads the market in 316 stainless steel signalling products.

Expertise
built on experience

With an enviable reputation for quality and performance, MEDC has become the partner of choice for many companies operating in demanding environments. Our expert approach to meeting the needs of our customers has helped us to play a pivotal role in many highly successful and prestigious projects around the world.

MEDC prides itself on working with some of the largest companies associated with the oil, gas and petrochemical industries. With an extensive project and reference list we are positioned to deliver the right product for the right application within our market.

BP – Trans-Alaska Pipeline - © BP Plc

Shell –Pearl - Photographic Services/Shell International

Electrical equipment in potentially explosive atmospheres

Introduction

Potentially Explosive Atmospheres exist where there is a risk of explosion due to mixtures of gas/air, vapour/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 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.

MEDC have been designing and manufacturing electrical equipment suitable for use in potentially explosive atmospheres since 1975. We deal with all the major testing and certification authorities throughout the world and have a diverse range of internationally approved products.

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.

European & IEC Classification	Definition of zone or division	North American Classification
Zone 0 (gases) Zone 20 (dusts)	An area in which an explosive mixture is continuously present or present for long periods	Class I Division 1 (gases) Class II Division 1 (dusts)
Zone 1 (gases) Zone 21 (dusts)	An area in which an explosive mixture is likely to occur in normal operation	Class I Division 1 (gases) Class II Division 1 (dusts)
Zone 2 (gases) Zone 22 (dusts)	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	Class I Division 2 (gases) Class II Division 2 (dusts) Class III Division 1 (fibres) Class III Division 2 (fibres)

Gas & Dust Groups

There are two main gas groups, Group I - Mining only, Group II - Surface Industries and one combustible dust group - Group III. 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 & Group III gases and dusts 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 and dusts.

Typical gas/material	European/I.E.C. Gas & Dust Group	North American Gas & Dust Group
Methane	I	-
Acetylene	IIC	A
Hydrogen	IIC	B
Ethylene	IIB	C
Propane	IIA	D
Metal dust	-	E
Coal dust	-	F
Grain dust	-	G
Combustible Flyings	IIIA	-
Non Conductive Dust	IIIB	-
Combustible Dust	IIIC	-

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.

Many MEDC products are certified for use in ambient temperatures up to 70 degrees Centigrade, see individual data sheets for details.

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

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

Types of Electrical Equipment Suitable for use in Potentially Explosive Atmospheres

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 :	**European** Area of use Designation Standard	**IEC** Area of use Designation Standard	**USA** Area of use Designation Standard
Flameproof Enclosure – An enclosure used to house electrical equipment, which when subjected to an internal explosion will not ignite a surrounding explosive atmosphere.	**Zones 1 & 2** Exd EN60079-1	**Zones 1 & 2** Exd IEC60079-1	**Class I** **Divisions 1 & 2** UL1203
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.	**Zones 0,1 & 2** Exi EN60079-11	**Zones 1 & 2** Exi IEC60079-11	**Class I** **Divisions 1 & 2** UL913
Increased Safety – This equipment is so designed as to eliminate sparks and hot surfaces capable of igniting an explosive atmosphere.	**Zones 1 & 2** Exe EN60079-7	**Zones 1 & 2** Exe IEC60079-7	-
Purged and Pressurised – 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 energisation.	**Zones 1 & 2** Exp EN60079-2	**Zones 1 & 2** Exp IEC60079-2	**Class I** **Divisions 1 & 2** NFPA496
Encapsulation – A method of exclusion of the explosive atmosphere by fully encapsulating the electrical components in an approved material.	**Zones 1 & 2** Exm EN60079-18	**Zones 1 & 2** Exm IEC60079-18	-
Oil Immersion – The electrical components are immersed in oil, thus excluding the explosive atmosphere from any sparks or hot surfaces.	**Zones 1 & 2** EExo EN60079-6	**Zones 1 & 2** Exo IEC60079-6	**Class I** **Divisions 1 & 2** UL698
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.	**Zones 1 & 2** EExq EN60079-5	**Zones 1 & 2** Exq IEC60079-5	-
Non-sparking – Sparking contacts are sealed against ingress of the surrounding atmosphere, hot surfaces are eliminated.	**Zones 1 & 2** Exn EN60079-15	**Zones 1 & 2** Exn IEC60079-15	-

Selection, Installation and Maintenance of Electrical Equipment Intended for use in Potentially Explosive Atmospheres

International and national standards are published giving details of requirements for the safe use of Electrical Equipment in Potentially Explosive Atmospheres as follows :

	International	Europe	U.S.A.
General Recommendations	IEC60079-14	EN60079-14	N.E.C. Chapter 5
Classification of Hazardous Areas	IEC60079-10	EN60079-10	N.E.C. Chapter 5
Inspection and Maintenance of Electrical Equipment	IEC60079-17	EN60079-17	-
Requirements for Flameproof Enclosures	IEC60079-14	EN60079-14	N.E.C. Chapter 5
Requirements for Intrinsically Safe Equipment	IEC60079-14	EN60079-14	N.E.C. Chapter 5
Requirements for Increased Safety Equipment	IEC60079-14	EN60079-14	N.E.C. Chapter 5
Requirements for Purged and Pressurised Equipment	IEC60079-14	EN60079-14	N.E.C. Chapter 5
Requirements for Non-Sparking Equipment	IEC60079-14	EN60079-14	-

MEDC recommends all Explosion-proof 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 issue 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 items such as gearboxes will have to carry ATEX certification.

The equipment coding signifying compliance with ATEX is as follows:

 II2GD i.e.

 – Explosion proof 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 – 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 the area of use e.g. Class 1 Division 1.

World Wide Approval

The objective of the IECEx System is to facilitate international trade in equipment and services for use in explosive atmospheres, while maintaining the required level of safety.

The IECEx and ATEX standards have been technically identical since 2006. IECEx is internationally recognised and accepted worldwide, ATEX is recognised across Europe and is a mandatory requirement in the EEC.

Equipment certified under the IECEx system (and equivalent ATEX standards) carry the following coding:

Gb

Db

Where:

Ga - Suitable for Zone 0

Gb - Suitable for use in a Zone 1 surface industries area in the presence of gas

Gc - Suitable for Zone 2

Da - Suitable for Zone 20

Db - Suitable for use in a Zone 21 surface industries area in the presence of dust

Dc - Suitable for Zone 22

Ingress Protection

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

IP □ □

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

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

NEMA 3 is similar to IP55

NEMA 4 is similar to IP66

NEMA 4x is similar to IP66

NEMA 6 is similar to IP67

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

Certification in Brazil (Inmetro) and China is usually based on compliance with IEC international standards.

The Russian Federation and Kazakhstan certify equipment to CUTR standards, which closely follow IEC practice.*

In Russia, certain products used in fire alarm systems may be required to carry the Russian Fire Approval. Note that not all MEDC products that have been certified to CUTR are also Russian Fire Approval Certified as standard. Check specification on technical data sheets before ordering.

*Note: There is an important change to the Ex certification system for Russia and Kazakhstan. The previous GOST R and GOST K certificates for Russia and Kazakhstan are no longer being renewed, but are instead being replaced by CUTR certification. The new certification will be applicable in Russia, Kazakhstan and Belarus, these 3 countries have formed a customs union. All MEDC products previously certified to GOST R and GOST K standards, now have CUTR certification.

Manual Alarm Call Points

MEDC provide a range of manual alarm call points specifically designed for the purpose of raising an alarm in the case of an emergency in a hazardous area.

The call points can be made from a selection of materials depending on project specification, including glass reinforced polyester (GRP), a light weight and corrosion free material, allowing easy installation and low maintenance cost, and stainless steel, a heavy duty, long wearing material with an increased life span.

All of MEDC's call points have an IP rating of 66/67 and can be certified to one of our worldwide accreditations, including ATEX and IECEx. There are also options for the inclusion of LED status indicators and addressable location (or address) within the unit and many can be painted a variety of colours to the customer's specification.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Manual Alarm Call Points												
SM87 PB	■	■	■	■	■	■	■	■		■	66 / 67	14
SM87 BG	■	■	■		■	■	■	■			66 / 67	14
PH1	■	■	■								66 / 67	16
PB	■	■	■		■	■	■	■	■	■	66 / 67	18
BG	■	■	■			■	■	■	■	■	66 / 67	20
BG2	■										66 / 67	22
BG3	■							■			66 / 67	24

SM87 PB

SM87 BG

PH1

PB


BG

BG2


BG3

Crouse-Hinds by EATON

Ex d, Intrinsically Safe (Ex ia), Weatherproof

Introduction

These manual fire alarm, emergency shutdown break-glass and pushbutton units have been designed for the most arduous environmental conditions. The units are both easy to install and maintain. Intrinsically safe Ex ia and flameproof Ex d versions of each model are available.

A choice of either stainless steel or alloy makes the range suitable for either the offshore or onshore industries. Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 0, Zone 1 and Zone 2 use*.
- Ex d IIC T5/T6 or Ex ia IIC T4.
- ATEX approved, Ex II 1G (Ex ia) Ex II 2GD (Ex d).
- BASEEFA certified.
- UL listed for USA and Canada (PB only), Class I, Div 1, Groups C & D.
- ULC certified for Class I, Zone 1 Groups C & D.
- CSA certified.
- IECEx certified Gb, Db.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- SIL 2 certified. (SM87 PB only).
- IP66 and IP67.
- Certified temperature: –55°C to +70°C*.
- Stainless steel or marine grade alloy.
- Robust yet lightweight.
- Easy to maintain.

**Model dependent.*

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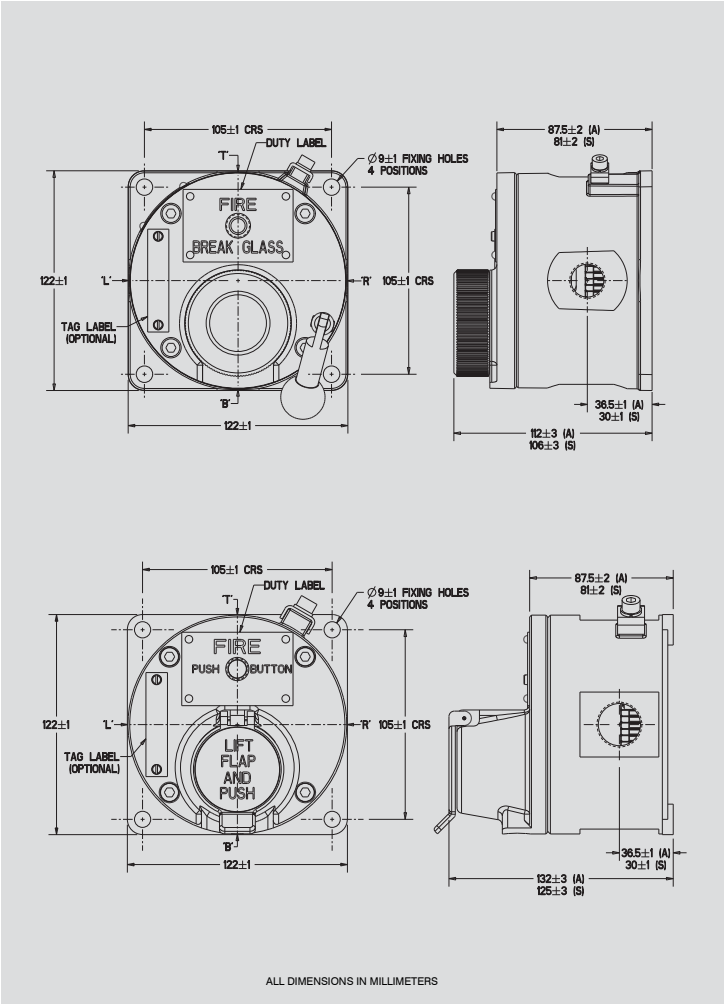
Certification and Specification

ATEX Ex d:	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex d IIC T5/T6 Gb, Ex tb IIIC T85ºC/T100ºC Db. IP66/IP67.
ATEX Ex ia:	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1G. Certified to: EN60079-0, EN60079-11, EN60079-26. Ex ia IIC T4 Ga.
IECEx Ex d:	Cert. no. IECEx BAS 09.0060. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100ºC Db. IP66/IP67.
IECEx Ex ia:	Cert. no. IECEx BAS 10.0033X. Certified to: IEC60079-0, IEC60079-11, IEC60079-26. Ex ia IIC T4 Ga.
UL:	Listing no. E186629. UL listed to Class 1, Div 1. Groups C & D. (SM87PBL).
ULC:	Cert. no. 20091023-E320282. ULC certified for Class I, Zone 1 Groups C & D.
CSA Ex d:	Class 1, Div 1 & 2. Group D.
CSA Ex ia:	Class 1, Div 1 & 2. Groups A-D.
CUTR Ex d: ‡	1Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100ºC Db. IP66/IP67. Russian Fire Approved.
CUTR Ex ia: ‡	0Ex ia IIC T4 Ga. Russian Fire Approved.
Inmetro Ex d:	Ex d IIC T5/T6 Gb.
Inmetro Ex ia:	Ex ia IIC T4 Ga.
CQST Exd:	Exd IICT85ºC/T100ºC.
CQST Exia:	Exia IIC T4.
SIL:	PB only - SIL2 Certification to IEC61508. Cert. No. FSP1404
Material:	Grade 316 ANC4B Stainless Steel or LM 25 TF Marine Grade Alloy.
Finish:	Paint finish as standard or to customer specification.
Voltage:	Exd 24V a.c./d.c. Exia 28V.
Rating:	2 amp.
Switches	2 pole c/o, wired to terminals. Optional up to 4 pole (UL version 2 pole only).
Optional Indicator:	A red high intensity LED can be fitted for alarm indication.
Certified Temp:	Exd* –55ºC to +70ºC. Exi* –55ºC to +60ºC. –20ºC to +55ºC (LED version only). UL –40ºC to +70ºC, –20ºC to +55ºC (LED version only). CSA –50ºC to +55ºC (Exd), –50ºC to +40ºC (Exi). *Note: includes ATEX, IECEx, CUTR, Brazilian & Chinese versions.
Weight:	3·8 kg. steel (approx.) or 2.5 kg. alloy (approx).
Ingress Protection:	IP66 and IP67. SM87 PB IP68 (35m for 40 hours).
Entries:	Up to 4 x M20 or M25 ISO Ex d/Ex ia. Up to 4 x 1/2" or 3/4" NPT UL.
Terminals:	Will accept up to 2·5mm² cable.
Resistor Values:	470R minimum (d.c. & I.S. units only).



Both the Exia units and the Exd units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification.

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: SM87

Model

*Model	Code
Breakglass Latching	BGL
Lift Flap Breakglass Latching	LBGL
Push Button Latching key reset	PBL
Push Button Only Momentary Action	PBM

* UL version only available in PBL model.

Material

*Material	Code
Stainless Steel	S
Alloy	A

* UL version only available in Alloy.

Certification

Certification	Code
Ex ia	I
Ex d	D
IECEx Ex i	IJ
IECEx Ex d	DJ
UL	UL
ULC	UC
CSA – Ex i	IC
CSA – Ex d	DC
CUTR Ex i	IG
CUTR Ex d	DG
Chinese Ex i	IQ†
Chinese Ex d	DQ†
Inmetro Ex i	IM
Inmetro Ex d	DM

* Russian Fire Approval as standard.
† Not suitable for use in China on fire alarm systems.

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Other	5
Position	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with size code i.e. 1T 1B = 20mm Top and Bottom.

Duty Label

Duty Label	Code
Fire-Breakglass	1
Push Button	2
Fire-Push Button	3
ESDO-Abandon	4
Other	O*
None	N

* Please specify.

Tag Label

Label	Code
Required	Y*
Not Required	N

* Please specify.

Options

Options	Code
Not required	N
LED	A
Resistor Series	G*
Resistor EOL	H*
Diode	D*
3 Pole c/o Switch	T
4 Pole c/o Switch	F

* Please specify.

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Yellow/ Black Stripes	X
Special	S*

* Please specify.

Crouse-Hinds by EATON

Exd, UL Hazardous & Ordinary Locations

UL Class I, Division 1 Unit.

UL Class I, Division 2, UL Ord. Locs, ATEX/IECEx Unit.

Introduction

The PH1 double action pull handle call point has been designed for use in flammable atmospheres and harsh environmental conditions. The GRP enclosure is suitable for use offshore or onshore where light weight combined with a high level of corrosion resistance is required.

The large “Lift” and “Pull” GRP handles can be operated effortlessly whilst wearing industrial gloves and require double action to raise the alarm, preventing accidental activation.

Features

- Zone 1 and Zone 2 use.
- UL Listed for:
  - Hazardous Locations.
  - Class I, Division 1. Groups B, C & D.
  - Class I, Division2. Groups A-D.
  - Zone 1.
  - Ordinary Locations: Fire alarm boxes.
- Ex d IIC T6 Gb.
- Ex tb IIIC T85°C Db.
- IECEx certified Gb, Db.
- ATEX certified Ex II 2 GD.
- NEMA 4X & 6. IP66 & IP67.
- Certified temperature: -55°C to +70°C*.
- Corrosion free GRP construction.*
- Optional in line, end of line resistors and diodes.
- Retained stainless steel cover screws.

**Model dependent.*

ATEX IECEx c UL us

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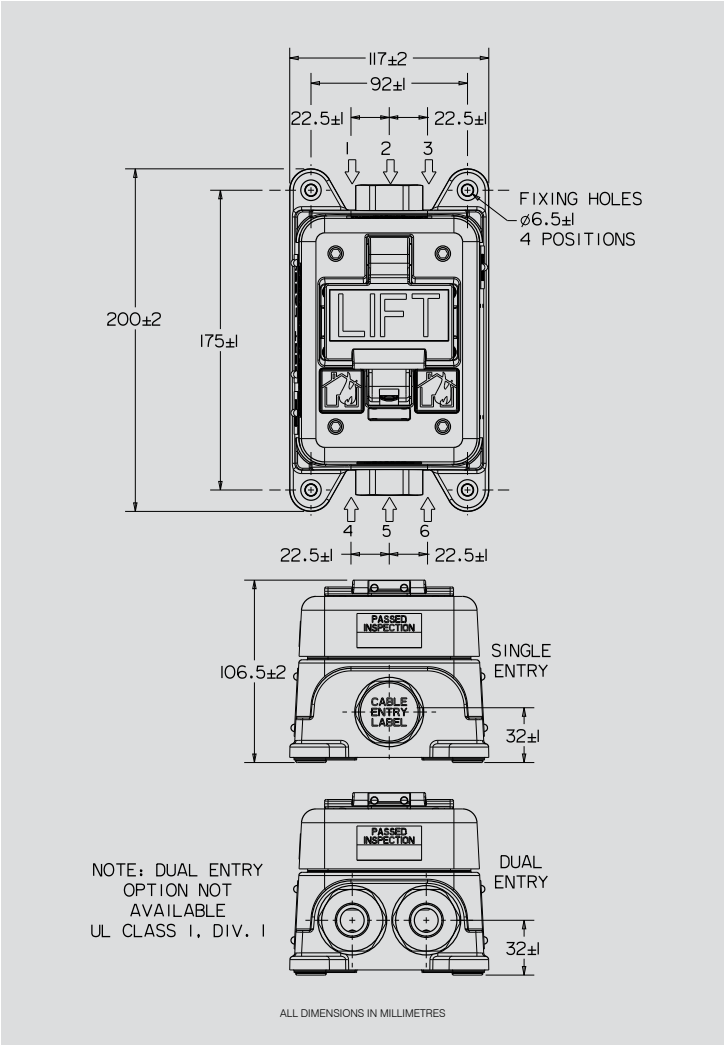
Certification and Specification

UL Haz Locs:	UL listed for USA and Canada. Listing no. E186629. Class I, Div. 1. Groups B, C & D. Class I, Div. 2. Groups A- D. Class I, Zone 1, AEx d IIC, Ex d IIC. Class II, Div.2, Groups F & G. Class III.
UL Ord Locs:	UL Listing no. S8117. Fire alarm boxes. UL for USA and Canada.
IECEx Ex d:	Cert. no. IECEx ITS.11.0021X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T6 Gb, Ex tb IIIC T85ºC Db. IP66.
ATEX Ex d:	Cert. no. ITS11ATEX17308X. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2 GD, Ex d IIC T6 Gb, Ex tb IIIC T85ºC Db. IP66.
Material:	Body/covers/handles:- GRP (glass reinforced polyester). UL Class I, Div. 1 Inner Cover: 316 (ANC4B) Stainless Steel. Fixings:- Stainless steel grade 316.
Finish:	Cover:- natural red, Body:- natural black. Handles:- natural white. Cover may be painted to customer's requirements.
Voltage:	0-50Vdc, 0-254Vac.
Switch Rating:	1 or 2 c/o switches, 254V, 3A max.
Weight:	UL Class I, Div 2, ATEX, IECEx & UW: Gross weight 3.2Kg. Net weight 2.6Kg. UL Class I, Div. 1: Gross weight 4.4 Kg. Net weight 3.8Kg.
Certified Temp:	ATEX & IECEx: -55ºC to +70ºC. UL Class I, Divs. 1 & 2, UW: -50ºC to +70ºC
Ingress Protection:	NEMA 4X & 6. IP66 & IP67.
Entries:	UL Class I, Div. 1 - Max 1 per face. Up to 2 x 1/2" NPT or 3/4" NPT. Positions 2 & 5 only. UL Class I, Div. 2, UW: Up to 2 x 1/2" or 3/4" NPT. 3/4" NPT, Max. 1 per face & positions 2 & 5 only. ATEX, IECEx - Max 2 per face. Up to 2 x M20 or M25, up to 2 x 1/2" or 3/4" NPT. Please note that certified blanking plugs cannot be fitted to this product.
Terminals:	6 x 2.5mm² as standard. Contact MEDC for options.
Earth Continuity:	Earth continuity is provided by internal plate.
Duty Labels:	'Burning house' label fitted as standard on red units. Red blank duty label fitted as standard on all other colour units, unless text is supplied by customer. Tag Label: worded to customers requirements.
Addr. module:	Consult MEDC for options.
Resistors:	Various configurations available, 470 Ohms minimum.
Diodes:	Various configurations available.



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.

Model

PH1

Certification

Certification	Code
UL Class I, Div. 1	UL1
UL Class I, Div. 2	UL2
UL Ord. Loc.	UW
ATEX	B
IECEx	J
Weatherproof	W

NOTE: the units can be internally wired to suit customers specifications.
Please discuss your requirements with us.

Entries

Entries	Code
M20	*B
M25	*C
1/2" NPT	*†M
3/4" NPT	*†N

* Prefix entry size with entry position (see diagram above).
E.g. 4B6B. Maximum 2 Entries.

† UL Class 1. Div. 1 - Max 1 per face. Up to 2x 1/2" NPT or 3/4" NPT.
Positions 2 & 5 only.
UW: Up to 2 x 1/2" or 3/4" NPT.
3/4" NPT, Max. 1 per face & positions 2 & 5 only.

Switches

Switches	Code
Single changeover	S
Double changeover	D

Features

Features	Code
None	N
Series resistor	G*
EOL resistor	H*
Diode	E*
Tag label	T*
Custom duty label	D*†

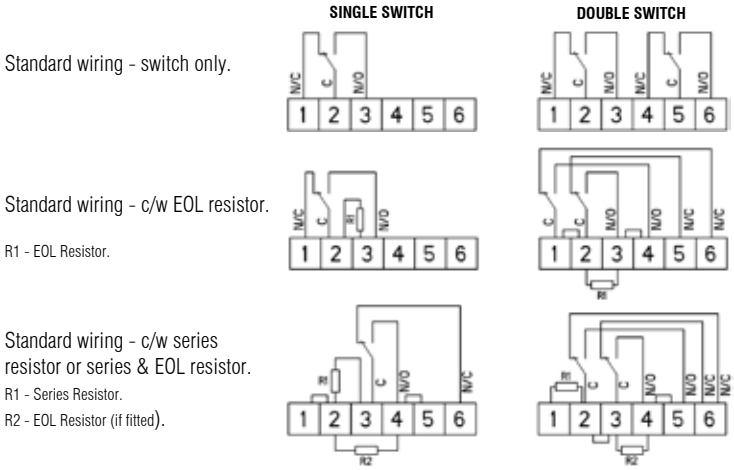
* Please specify.

† Only select if non standard option is required.
Please note that certified blanking plugs cannot be fitted to this product.

Finish

Finish	Code
Natural Red	R
Special	S*

* Please specify.



Ex de, Intrinsically Safe (Ex ia), Weatherproof PB Range

Introduction

These new and improved manual alarm call points have been designed for use in hazardous locations and harsh environmental conditions. The GRP enclosure is suitable for use onshore or offshore where light weight combined with a high level of corrosion resistance is required. The unit is now supplied with a lift flap that latches firmly in place.

Features

- ATEX certified.
- IECEx certified.
- UL listed for Haz locs.
- UL listing for Ord locs.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- SIL 2 certified.
- IP66 and IP67.
- Corrosion free GRP construction.
- A variety of colours available.
- Up to 9 terminals available.
- Optional LED – indicates that the unit has been operated.
- Earth continuity option for metal glands.
- 1 or 2 changeover switches.
- Captive cover screws.
- Lift Flap as standard.
- Latching as standard. Self reset (momentary) available.

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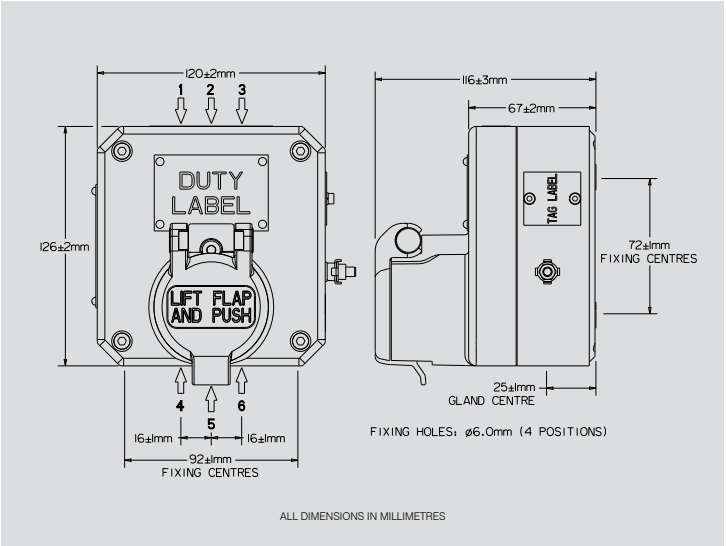
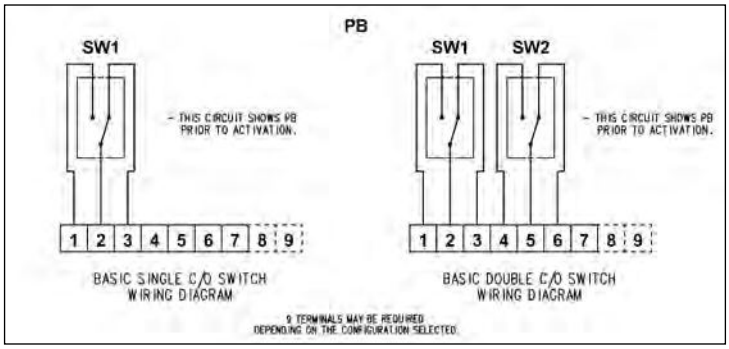
Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

ATEX Ex de:	Cert. no. BAS02ATEX2105X. ATEX Approved Ex II 2GD. EN60079-0, EN60079-1, EN60079-7, EN60079-31. Ex de IIC T6 Gb, Ex tb IIIC T85ºC Db switch only. Ex de mb IIC T6 Gb, Ex tb IIIC T85ºC Db with LED. Ex de mb IIC T4 Gb, Ex tb IIIC T135ºC Db with resistors & diodes.
ATEX Ex ia:	Cert no. Baseefa 03ATEX0084X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11. Ex ia IIC T4 Ga , Ex ia IIIC T135ºC Da.
IECEx Ex ia:	Cert. no. IECEx BAS 12.0093X. Certified to: IEC 60079-0, IEC 60079-11. Ex ia IIC T4 Ga, Ex ia IIIC T135ºC Da.
UL:	Listing no. E186629 UL listed to Class 1, Div 2. Groups A – D. UL listed for Ordinary Locations. Listing no. S8117
CSA:	Cert. no. 79120-3. Class 1 groups A, B, C & D.
CUTR Ex ed:	2Ex ed IIC T6, DIP A21 T85°C IP66/IP67 (switch only). 2Ex e md IIC T4, DIP A21 T135°C IP66/IP67 (other versions).
CUTR Ex ia:	0Exia IICT4. Russian Fire Approved.
Inmetro Ex de:	Ex de IIC T6 Gb (Switch only), Ex de mb IIC T4 Gb (other versions).
Inmetro Ex ia:	Ex ia IIC T4 Ga.
CQST Ex de:	Ex de IIC T6 (switch only), Ex de mb IIC T4 (other versions).
CQST Ex ia:	Ex ia IIC T4.
Type Apps:	American Bureau of Shipping type approval (ABS) PBI only.
SIL:	SIL2 Certification to IEC61508. Cert. No. FSP1400
Material:	Anti-static UV resistant glass reinforced polyester.
Finish:	Red painted finish as standard or to customer specification.
Voltage:	Up to 254V a.c. Up to 28V d.c.
Weight:	1.2 kg. (Varies with models and entries).
Ingress Protection:	IP66 & IP67.
Entries:	Up to 4 entries, M16 or M20 top and bottom (1/2" NPT available on UL version).
Terminals:	7 x 2.5mm² – standard. 9 x 2.5mm² optional – up to 60V only.
Resistors:	Various configurations available on versions up to 24V and all 'IS' versions. (Minimum Resistor value 100ΩPBE, 470ΩPBI).
Earth Continuity:	Internal and external earth continuity is provided with an optional earth plate.
LED Indication:	A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V and all 'IS' versions.
Labelling:	Duty label – worded to customers requirements. Riveted on. Tag label – worded to customers requirements. Screwed on.
Switch Ratings: **(1 or 2 changeover switches fitted)**	d.c. 0-30v 5A (resistive) or 3A (inductive) 30-50v 1A (resistive or inductive) a.c. 0-254V 5A (resistive or Inductive)





Temperature

Model	PBW	PBUL	PBE	PBI	CSA
	-40ºC to +70ºC	-25ºC to +55ºC†	-40ºC to+70ºC*	-40ºC to +70ºC	-50ºC to +40ºC

* -35ºC to + 70ºC with LED , -20ºC to +50ºC for Inmetro.

† -25°C to +50°C With resistors or LED fitted.

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.

Model: PB

Certification

Certification	Code
ATEX/CENELEC - Ex de	EB
ATEX/CENELEC - Ex ia	IB
IECEx - Ex ia	IJ
CSA - Ex ia	IC
UL - Listed	UL
UL -Ordinary Locations	UW
CUTR - Ex ed	IG*
CUTR Ex de	EG*
CQST - Ex de	EQ†
CQST - Ex ia	IQ†
Inmetro - Ex de	EM
Inmetro - Ex ia	IM
Uncertified	WN

* Russian Fire Approved as standard.

† Not suitable for use in China on fire alarm systems.

Entries

Entries	Code
M16	*A
M20	*B
1/2" NPT	*C

* Prefix entry size (see diagram above) with entry position code e.g. 4B6B.

UL versions only available with 1/2" NPT entries.

Labels

Label	Code
None	0
Duty label reqd.	4*
Tag label reqd.	5*

* Specify wording on 4 or 5 as required.

Voltage

Voltage	Code
a.c.	A
d.c.	D

Switches

Switches	Code
Single changeover	S
Double changeover	D

Options

Options	Code
None	N
LED	A
Resistor series	C*
Resistor EOL	D*
Diode	E‡
Earth continuity	F**
Turn and push	T‡
Self reset (momentary)	M
Resistor series and EOL	S*†

* Specify values

** Must be selected when selecting CSA certification.

† Choose for PBE only - on the PBW, choose C & D.

‡ Not available for UL/CSA versions.

Terminals

Terminals	Code
7 x 2.5mm (standard)	7
9 x 2.5mm (optional)	9

Finish

Finish	Code
Red (standard)	R
Natural Black	N
Blue	B
Yellow	Y
Grey	G
Yellow/Black stripes	X
Special	S*

* Please specify

Crouse-Hinds by EATON

Ex de, Intrinsically Safe (Ex ia), Weatherproof BG Range

Introduction

These manual alarm Call Points have been designed for use in hazardous locations and harsh environmental conditions. The Glass Reinforced Polyester enclosures are suitable for use both onshore and offshore, where light weight combined with a high level of corrosion resistance is required.

The break glass is covered by a membrane which protects the operator from glass fragments meaning that no hammer is required to activate the unit.

A plastic 'break glass' or deformable operating element is available to replace the break glass. Once the flexible element is pressed it will bend but will not break. The unit is reset by repositioning the element.

Features

- ATEX certified.
- IECEx certified.
- UL listed for Haz locs.
- UL listed for Ord locs
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- Chinese Cumpulsory Certification for Fire systems (CCCF) certified.
- IP66 and IP67.
- Corrosion free GRP construction.
- SIL 2 certified.
- A variety of colours available.
- Up to 9 terminals available.
- Optional LED – indicates that the unit has been operated.
- Earth continuity option for metal glands.
- 1 or 2 changeover switches.
- Captive cover screws.
- Key operated test facility – simple but secure.
- Breakglass hammer available.

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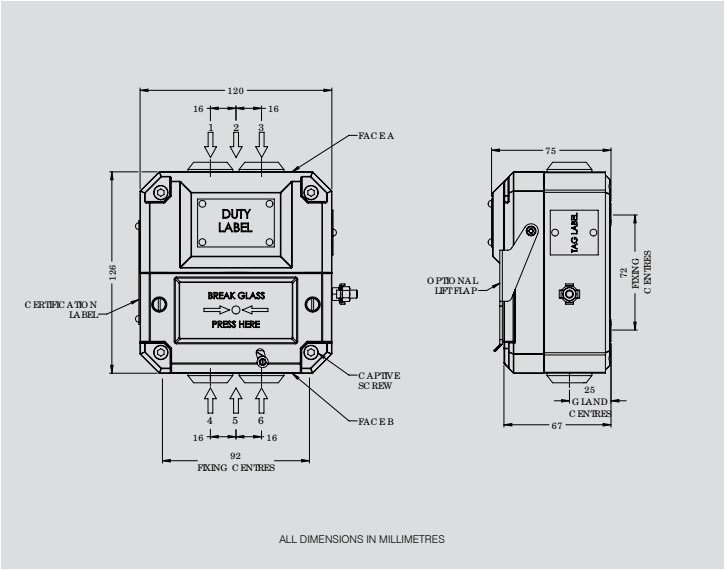
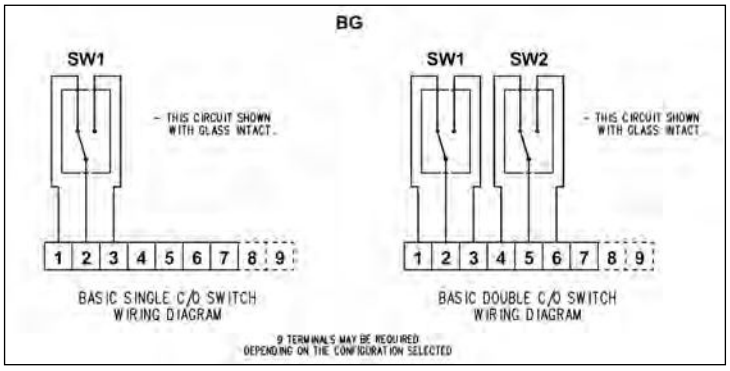
Certification and Specification

ATEX Ex de:	Cert. no. BAS02ATEX2105X. ATEX Approved Ex II 2G. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex de IIC T6 Gb switch only. Ex de mb IIC T6 Gb with LED. Ex de mb IIC T4 Gb with resistors & diodes.
ATEX Ex ia:	Cert no. Baseefa 03ATEX0084X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11. Ex ia IIC T4 Ga, Ex ia IIIC T135ºC Da.
IECEx Ex ia:	Cert. no. IECEx BAS 12.0093X. Certified to: IEC 60079-0, IEC 60079-11. Ex ia IIC T4 Ga, Ex ia IIIC T135ºC Da.
UL:	Listing no. E186629 UL listed to Class 1, Div 2. Groups A – D. UL listed for Ordinary Locations. Listing no. S8117
CUTR Ex ed:	2Ex ed IIC T6, DIP A21 T85°C IP66/IP67 (switch only). 2Ex e md IIC T4, DIP A21 T135°C IP66/IP67 (other versions).
CUTR Ex ia:	0Ex ia IICT4. Russian Fire Approved.
Inmetro Ex de:	Ex de mb IIC T4 Gb, Ex de IIC T6 Gb.
Inmetro Ex ia:	Ex ia IIC T4 Ga.
CQST Ex de:	Ex de IICT6 (switch only), Ex de m IICT4 (other versions).
CQST Ex ia:	Ex ia IIC T4.
CCCF:	Chinese Compulsory Certification for Fire systems (CCCF). Ex de only.
SIL:	SIL 2 certified to IEC 61508. Cert no. Sira 11013
Type Apps:	American Bureau of Shipping type approval (ABS).
Material:	Anti-static UV resistant glass reinforced polyester.
Finish:	Red painted finish as standard or to customer specification.
Voltage:	Up to 254V a.c. Up to 28V d.c.
Weight:	1.2 kg. (Varies with models and entries).
Ingress Protection:	IP66 & IP67.
Entries:	Up to 4 entries, M16 or M20 top and bottom (1/2" NPT available on UL version).
Terminals:	6 x 2.5mm² – standard (BGUL only). 7 x 2.5mm² – standard. 9 x 2.5mm² optional – up to 60V only.
Resistors:	Various configurations available on versions up to 24V and all 'IS' versions. (Minimum Resistor value 100ΩPBE/BGE, 470ΩPBI/BGI).
Earth Continuity:	Internal and external earth continuity is provided with an optional earth plate.
LED Indication:	A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V and all 'IS' versions.
Labelling:	BG Glass label – reads either (1) Fire Break glass – press here. (2) Break glass – press here. (3) Worded to customer requirements. (7) Dot and arrows - no text. Duty label – worded to customer requirements. Riveted on. Tag label – worded to customer requirements. Screwed on.
Switch Ratings: **(1 or 2 changeover switches fitted)**	d.c. 0-30v 5A (resistive) or 3A (inductive) 30-50v 1A (resistive or inductive) a.c. 0-254V 5A (resistive or Inductive)





Temperature

Model	BGW	BGUL	BGE	BGI
	-40ºC to +70ºC	-25ºC to +55ºC†	-40ºC to +70ºC*	-40ºC to +70ºC

*-35ºC to +70ºC with LED, -20ºC to +50ºC for Inmetro.

† -25°C to +50°C With resistors or LED fitted.

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.

Note: For CCCF units use the following code: BGEQF4B6B74DSA_9R. Add a code in the blank space only if resistors are required. The possible codes are C, D or S as per the options box below.

Model: BG

Certification

Certification	Code
ATEX/CENELEC - Ex de	EB
ATEX/CENELEC - Ex ia	IB
IECEx - Ex ia	IJ
UL - Listed	UL
UL -Ordinary Locations	UW
CUTR - Ex ia	IG
CUTR - Ex ed	EG
CQST - Ex de	EQ†
CQST/CCCF - Ex de	EQF
CQST - Ex ia	IQ†
Inmetro - Ex ed	EM
Inmetro - Ex ia	IM
Uncertified*	WN

†: Not suitable for use in China on fire alarm systems.

Entries

Entries	Code
M16	*A
M20	*B
1/2" NPT	*C

* Prefix entry size (see diagram above) with entry position code e.g. 4B6B.

UL versions only available with 1/2" NPT entries.

Labels

Label	Code
None	0
Glass label (1) reqd.	1
Glass label (2) reqd.	2
Glass label (3) reqd.	3*
Duty label reqd.	4*
Tag label reqd.	5*
Glass label (7) reqd.	7

* Specify wording on 3, 4 or 5 as required.

Voltage

Voltage	Code
a.c.	A
d.c.	D

Switches

Switches	Code
Single changeover	S
Double changeover	D

Options

Options	Code
None	N
LED	A
Lift flap	B
Resistor series	C*
Resistor EOL	D*
Diode	E‡
Earth continuity	F
Resistor series and EOL	S*†
Plastic element replaces Break glass	P
Break glass hammer	H

* Specify values
† Choose for BGE only - on the BGI/W, choose C & D.
‡ Not available for UL versions.

Terminals

Terminals	Code
6 x 2.5mm (UL standard)	6*
7 x 2.5mm (standard)	7
9 x 2.5mm (optional)	9

* BGUL only available with six terminals

Finish

Finish	Code
Red (standard)	R
Natural Black	N
Blue	B
Yellow	Y
Grey	G
Yellow/Black stripes	X
Special	S*

* Please specify

Crouse-Hinds by EATON

Ex de, Intrinsically Safe (Ex ia), Weatherproof

Introduction

This manual fire alarm call point has been designed for use in flammable atmospheres and harsh environmental conditions. The GRP enclosure is suitable for use offshore or onshore where lightweight combined with a high level of corrosion resistance is required.

Features

- Zone 0, Zone 1 and Zone 2 use.
- Ex de, Ex ia or weatherproof.
- ATEX approved – Ex II 1GD (Ex ia).
  – Ex II 2G (Ex de).
- BASEEFA certified.
- IP66 and IP67.
- Certified temperature: –40°C to +70°C*.
- Corrosion resistant red painted GRP.
- Retained stainless steel cover screws.
- Optional lift flap.
- Key operated test facility.
- Lightweight and robust.
- Breakglass hammer available. (Contact sales office for details).

**Depending on version.*

ATEX

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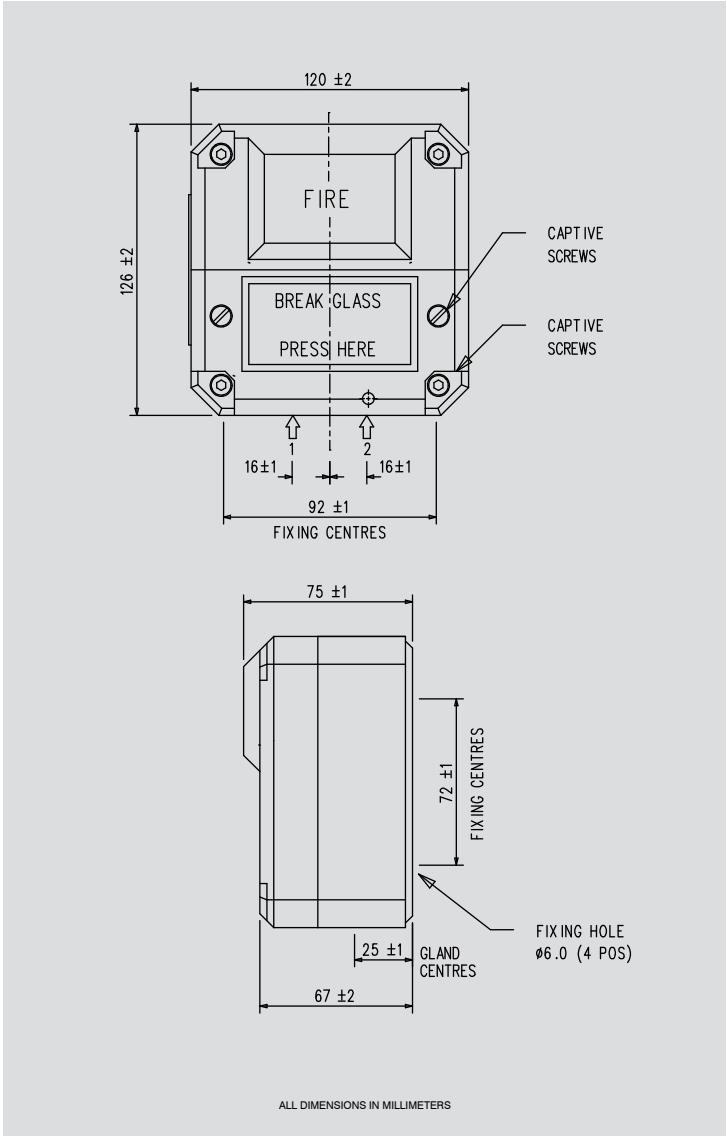
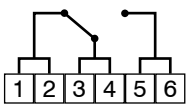
Certification and Specification

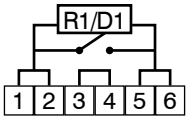
ATEX Ex de:	Cert. no. BAS02ATEX2105X. ATEX Approved Ex II 2G. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex de IIC T6 Gb switch only. Ex de mb IIC T4 Gb with resistors & diodes.
ATEX Ex ia:	Cert no. Baseefa 03ATEX0084X. ATEX Approved Ex II 1GD. Certified to: EN60079-0, EN60079-11. Ex ia IIC T4 Ga, Ex ia IIIC T135ºC Da.
Material:	Anti static UV resistant Glass Reinforced Polyester.
Finish:	Painted Red.
Certified Temp:	-40ºC to +70ºC.
Voltage:	Up to 254V a.c. (Ex ia - Up to 28V d.c.).
Weight:	1.2Kg.
Ingress Protection:	IP66 & IP67.
Cable Entries:	2 x M20 bottom.
Terminals:	6 x 2.5mm².
Resistor Values:	Ex de - 100Ω minimum, 39KΩ maximum. Ex ia - 470Ω minimum.
Switch ratings:	d.c. 0-30V 5A (resistive) or 3A (inductive). 30V-50V 1A resistive or inductive. a.c. 0-254V 5A resistive or inductive.



1. Switch Only

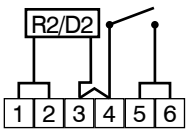


2. End of Line Resistor / Diode

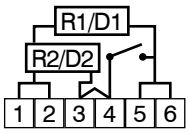


ALL CIRCUITS SHOWN WITH GLASS INTACT

3. In Line Resistor / Diode



4. In Line & End of Line Resistor / Diode



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.

The MEDC BG Range of Manual Alarm Call Points caters for numerous options such as variety of colours, LED indication, earth continuity, double switch, etc. See separate catalogue sheet for details.

Model

Model	Code
BG2W – a.c. or d.c.	BG2WNN
BG2I – Up to 28V (I.S.)	BG2INN
BG2E – d.c.	BG2EDC
BG2E – a.c.	BG2EAC

Options

Options	Code
Switch only	1
End of line resistor	2*
In line resistor	3*
In line and end of line resistor	4*
Diode (specify location & value)	5

* Specify resistor values.

Flap

Flap	Code
Fitted	F*
Not Fitted	N

* Polycarbonate lift flap.

Finish

Finish	Code
Red Painted	R

Crouse-Hinds by EATON

Intrinsically Safe (Exia), Weatherproof

Features

- Zone 0, Zone 1 and Zone 2 use.
- Exia IIC T4.
- ATEX Approved Ex II 1 G.
- BASEEFA certified.
- Chinese (CQST) certified.
- Designed in accordance with EN54-11.
- IP66 and IP67.
- Certified temperature: –55°C to +55°C.
- Corrosion free GRP.
- Optional in line/end of line resistors/diodes.
- Optional LED indicator.
- Optional lift flap.
- Key operated test facility.
- Various body colours available.

Introduction

This manual fire alarm call point has been designed in accordance with the latest draft European Call Point Standard (EN54-11).

Weatherproof to IP66 and IP67 and available certified intrinsically safe, simple apparatus or uncertified. The units are manufactured from glass reinforced polyester (GRP) which provides a robust, corrosion free construction and ensures effective and reliable operation in harsh industrial and offshore environments.

Units are supplied in natural red GRP or painted to customer specification. 'Burning House' duty label is provided as standard, other duty and tag labels may be supplied to customer specification.

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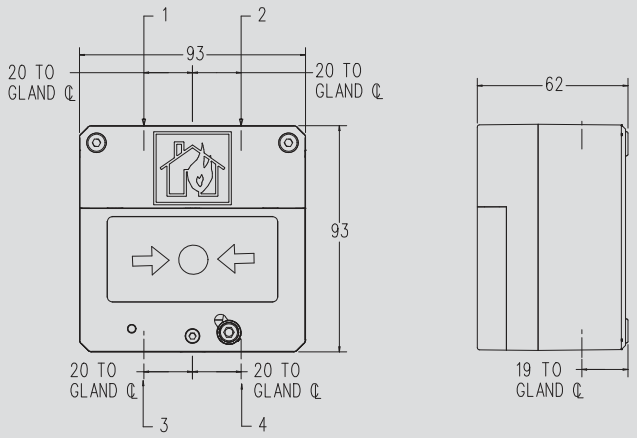
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

	BG3I	BG3W
Protection:	Explosion Protected Exi (Intrinsically Safe)	Dust-tight & Weatherproof
Certification:	CENELEC EN50014, 020 BASEEFA Exia IIC T4 Cert No. BAS00ATEX1067X Suitable for use in Zones 0, 1 & 2 Chinese Certification CQST – Exia IIC T4†	Not applicable
Voltage:	Up to 28V (IS)	Up to 250V a.c.
Certified Temperature:	-55°C to +55°C	Not applicable
Ingress protection:	IP66 & IP67	IP66 & IP67
European Standard for Call Points:	EN54-11	EN54-11
Terminals:	6 x 4.0mm²	6 x 4.0mm²
Switch Ratings:	Not Applicable	d.c. 0V - 30V 3A resistive or inductive 30V - 50V 1A resistive or inductive a.c. 0 - 250V 3A resistive or inductive
Resistor Values:	470R Minimum	270R Minimum
Cable Entries:	2 x M20 top or bottom	2 x M20 top or bottom
Weight:	0.5Kg	0.5Kg
Material:	UV resistant glass reinforced polyester	UV resistant glass reinforced polyester
Finish:	Natural Red GRP or Painted GRP to Customer requirements	Natural Red GRP or Painted GRP to Customer requirements
Duty/Tag Labels:	Stainless steel as standard	Plastic as standard



ALL DIMENSIONS IN MILLIMETERS

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.

Model

BG3

Certification

Certification	Code
Weatherproof	W
Exia	I
Chinese (CQST)	Q†

† Not suitable for use in China on fire alarm systems.

Labels

Label	Code
Glass Label	
Fire Break Glass 'Press Here'	1
Break Glass 'Press Here'	2
Special	3*
European Standard ⇨○⇦	4
Duty Label (special)	5*
Burning House 🔥 as standard	
Tag Label	6*

* Specify wording.

Options

Options	Code
None	N
Resistor Series	S*
Resistor EOL	E*
Diode	D
Polycarbonate Lift flap	F
Stainless steel Lift flap	C
LED	L
Double Changeover	T
Plastic Element (replaces break glass)	P

* Please specify.

Entries

Entries	Code
2 x M20 (bottom)	B
2 x M20 (top)	T

For blanking plugs add "P" to code. e.g. BP, 2 x M20 bottom entries with one blanking plug.

Finish

Finish	Code
Natural Red	R
Blue	B
Green	G
White	W
Yellow	Y
Special	S*

* Please specify.

Beacons, Lights & Strobes

MEDC's range of beacons, including flashing, steady-state indicators and rotating units, provide solutions for potentially explosive and harsh environmental conditions. These may be used to warn of potential hazards or indicate the status of plant items, gas and oil leaks and evacuation alerts.

The signals can be operated as stand-alone units or be incorporated into a wider system, such as a fire panel. Many units can also be customised with a choice of lens colours and can be painted to customer specification.

MEDC now offer a range of LED beacons, which have the added benefit of low energy consumption, an increased lifespan and an option of flash patterns.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Beacons Lights and Strobes												
LD15	■	■					■			■	66 / 67	28
dSLB 20 LED	■	■									66 / 67	30
Expertline	■	■	■			■	GOST				66	32
SM87HXB	■	■	■		■	■	■	■			66 / 67	34
XB11	■	■	■			■	■	■			66 / 67	36
XB9	■	■				■	■	■			66 / 67	38
XB10	■	■				■	■				66 / 67	40
dSLB 20 strobe	■	■					GOST				66 / 67	42
XB15	■	■	■	■		■	■	■		■	66 / 67	44
XB4	■	■	■			■	■				66 / 67	46
XB12	■	■	■			■	■	■			66 / 67	48
XB8	■	■					■		■		66 / 67	50
XB16			■								66 / 67	52
XB13											66 / 67	54
TH12	■	■				■	■				66 / 67	56
SM87 LU1/3	■	■	■		■	■	■	■			66 / 67	58
FL4 FB4	■	■	■			■	■				66 / 67	60
FL11 FB11 FL12 FB12	■	■	■			■	■				66 / 67	62
FB15	■	■	■			■	■				66 / 67	64


LD15


dSLB 20 LED


Expertline


SM87HXB


XB11


XB9


XB10


dSLB 20 Strobe


XB15


XB4


XB12


XB8


XB16


XB13


TH12


SM87 LU1/3


FL4 FB4


FL11 FB11FL12 FB12


FB15

LD15 Range - HIGH INTENSITY LED BEACON

Crouse-Hinds by EATON

Ex d, Weatherproof

Introduction

These certified LED Beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore where light weight combined with corrosion resistance is required.

The housings are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion free product.

The LD15 incorporates a low maintenance, innovative LED array, which has a life of up to 54,000 hours. The low current consumption design allows an energy efficient solution without compromising light output.

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

Features

- Zone 1, 2, 21 & 22.
- Ex d IIC T6/T5.
- ATEX Certified Ex II 2GD.
- IECEx Certified Gb, Db.
- CUTR Certified.
- IP66 & 67.
- SIL 1 Certified
- -55°C to +70°C.
- Corrosion-free GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional cast aluminium or wire stainless steel guard.
- Up to 3 x M20 or 3 x M25 entries.
- 5 user selectable functions:
  - 60 fpm
  - 80 fpm
  - 120 fpm
  - Double Flash
  - Steady
- Remote and local function selection.

ATEX IECEx CUTR

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MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

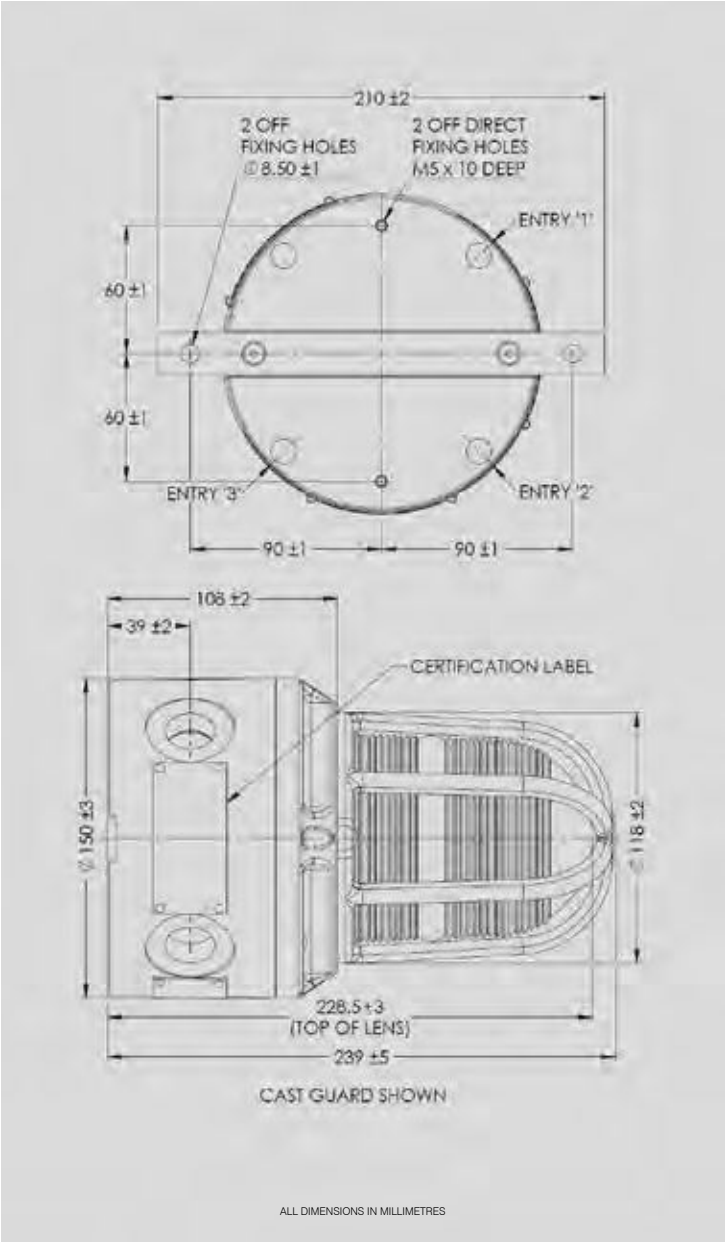
ATEX Ex d:	Cert. no. Baseefa 04ATEX0009X. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T85ºC/T100ºC Db.
IECEx Ex d:	Cert. no. IECEx BAS 05.0048X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T5/T6 Gb, Ex tb IIIC T85ºC/T100ºC Db.
CUTR Ex d:	1Ex d IIC T5/T6 Gb, Ex tb IIIC T85ºC/T100ºC Db. Russian Fire Alarm approved.
SIL 1:	Certification No. FSP 13005/01.
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 painted to customer specification.
Voltage:	12V d.c. to 48V d.c.
LED Life:	Up to 54,000 hours.
Function:	Steady, 60, 80 & 120 fpm, Double Flash.
Certified Temp:	-55ºC to +70ºC (T5). -55ºC to +55ºC (T6).
Weight:	3.0kg.
Ingress Protection:	IP66 & IP67.
Entries:	Supplied as 2 x M20 entries as standard. Up to 3 x M20 or 3 x M25 entries available. Contact the sales office to order.
Terminals:	12 x 2.5mm².
Labels:	Tag/Duty optional.

Electrical Ratings:

	d.c.		
Voltage	**12**	**24**	**48**
Current (mA) - steady	423	211	113
Current (mA) - 60fpm	878	419	214
Inrush Current (mA)	132	286	702
Inrush Duration (ms)	258	114	61

Typical Light Output (effective cd):

Colour	Red	Blue	Green	Amber	Clear	Yellow
60 fpm	61	24	86	55	128	122
80 fpm	55	22	78	49	117	112
120 fpm	47	19	66	42	100	95
Steady	41	17	59	39	86	82



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.

Model

LD15

Certification

Certification	Code
ATEX	B
IECEx	J
CUTR	G
Weatherproof	W

Voltage

Voltage	Code
12-48Vd.c.	048

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Clear	C
Yellow	Y

Lens Guard

Guard	Code
None	N
Cast	C
Wire	W

Fixings

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Options

Option	Code
None	N
Tag label	T*
Duty label	D*
Blanking Plug	P

* Please specify.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Ex-Signal Light dSLB 20 LED BEACON

Crouse-Hinds by EATON

Ex de

Features

- 4 different modes:
  continuous, strobe, blinking or rotating
- Compact construction
- Versatile
- Protection degree IP 66 / 67
- Explosion protection class:
  II 2D Ex tb IIIC IP66 T95°C, T80°C – Db
  II 2G Ex d e IIC T5, T6 – Gb

Introduction

The dSLB 20 LED beacon can be used for warning, indicating and signalling purposes in areas with explosive atmospheres.

With its 4 modes (blinking, flashing, continuous or rotating), this signal lamp is designed for continuous operation.

The dSLB 20 LED signal light is activated by switching on the power supply and is available with various rated voltages. The sturdy housing is suitable for both indoor and outdoor installation.

The Ex-signal light consists of a light grade aluminium alloy, flame-proof housing, and a lens manufactured from borosilicate glass.

Used in a chemical plant

ATEX

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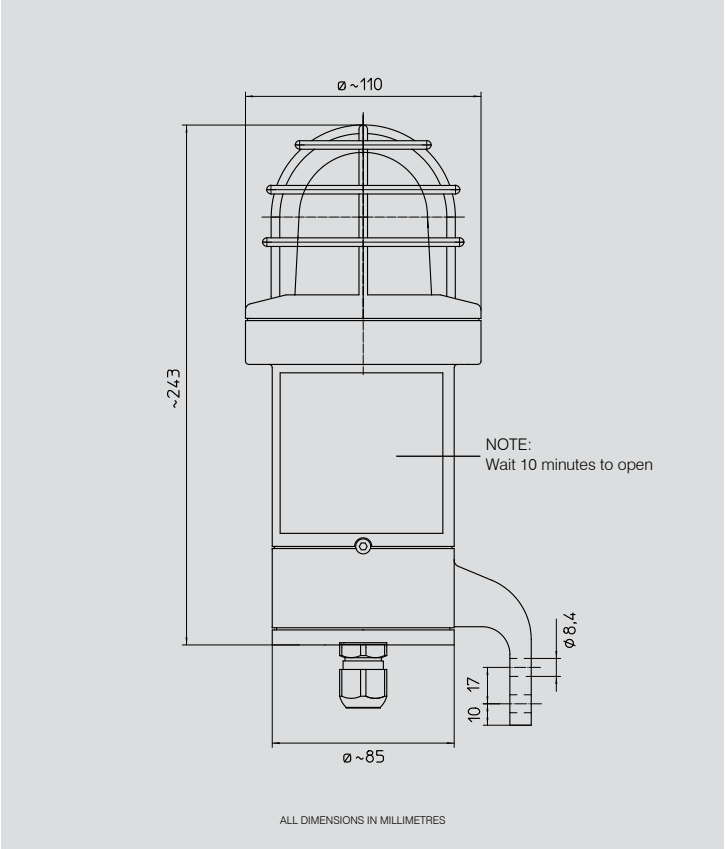
MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

Type of protection:	PTB 99 ATEX 1028 II 2G Ex d e IIC T5, T6 Gb. II 2D Ex tb IIIC IP66 T95ºC, T80ºC Db. IECEX PTB 09.0062. Ex de IIC T6 Gb. Ex tb IIC T80ºC Db.
Expl. protection class	III (at 24 VDC), I (at 85 – 265 VAC).
Certified temp:	Operation: -55ºC to +55ºC.
Housing:	Aluminium · Surface spray painted or powder, colour: yellow/blue with hard glass dome and protective, stain proof steel basket.
Weight	Approx. 2 kg.
IP rating:	IP 66 / 67 according to IEC 60529.
Cable entries:	1x M20 x 1.5 and 1x blind plug M20 x 1.5.
Operating modes:	Continuous operation for all operating modes. Continuous. Blinking light 2 Hz. Strobe light 7x on (55 ms on) and off (19 ms) then 1 sec. break. Rotating light 1 Approx. 44 rotations/min 1 segment on. Rotating light 2 Approx. 33 rotations/min 2 segments on.
Connecting terminals:	Supply voltage: Clamping capacity 2.5 mm² solid conductor; 1.5 mm² fine-wired. Potential compensation conductor: Screw connection With wire protection bracket, external. Clamping capacity Max. 4 mm².
Operating utilization position:	Any.
Operating conditions:	Inside or outside.
Operating voltage:	DC voltage 24 VDC ±20 %. Alternating current 85 – 265 VAC.



		RED	YELLOW	GREEN	BLUE	WHITE
Power consumption	24 VDC					
	Continuous	app. 550 mA	app. 570 mA	app. 800 mA	app. 850 mA	app. 870 mA
	Blinking light (LEDs on)	app. 550 mA	app. 570 mA	app. 800 mA	app. 850 mA	app. 870 mA
	Strobe light (LEDs on)	app. 1,2 A	app. 1,2 A	app. 1,5 A	app. 1,5 A	app. 1,6 A
	Rotating light 1	app. 190 mA	app. 190 mA	app. 250 mA	app. 250 mA	app. 280 mA
	Rotating light 2	app. 250 mA	app. 250 mA	app. 350 mA	app. 350 mA	app. 380 mA
Power consumption	230 VAC					
	Continuous	app. 125 mA	app. 125 mA	app. 160 mA	app. 170 mA	app. 170 mA
	Blinking light (LEDs on)	app. 125 mA	app. 125 mA	app. 160 mA	app. 170 mA	app. 170 mA
	Strobe light (LEDs on)	app. 180 mA	app. 180 mA	app. 210 mA	app. 230 mA	app. 230 mA
	Rotating light 1	app. 60 mA	app. 60 mA	app. 65 mA	app. 70 mA	app. 70 mA
	Rotating light 2	app. 70 mA	app. 70 mA	app. 80 mA	app. 85 mA	app. 85 mA
Power consumption	120 VAC					
	Continuous	app. 190 mA	app. 190 mA	app. 250 mA	app. 280 mA	app. 280 mA
	Blinking light (LEDs on)	app. 190 mA	app. 190 mA	app. 250 mA	app. 280 mA	app. 280 mA
	Strobe light (LEDs on)	app. 280 mA	app. 280 mA	app. 360 mA	app. 390 mA	app. 420 mA
	Rotating light 1	app. 80 mA	app. 80 mA	app. 90 mA	app. 100 mA	app. 120 mA
	Rotating light 2	app. 100 mA	app. 100 mA	app. 120 mA	app. 130 mA	app. 135 mA

Ordering Information

The full article number is made up by appending the colour code for the coloured cap to the article number given here (--).
Transparent 01 | Red 02 | Amber 03 | Green 04 | Blue 05 | For example, **F22492205** = blue Ex-Signal Light 24VDC.

Type	Name	Voltage	Article no.
dSLB 20 LED	Ex-Signal light	24 VDC with protection cage	F224 922 (--)
dSLB 20 LED	Ex-Signal light	80 – 265 VAC with protection cage	F224 924 (--)

Ex e

Introduction

Hazardous areas often require the use of optical signals for warning, information or signalling purposes. The Expertline-LED provides these signalling options. The available operating modes are continuous light, strobe light, blinking light and rotating light, and turning on the supply voltage activates the device. The Ex-light is equipped with high performance light-emitting diodes (LEDs) and comes in the colours white, red, yellow, green and blue. The housing conforms to protection degree IP66 and is suitable for both indoor and outdoor use.

The plastic housing and the dome consist of impact-resistant polycarbonate. The dome with the LEDs is completely filled with transparent compound. The complete electronics are also encapsulated in the compound. Thus, the 'encapsulation' type of protection is established. The terminal room has been designed according to the 'increased safety' type of protection.
The DIP-switches for adjusting the operating modes have the 'intrinsically safe' type of protection.

A V4A metal bracket serves as wall mounting. The device may be operated in any position.

Features

- Housing polycarbonate (black)
- All metal parts of V4A stainless steel
- Protection degree IP 66 acc. to IEC 60529
- II 2 G Ex emb(ib) IIC T4
  II 2 D Ex mbD tD A21 IP66 T 130°C
- 4 different operating modes (continuous, blinking, strobe and rotating light)
- Available colours:
  white, red, yellow, green and blue

Warning, information, signalling

Hazardous areas often require the use of optical signals for warning, infor mation or signalling purposes.

ATEX GOST INMETRO

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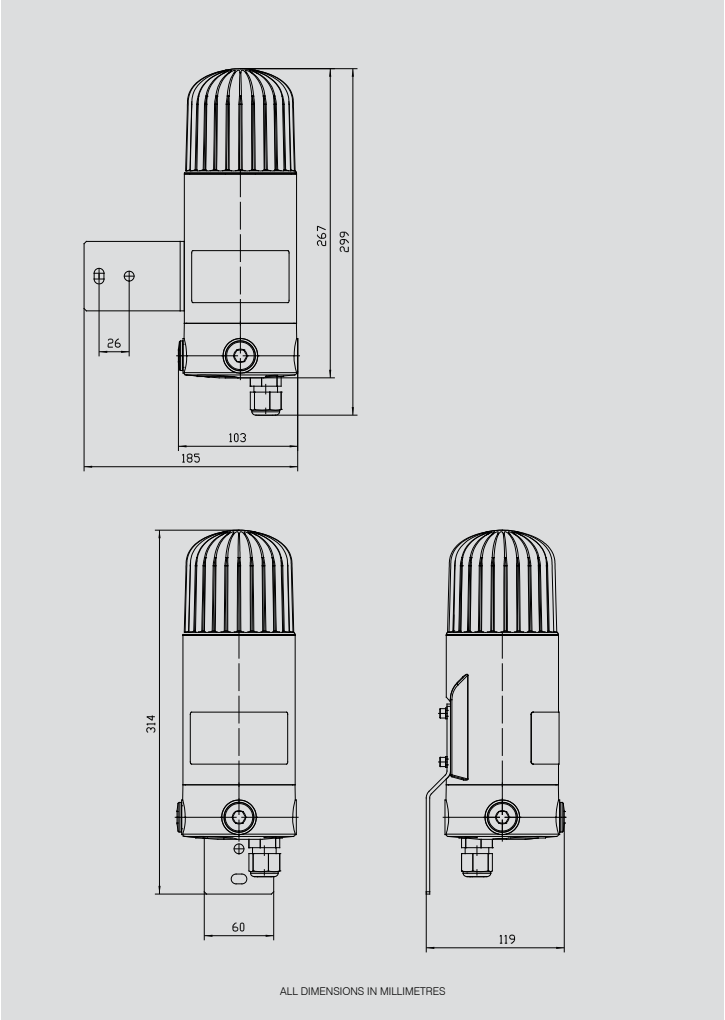
Certification and Specification

Certification:	BVS 09 ATEX E 092 X II 2 G Ex emb(ib) IIC T4 II 2 D Ex mbD tD A21 IP66 T 130°C
Protection class:	III (24 VDC), II (230 VAC)
Material:	Plastic (Polycarbonate) V4A stainless steel wall bracket
Housing colour:	Black
Certified Temp:	-40°C to +65°C (24 VDC) -40°C to +60°C (230 VAC)
Storage:	-45°C to +80°C
Weight:	Approx. 2.5 kg
Ingress protection:	IP 66 according to IEC 60529
Entry gland:	1x M20 x 1.5, 2x blind plugs M20 x 1.5
Terminals:	to 2.5 mm2
Operating voltage:	24 VDC 230 VAC
LED colours:	White, red, yellow, green, blue
Operating utilization position:	Any
Operating conditions:	Inside and outside
Operating modes:	Adjustable, continuous light,blinking light, strobe light, rotating light



Operating voltage — DC voltage 24 VDC ± 20%
Alternating current 230 VAC ± 20%

		RED	YELLOW	GREEN	BLUE	WHITE
Power consumption	24 VDC					
	Continuous light	app. 480 mA	app. 500 mA	app. 680 mA	app. 700 mA	app. 720 mA
	Blinking light	app. 460 mA	app. 480 mA	app. 660 mA	app. 680 mA	app. 690 mA
	Strobe light	app. 850 mA	app. 900 mA	app.1200 mA	app.1250 mA	app.1280 mA
	Rotating light	app. 240 mA	app. 240 mA	app. 310 mA	app. 310 mA	app. 320 mA
	Obstruction light	app. 215 mA	–	–	–	–
Power consumption	230 VAC					
	Continuous light	app. 47 mA	app. 47 mA	app. 55 mA	app. 55 mA a	pp. 55 mA
	Blinking light	app. 40 mA	app. 40 mA	app. 44 mA	app. 44 mA	app. 44 mA
	Strobe light	app. 37 mA	app. 37 mA	app. 40 mA	app. 40 mA	app. 40 mA
	Rotating light	app. 35 mA	app. 35 mA	app. 37 mA	app. 37 mA	app. 37 mA
	Obstruction light	app. 37 mA	–	–	–	–

Ordering Information

* The full article number is made up by appending the colour code for the coloured cap to the article number given here (--).
Transparent. 01 - Red 02 - Amber 03 - Green 04 - Blue 05 | For example **F23101305** = Blue LED Light 24VDC.

Type	Name	Voltage	Article no.
ExpertLine	LED Light	24 VDC	F231 013 (--)
ExpertLine	LED Light	230 VAC	F231 007 (--)

Crouse-Hinds by EATON

Ex d, Weatherproof

Introduction

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

A high temperature version is available – contact MEDC for details.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex d IICT4/T5/T6.
- ATEX approved Ex II 2GD.
- BASEEFA certified.
- IECEx certified Gb, Db.
- UL Listed for USA and Canada:
  - Class I, Div. 1, Groups C & D.
  - Class I, Zone 1 AExd IIB.
- CSA certified.
- CUTR certified*.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- Certified temperature: –55°C to +70°C*.
- High temperature version (up to 85°C) available.†
- Stainless steel or marine grade alloy.
- Xenon or LED versions.
- Various lens colours.
- Optional lens guard.
- Telephone or relay initiated.

**Depending on version.*

†Please contact MEDC Technical Sales.

ATEX IECEx cULus CUTR INMETRO

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Certification and Specification

ATEX Ex d: Cert. no. Baseefa 03ATEX0222.
Certified to: EN60079-0, EN60079-1, EN60079-31.
HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65ºC/ T80ºC/ T95ºC Db.
LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55ºC/ T70ºC Db.
XBT: Ex II 2GD, Ex d IIC T4 Gb, Ex tb IIIC T110ºC Db.

IECEx Ex d: Cert. no. IECEx BAS 09.0059.
Certified to: IEC60079-0, IEC60079-1, IEC60079-31.
HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65ºC/ T80ºC/ T95ºC Db.
LED: Ex d IIC T6 Gb, Ex tb IIIC T55ºC/ T70ºC Db.
XBT: Ex d IIC T4 Gb, Ex tb IIIC T110ºC Db.

UL: Listing no. E187894.
Class I, Div 1, Groups C & D.
Class I, Zones 1. (HXB & XBT only).

CSA: Cert no. 96406. (HXB only).
Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981.
Class I, Div 1. Group D.

CUTR Ex d: HXB: 1Ex d IIC T5/T6 Gb, Ex tb IIIC T65ºC/ T80ºC/ T95ºC Db.
LED: 1Ex d IIC T6 Gb, Ex tb IIIC T55ºC/ T70ºC Db.
XBT: 1Ex d IIC T4 Gb, Ex tb IIIC T110ºC Db.
Russian Fire Alarm approved.

Inmetro Ex d: Exd IIC T4/T5/T6 Gb.
HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65ºC/ T80ºC/ T95ºC Db.
LED: Ex d IIC T6 Gb, Ex tb IIIC T55ºC/ T70ºC Db.
XBT: Ex d IIC T4 Gb, Ex tb IIIC T110ºC Db.

CQST: Exd IIC T4/T5/T6. (HXB only).

Material: HXBS, XBTS and LEDS – Grade 316 ANC4B Stainless Steel.
HXBA, XBTA & LEDA – LM25 TF Marine Grade Alloy.
Lens – Glass.
UL version available only in marine grade alloy.
CSA version available only in stainless steel.

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

Certified Temp:

ATEX/IECEx	HXB =	-55ºC to +70ºC (T5)
		-55ºC to +55ºC (T6)
	LED =	-55ºC to +55ºC*(T6)
	XBT =	-55ºC to +85ºC (T4)
CSA	HXB =	-50ºC to +40ºC
UL	HXB =	-55ºC to +70ºC
	XBT =	-40ºC to +85ºC
GOST 'R'	HXB =	-55ºC to +55ºC

*Operating temp is -20ºC

Weight: HXBS & LEDS – 3.8kg each (approx).
HXBA & LEDA – 2kg. each (approx.).

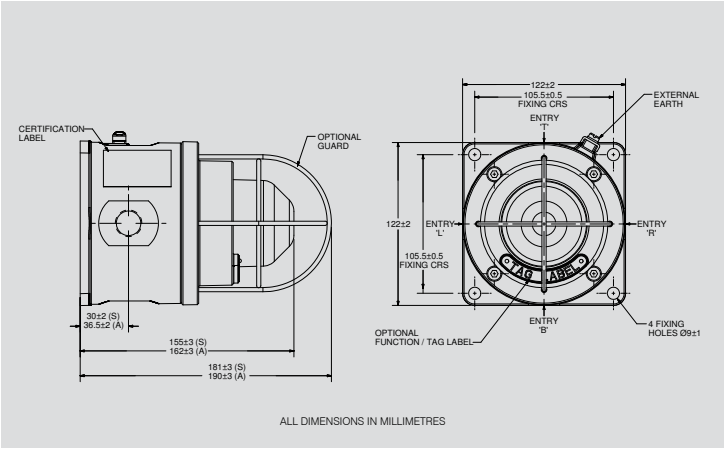
Ingress Protection: IP66 & IP67.

Entries: Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT.

Terminals: HXB & XBT – 6 off suitable for up to 2.5mm² cable.
LED – 6 off suitable for up to 2.5mm² cable.

Relay Initiate: Initiation by telephone ringing tone or low voltage control signals.

Labels: Duty & Tag Labels optional.



Electrical Ratings:

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube Energy (Joules) SM87 HXB XBT	5	5	6	7	6	7	8
Peak Current Consumption (mA)	393	175	250	275	120	135	153
Current Consumption SM87 LED	165mA	85mA	N/A	N/A	N/A	N/A	N/A
Power Consumption (Watts)	7.2	7.6	25	27	25	27	35
Effective Intensity (Cd)	29	29	32	39	32	39	44
Peak Intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses.

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.

LED Light Output. Steady or Flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED Output (Candela)	192	64	64	17

LED/Lens Colour: Red, Blue, Green, Amber, Yellow (not LED) or Clear.
Flash Rate: 60fpm as standard, other flash rates available on request.

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.

Model

Model	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
Xenon	SM87XBTA*
High Temp. (alloy)	
Xenon	SM87XBTS*
High Temp. (stainless steel)	
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

* Only available 24V d.c.

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL
CSA	C
CUTR	G*
Chinese (CQST)	Q
Inmetro	DM

Only HXBS is available CSA certified.
Only HXBA & XBTA is available UL certified.

* Russian Fire Approval as standard.

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c. not LED	110
120V a.c. not LED	120
220V a.c. not LED	220
240V a.c. not LED	240
254V a.c. not LED	254

Lens/LED Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Clear	C
Yellow (not LED)	Y

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code.
e.g. 1T1B=M20 Top and Bottom entries.

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify wording. (Note: 15 characters maximum).

Options

Options	Code
Telephone	T*
Relay	R*
EOL Resistor	E*†
None	N

* Not available on UL versions.
† Please specify.

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Yellow/ Black Stripe	X
Grey	G
White	W
Special	S*

* Please specify.

Ex d, Weatherproof

Introduction

These certified beacons have been designed for use in potentially explosive gas and dust atmospheres and harsh environmental conditions. The glass reinforced polyester enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The beacon housing is manufactured completely from a UV stable, glass reinforced polyester. Stainless steel screws and mounting bracket are incorporated ensuring a totally corrosion free product.

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

Features

- Zone 1 and Zone 2 use.
- Exd IIB T4, T5 & T6.
- ATEX approved, Ex II 2GD.
- BASEEFA certified.
- UL Listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div 2, Groups C & D.
    - Class I, Zones 1 & 2, AExd IIB T4/T5.
  - Ordinary locations: Visual-Signal Device.
- IECEx certified Gb, Db.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- Certified temperature: –55°C to +70°C.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.
- Optional telephone initiation.
- 2 x M20 cable entries or 2 x 1/2" NPT*.
- Earth continuity option*.
- Filament version (20W) available†.
- Fluorescent version (10W) available†.
- Beacon/Sounder Combination Unit available.

**Model dependent.*

†See FL11, FB11, FL12, FB12 data sheet.

ATEX IECEx cULus CUTR INMETRO CQST

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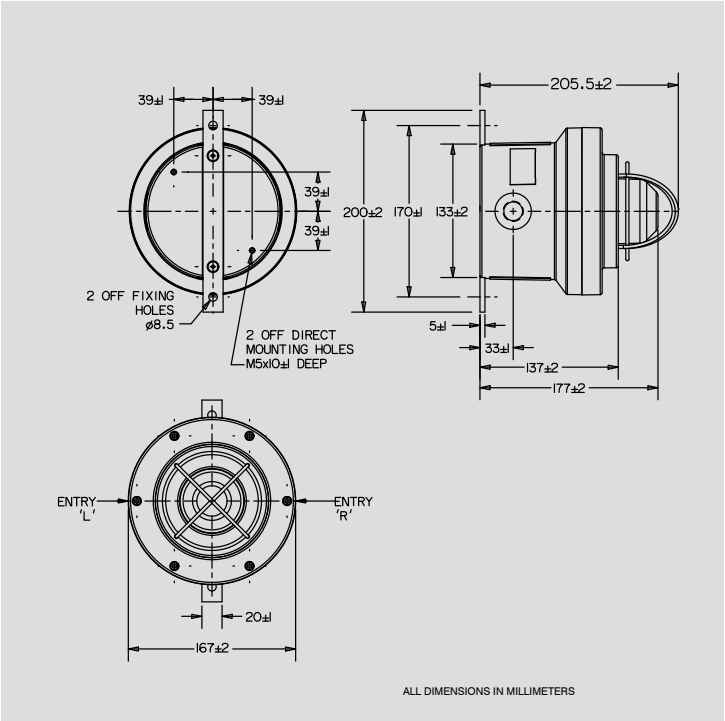
MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

ATEX Ex d:	Cert. no. BAS99ATEX2195. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIB T4/T5/T6 Gb, Ex tb IIIC T75ºC/T90ºC/T105ºC Db.
IECEx Ex d:	Cert. no. IECEx BAS 10.0101. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 75ºC/90ºC/105ºC Db.
UL Haz Locs:	Listing no. E187894. Class I, Div 2, Groups C & D. Class I, Zones 1 & 2, AExd IIB T4/T5.
UL Ord Locs:	Listing no. S8128. Visual Signal Device
CUTR Ex d:	1Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 75ºC/90ºC/105ºC Db.
Inmetro Ex d:	Ex d IIB T4/T5/T6 Gb.
CQST:	Ex d IIB T4/T5.
Material:	Body: Glass reinforced polyester. Lens: Glass. Cover Screws + Backstrap: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Weight:	2.5Kg.
Certified Temp:	Exd –55ºC to +70ºC (T4). –55ºC to +55ºC (T5). –55ºC to +40ºC (T6). UL –55ºC to +70ºC (hazardous locations). –55ºC to +55ºC (ordinary locations).
Ingress Protection:	IP66 & IP67.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Earth Continuity:	Optional for metal glands provided via a brass plate. (Not available for UL version).
Terminals:	6 x 2.5mm².
Telephone initiation:	Initiation by telephone ringing tone.
Labels:	Duty/Tag Label optional.
Entries:	2 x M20 ISO Exd. 2 x ½" NPT UL. Note: ATEX/UL Dual Listed unit has up to 2 x ½" NPT entries only.
Beacon/Sounder Unit:	The beacon may be combined with an MEDC sounder to create a visual/audible alarm. Contact MEDC for price and specification.
Tube Life:	>1x10⁶ flashes



Electrical Ratings:

	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
XB11 Tube Energy (Joules)	5	5	5
Peak Current Consumption (mA)	320	100	60
Effective Intensity (Cd)	29	29	29
Peak Intensity (Cd)	22213	22213	22213
Power Consumption (Watts)	8	11	18

NOTE: The Cd figures are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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

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.

Model: XB11

Certification

Certification	Code
Uncertified	W
BASEEFA	B
IECEx	J
UL	UL
UL (Ordinary location)	UW
ATEX/UL Dual Listed	AU
CUTR	G
Chinese (CQST)	Q
Inmetro	DM

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
230V a.c.	230
240V a.c.	240

Flashrate

Flashrate	Code
60 / min	06

Other flash rates available, please specify.

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
None	N
Yes	Y

Fixings

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Earth Continuity

Continuity	Code*
None	N
Yes	Y

*Earth continuity not available in UL or Dual Listed versions.

Tag/Duty

Label	Code
None	N
Yes	Y*

*Please specify.

Options

Option	Code
Telephone initiate	T*
Blanking Plug	P
None	N

*Telephone option not available in UL version.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Special	S*

*Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof

Features

- Zone 1 and Zone 2 use.
- Ex d IIC T5/T6.
- ATEX approved, Ex II 2G.
- IECEx certified Gb.
- BASEEFA certified.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- Certified Temperature: –55°C to +55°C.
- Corrosion Free GRP.
- Various lens colours.
- Lens guard fitted as standard.
- Optional gland plus cable tail.
- Stainless steel mounting bracket & screws.
- Replaceable tube.

Introduction

These compact and lightweight beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The beacon housing, including the flamepaths, is manufactured completely from a UV stable glass reinforced polyester which is ideally suited for use offshore and onshore.

Stainless Steel screws and mounting bracket are incorporated ensuring a totally corrosion free unit.

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

ATEX IECEx CUTR INMETRO CQST NAN YANG

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MEDC

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Certification and Specification

ATEX Ex d:	Cert. no. Baseefa 04ATEX2031. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIC T5/T6 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 10.0113. Certified to: IEC60079-0, IEC60079-1. Ex d IIC T5/T6 Gb.
CUTR Ex d:	1Ex d IIC T5/T6 Gb.
Inmetro Ex d:	Ex d IIC T5/T6 Gb.
CQST Ex d:	Ex d IIC T5/T6 Gb.
Material:	Body & Cover: Glass Reinforced Polyester (GRP). Lens: Toughened Glass. Cover Screws & Bracket: Stainless Steel 316.
Finish:	Natural black or painted to customer specification.
Weight:	1.6kg.
Certified Temp:	–55ºC to +40ºC (T6). –55ºC to +55ºC (T5).
Ingress Protection:	IP66 & IP67.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Terminals:	3 x 2.5mm^2.
Mounting:	Wall mounted via bracket.
Entries:	1 x M20 or PG 13.5.
Optional:	1 x 3m cable tail and gland.
Tube Life:	>1x10^6 flashes

Electrical Ratings:

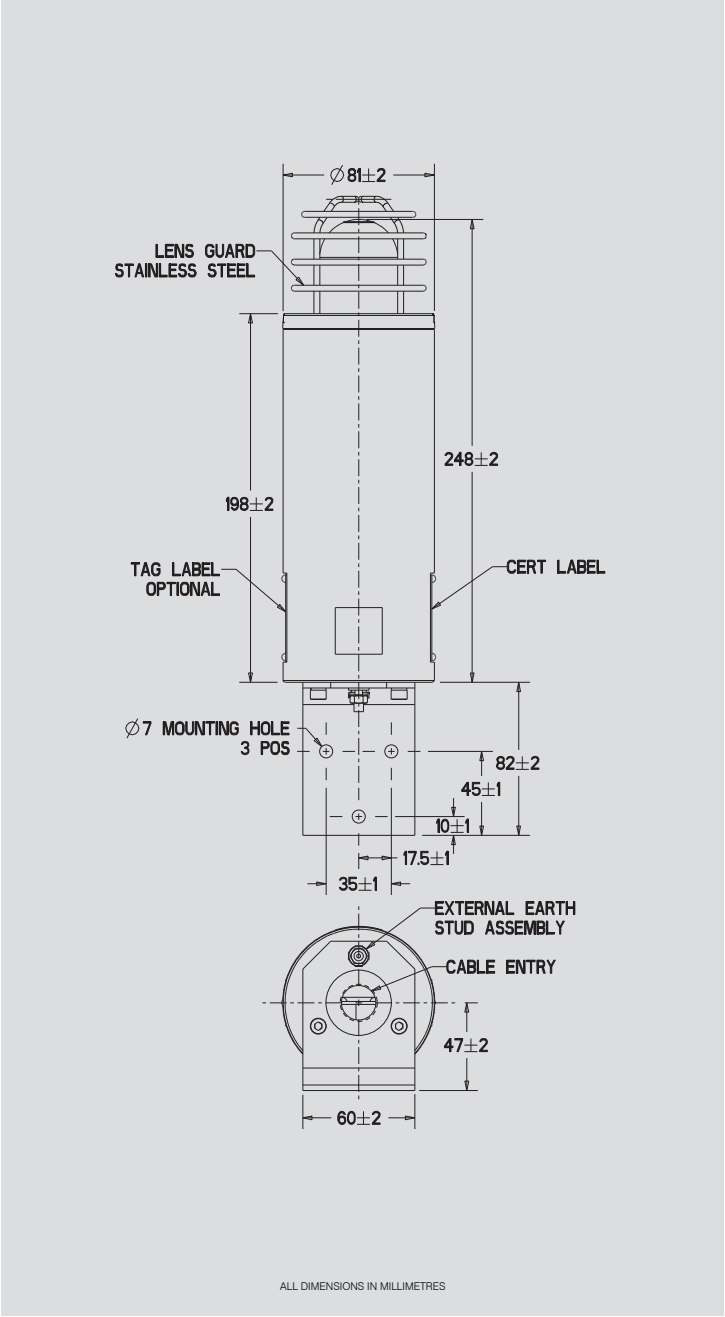
	d.c.			a.c.	
Voltage	12	24	48	110	240/254
Tube Energy (J)	5	5	5	5	5
Peak Current Consumption (A)	0.74	0.32	0.18	0.1	0.06
Effective Intensity (Cd)	29	29	29	29	29
Peak Intensity (Cd)	22213	22213	22213	22213	22213
Power Consumption (W)	9	8	9	11	15

Note: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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



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.

Model: XB9

Certification

Certification	Code
Uncertified	W
Exd	D
IECEx	J
CUTR	G
Chinese (CQST)	Q
Inmetro	DM

Voltage

Voltage	Code
12V d.c.	012
24V d.c.	024
48V d.c.	048
110V a.c.	110
240V a.c.	240
254V a.c.	254

Flashrate

Flashrate	Code
60 / min	06

Other flash rates available on request, please specify.

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard: Y

Guard	Code
Yes	Y

Tag / Duty

Label	Code
None	N
Yes	Y*

* Please specify wording.

Entries / Cable Tail

Entries	Code
1 x M20	1B
1 x PG 13.5	1P
Cable & Tail 3m cable	CB

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d(e), Weatherproof

Introduction

These compact and lightweight 10 & 15 Joule beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The beacon housing, including the flamepaths, is manufactured completely from a UV stable glass reinforced polyester which is ideally suited for use offshore and onshore.

Stainless Steel screws and mounting bracket are incorporated ensuring a totally corrosion free unit.

An additional body clamp is available for high-vibration environments.

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

Features

- Zone 1 and Zone 2 use.
- Ex d(e) IIB T4.
- ATEX Approved, Ex II 2G.
- BASEEFA certified.
- IECEx certified Gb.
- CUTR certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- Certified Temperature: –55°C to +55°C*.
- Low current 10 Joule version available.
- Corrosion Free GRP.
- Various lens colours.
- Lens guard fitted as standard.
- Stainless steel mounting bracket & screws.
- Replaceable twin tubes.
- Optional telephone initiate.
- Optional earth continuity.

** Model dependent.*

ATEX IECEx CUTR INMETRO

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MEDC

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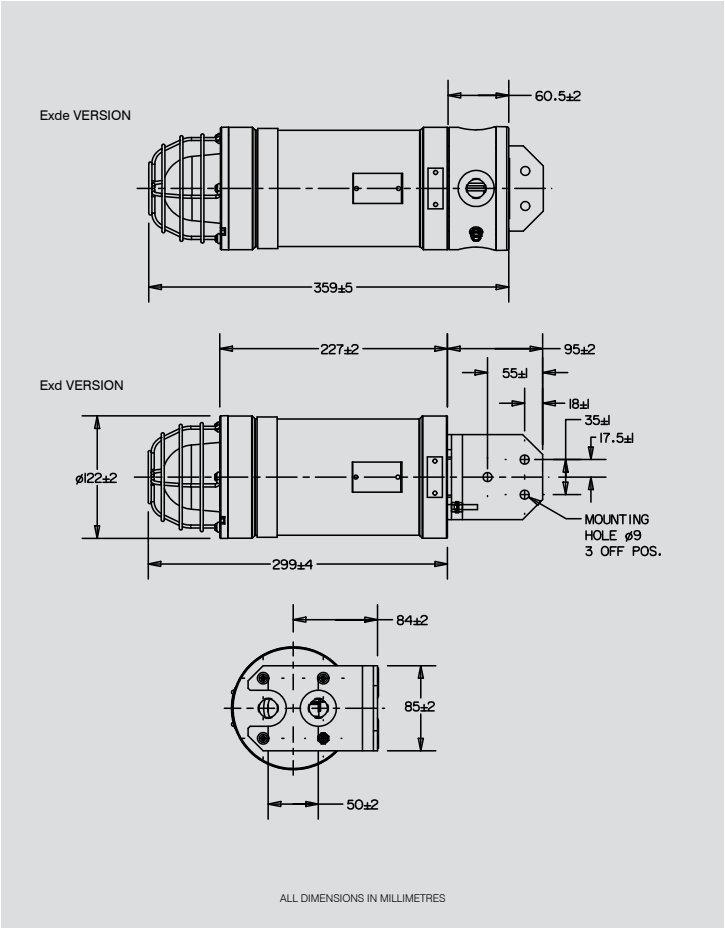
Certification and Specification

ATEX Ex d:	Cert. no. Baseefa 04ATEX2204X. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T4 Gb.
ATEX Ex de:	Cert. no. Baseefa 04ATEX2226X. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex II 2G, Ex de IIB T4 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 10.0086X. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T4 Gb.
IECEx Ex de:	Cert. no. IECEx BAS 10.0087X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. Ex de IIB T4 Gb.
CUTR Ex d:	1Ex d IIB T4 Gb. Russian Fire Alarm approved.
CUTR Ex de:	1Ex de IIB T4 Gb. Russian Fire Alarm approved.
Inmetro Ex d:	Ex d IIB T4 Gb.
Inmetro Ex de:	Ex de IIB T4 Gb.
Material:	Body: Glass reinforced polyester. Lens: Glass. Cover Screws + Bracket: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Weight:	Exd 2.8kg. Exde 3.6kg.
Certified Temp:	15J unit: Exd -55ºC to +50ºC. Exde -50ºC to +50ºC. 10J unit: Exd -55ºC to +65ºC. Exde -50ºC to +65ºC.
Ingress Protection:	IP66 & IP67.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Terminals:	4 x 2.5mm^2 (d.c.), 6 x 2.5mm^2 (a.c.).
Mounting:	Wall mounted via bracket.
Tube Life:	>1x10^6 flashes



Electrical Ratings:

	d.c.				a.c.			
Voltage	24		48		110		220/240/254	
Tube Energy (J)	10	15	10	15	10	15	10	15
Peak Current Consumption (mA)	700	1200	300	560	190	300	100	145
Effective Intensity (Cd)	285	330	285	330	285	330	285	330
Peak Intensity (Cd)	74179	111269	74179	111269	74179	111269	74179	111269
Power Consumption (W)	16.8	28.8	14.4	26.8	20.9	33	24	34.8
Flash Rate	1Hz (other flash rates available on request, please specify).							

Note: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Entries:	Up to 2 x M20 (Exd). Up to 3 x M20 (Exde).
Optional:	1 x 3m cable tail (both Exd & Exde).

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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

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.

Model XB10 | **Certification** | **Voltage** | **Power** | **Lens Colour** | **Tag/Duty** | **Options** | **Entries** | **Finish**

Certification	Code
Uncertified	W
Ex d	D
Ex de	E
IECEx Ex d	DJ
IECEx Ex de	EJ
CUTR Ex d	DG*
CUTR Ex e	EG*
Inmetro Exd	DM
Inmetro Exde	EM

* Russian Fire Approval as standard.

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
220V a.c.	220
240V a.c.	240
254V a.c.	254

Power	Code
10J	T
15J	F

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Label	Code
None	N
Yes	Y*

*Please specify wording.

Options	Code
Telephone Initiate	T
Earth Continuity	E
3m cable tail	G
None	N

Entries	Code
Exd	
1 x M20	1B
1 x PG13.5	1P
2 x M20	2B
2 x PG13.5	2P
Exd(e)	
3 x M20	3B

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Special	S*

*Please specify.

Ex de

Introduction

It is often necessary to use optical signals for warning, indicating and signalling purposes in areas with explosive atmospheres.

The ExII strobe light dSLB 20 offers these signalling possibilities and is designed for continuous operation, and is available with various rated voltages. The sturdy housing conforms to protection degree IP 66/67, suitable for both indoor and outdoor installation.

The ExII strobe light consists of a light grade aluminium alloy, flameproof housing and a lens manufactured from borosilicate glass

Features

- Compact construction
- Versatile
- Light intensity up to 15 joule
- Protection degree IP 66 / 67
- Explosion protection class

  II 2G Ex d e IIC T6 / T5 Gb

  II 2D Ex tb IIIC IP66 T80°C / T95°C Db

Use on an oil platform

The sturdy housing conforms to protection degree IP 66 / 67 and can be installed both indoors and outdoors.

ATEX IECEx GOST

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MEDC

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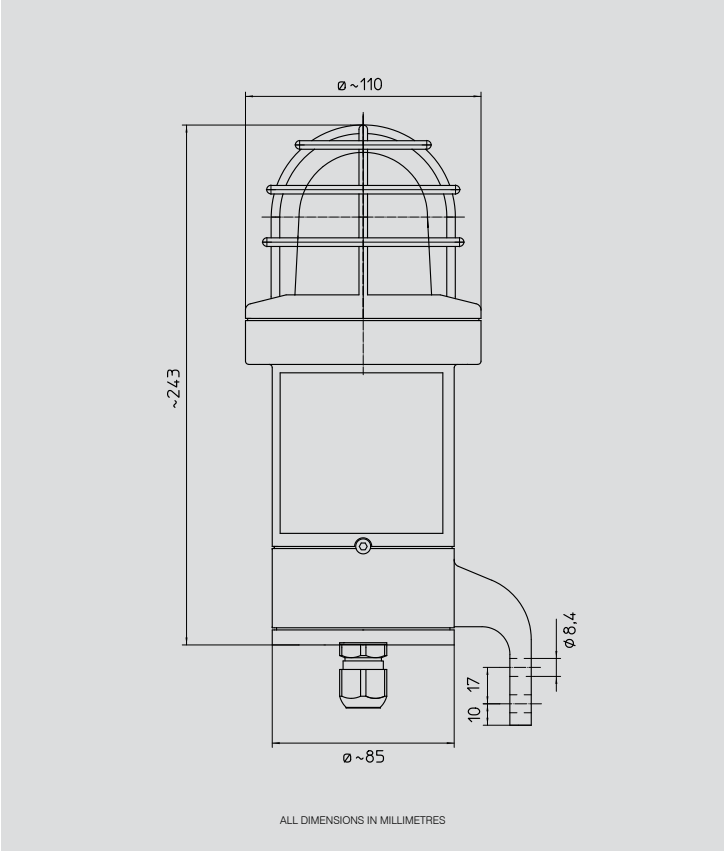
Certification and Specification

Type of protection:	II 2G Ex d e IIC T6/T5 Gb. II 2D Ex tb IIIC IP66 T95ºC, T80ºC Db.
Approval:	PTB 99 ATEX 1028. IECEx PTB 09. 0062.
Weight:	Approx 2 kg.
Housing:	Aluminium, surface lacquered or powder-coated.
Colour:	Yellow/Blue with borosilicate glass cap and protective cage of stainless steel.
Cap colours:	Transparent, red, amber, green, blue.
IP rating:	IP 66 / 67 acc. IEC 60529.
Protection class:	I.
Cable gland:	1x M20 x 1.5 and 1x blind plug M20 x 1.5 (15 joule version). 1x M20 x 1.5 on the side (5 joule version).
Connection terminals:	Power supply: Cross section – 2.5 mm^2 single wire 1.5 mm^2 fine wire Protective earth – Screw connection with wire protection clamp in connection enclosure max. 2.5 mm^2 Equipotential – Screw connection with wire bonding conductor protection clamp out side, cross section max. 4 mm^2.
Operating conditions:	Indoors and outdoors.
Operating position:	Any.
Operating mode:	Continuous.
Flash energy:	5 joule / 15 joule.
Flash frequency:	Approx. 60/min. (1 Hz).
Average lifetime:	Approx. 5x 106 flashes.
Temperature range: Operation:	 -55ºC to +40ºC (T6). -55ºC to +55ºC (T5).



Ordering Information

The full article number is made up by appending the colour code for the coloured cap to the article number given here (--).
Transparent 01 | Red 02 | Amber 03 | Green 04 | Blue 05 | For example **F22496301** = Transparent ExII Strobe Light 24VDC 15J 1A.

Type	Name	Voltage	Flash energy	Current consumption	Article no.
dSLB 20	ExII Strobe Light	24 VDC (21–53 VDC)	15 Joule	1 A	F224 963 (--)
dSLB 20	ExII Strobe Light	80 VDC (72–132 VDC)	15 Joule	250 mA	F224 965 (--)
dSLB 20	ExII Strobe Light	115 VAC (103–127 VAC)	15 Joule	200 mA	F224 966 (--)
dSLB 20	ExII Strobe Light	230 VAC (207–253 VAC)	15 Joule	200 mA	F224 997 (--)
dSLB 20	ExII Strobe Light	12 VDC (10–14 VDC)	5 Joule	600 mA	F224 912 (--)
dSLB 20	ExII Strobe Light	24 VDC (21–53 VDC)	5 Joule	280 mA	F224 913 (--)
dSLB 20	ExII Strobe Light	80 VDC (72–132 VDC)	5 Joule	90 mA	F224 915 (--)
dSLB 20	ExII Strobe Light	115 VAC (103–127 VAC)	5 Joule	135 mA	F224 906 (--)
dSLB 20	ExII Strobe Light	230 VAC (207–253 VAC)	5 Joule	130 mA	F224 907 (--)

XB15 Range - 15 Joules Xenon Beacons

Crouse-Hinds by EATON

Ex d, Weatherproof

Introduction

These certified beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The housings are manufactured completely from a UV stable, glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion-free product.

The model XB15 contains a supervisory diode and four wire lead connections for alarm applications.

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

Features

- Zone 1 and Zone 2 use.
- Exd IIC, T4/T5/T6.
- ATEX approved, Ex II 2GD.
- IECEx Certified Gb, Db.
- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class II, Div 2 Groups F & G.
    - Class I, Zone 1, AExd IIC T4/T5/T6.
  - Ordinary locations: Visual-Signal Device.
  - Marine listed.
- ULC Listed to Canadian Safety Standards
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 & 67.
- SIL 1 Certified.
- Certified temperature: –55°C to +70°C.
- Pipe mount or direct mount enclosure.
- Corrosion-free GRP.
- Four wires and supervisory diode.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional relay or telephone initiate.
- Optional cast or wire lens guard.
- Up to 3 x M20 or 3 x M25 entries.
- Filament version available (100W max). (See data sheet for FB15).

Head Office.
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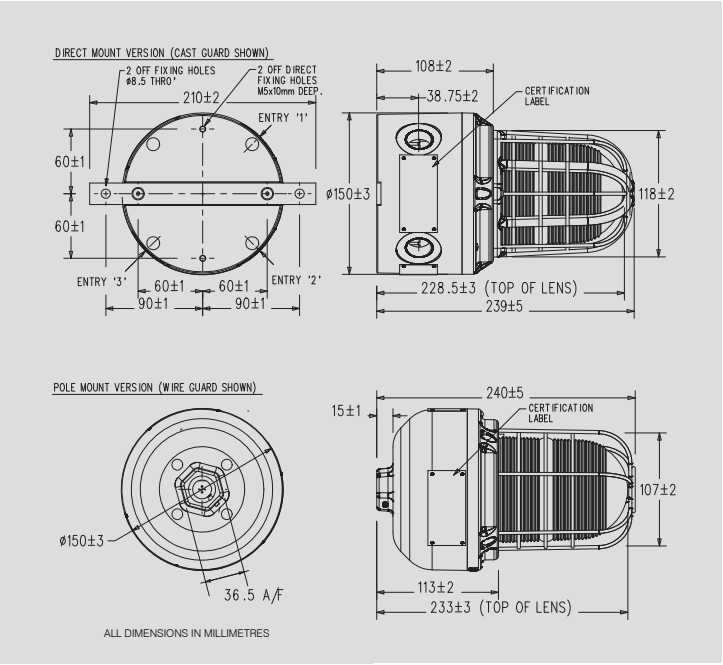
Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

ATEX Exd:	Cert. no. Baseefa 04ATEX0009X. Certified to: EN50014, EN50018, EN50281-1-1. Ex II 2GD, Ex d IIC T4/T5/T6 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 05.0048X. Certified to: IEC60079-0, IEC60079-1, IEC61241-1-1. Ex d IIC T4/T5/T6 DIP A21.
UL Haz Locs:	Listing no. E187894. Class I, Div 2, Groups A, B, C & D. Class II, Div 2, Groups F & G. Class I, Zones 1, AExd IIC T4/T5/T6.
UL Ord Locs:	Listing no. S8128. Visual Signal Device.
CUTR Ex d:	1Ex d IIC T4/T5/T6 DIP A21. Russian Fire Alarm approved.
Inmetro Ex d:	Ex d IIC T3/T4/T5/T6 Gb.
CQST:	Ex d IIB T4/T5.
SIL:	SIL1 certification to IEC61508. Cert. No. Sira FSP 12004. (except telephone initiate version)
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 painted to customer specification.
Models:	XB15 ATEX – Available in direct mount version only. XB15 UL – Available in pipe and direct mount versions.
Voltage:	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.
Tube Energy:	15 Joules.
Tube Life:	>1 x 10^6 flashes.
Flash Rate:	60, 80, 120 fpm.
Certified Temp:	-55ºC to +40ºC (T6). -55ºC to +55ºC (T5). -55ºC to +70ºC (T4).
Weight:	Pipe mount: 2.6kg; Direct mount: 3.0kg.
Ingress Protection:	IP66 & IP67.
Entries:	ATEX version: Supplied as 2 x M20 entries as standard – Up to 3 x M20 or 3 x M25 entries. Contact sales office to order. UL version: Supplied as 2 x 3/4" NPT (direct mount) or 3/4" (pipe mount) as standard. Other options available: Up to 3 x 1/2" NPT or 3 x 3/4" NPT (direct mount); 1/2" NPT (pipe mount) – contact sales office to order.



Terminals:	Direct mount: 12 x 14AWG. / Pipe mount: 8 x 14AWG.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Labels:	Tag/Duty label optional.

Electrical Ratings:

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A)	0.99	0.73	0.4	0.4	0.2	0.2	0.17

Effective Candlepower (Cd) – 330 at 60 flashes per min.

Peak Candlepower – 520,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse).

Multiplying Factor for Coloured Lenses: UL/UW/UM versions

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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

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.

Model

XB15

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL
UL (ordinary location)	UW
UL Marine	UM
CUTR	G*
Chinese (CQST)	Q
Inmetro	DM

* Russian Fire Approved as standard.

For ULC ordering codes and technical details please refer to the US data sheet.

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Flashrate

Flashrate	Code
60 / min	06
80 / min	08
120 / min	12

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Cast	C
Wire	W

Fixings

Fixings	Code
Pipe mount	P*†
Direct mount without backstrap	D†
Direct mount with backstrap	B†

* Only available on UL listings
† Contact MEDC if 1/2"NPT is required.

Options

Option	Code
None	N
Tag label	T
Duty label	D
Relay initiate	R*
Telephone initiate	I†
Blanking Plug	P

* Suitable for 24V d.c. supplies only.
† Not available on UL/UW/SIL versions.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d(e), Weatherproof

Introduction

These high output (21 Joule) beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The marine grade alloy or stainless steel enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

Available with optional Exe terminal chamber.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex d(e) IIC.
- ATEX approved Ex II 2GD.
- BASEEFA certified.
- IECEx certified Gb,Db.
- UL Listed for USA and Canada:
  - – Hazardous locations:
    - Class I, Div 1, Groups C & D.
    - Class I, Zone 1, AExd IIB T4.
  - – Ordinary locations: Visual-Signal Device.
- CUTR certified.
- Brazilian (Inmetro) certified.
- *Certified temperature: –55°C to +70°C.
- IP67 and IP66.
- Stainless steel or marine grade alloy.
- Various lens colours.
- Twin replaceable tubes.
- Exde version has gland earth continuity in the GRP terminal chamber.
- Tapered spigot flamepath.
- Telephone or relay initiated option.
- Optional lens guard.

**Depending on version.*

ATEX IECEx cULus CUTR INMETRO

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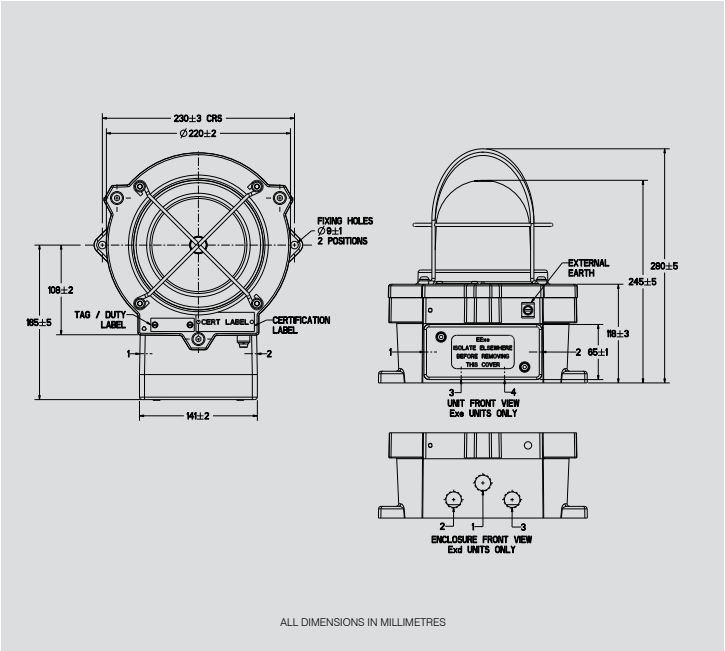
Certification and Specification

ATEX Ex d:	Cert. no. Baseefa 04ATEX0224X. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIC T4/T5/T6 Gb. Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
ATEX Ex de:	Ex II 2G EEx de IIC.
IECEx Ex d:	Cert. no. IECEx BAS 10.0078X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex II 2GD, Ex d IIC T4/T5/T6 Gb. Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
UL Haz Locs:	Listing no. E187894. Class I, Div 1, Groups C & D. Class I, Zones 1.
UL Ord Locs:	Listing no. S8128. Visual Signal Device.
CUTR Ex d:	1Ex II 2GD, Ex d IIC T4/T5/T6 Gb. Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
Inmetro Ex d:	Ex d IIC T4/T5/T6 Gb.
Inmetro Ex de:	Ex de IIC T4/T5/T6 Gb.
Material:	LM25TF Marine Grade Alloy body. Grade 316 ANC4B Stainless Steel body. Glass reinforced polyester (GRP) terminal chamber. Toughened Wellglass.
Finish:	Red epoxy paint finish as standard or to customer specification.
Certified Temp:	UL -25ºC to + 70ºC. ATEX -50ºC to +55ºC (Ex de). ATEX, IECEx, CUTR & Inmetro. -55ºC to +70ºC (Ex d).
Weight:	Exd: 6.6kg. Exde: 7.6kg. Add 8.4kg for stainless steel version.
Entries:	Up to 3 x M20 or 2 x M25 ISO in Exd unit. Up to 4 x M20 or 4 x M25 ISO in Exe unit.
Terminals:	Exe: 6 off suitable for up to 6mm² cable. Exd: 8 off suitable for up to 6mm² cable.
Telephone initiation: or relay interface:	Initiation by telephone ringing tone or low voltage control signals, plus initiation of a second beacon or sounder.
Tube Life:	>1x10⁶ flashes



Electrical Ratings:

	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
Tube Energy (Joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses.

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.

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.

Model

XB4

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL*
UL (ordinary location)	UW
CUTR Ex d	G†
Inmetro	M

* UL - available alloy or stainless steel.
- 24v d.c., 110v a.c.,
- 240v a.c. only.

† Russian Fire Approval as standard.

Voltage

Voltage	Code
24V d.c.	B
48V d.c.	C
110V d.c.	D
110V a.c.	E
120V a.c.	F
220V a.c.	G
240V a.c.	H
254V a.c.	J

Terminals

Terminals	Type
6 x 6mm² (Exe)	6E*
8 x 6mm² (Exd)	8D

* IECEx, UL and CUTR not available Exe.

Entries

Entries	Code
M20	*B
M25	*C
1/2" NPT	*D
3/4" NPT	*E

* Prefix entry size (see diagram above) with entry position code e.g. 1B2B.

Flashrate

Flashrate	Code
60 / min	06
120 / min	12
240 / min	24

Options

Options	Code
None	A
Telephone	B
Telephone & 2nd Beacon/ Sounder	C
Relay (12V-48VAC/DC)	D*
Relay (12V-48VAC/DC) & 2nd Beacon/ Sounder	E*

* Specify a.c./d.c. voltage.

Guard

Guard	Code
None	N
Yes	Y

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Yellow	Y
Amber	A
Clear	C

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify wording.

Material

Material	Code
Alloy	1
Stainless Steel	0

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Other	S*

* Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof

Introduction

These high output certified beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The beacon housing is manufactured completely from a UV stable, glass reinforced polyester.

Stainless steel screws and mounting bracket are incorporated ensuring a totally corrosion free product.

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

Features

- Zone 1 and Zone 2 use.
- Ex d IIB T4/T5/T6.
- ATEX approved, Ex II 2G.
- BASEEFA certified.
- UL Listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div 2, Groups C & D.
    - Class I, Zones 1 & 2, AExd IIB T4 & T5.
  - Ordinary locations: Visual-Signal Device.
  - Marine Listed.
- IECEx certified Gb.
- CUTR certified.
- Chinese (CQST) certified.
- Inmetro certified.
- High Output (21 Joules).
- IP66 and IP67.
- Certified temperature: –55°C to +70°C.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.
- Optional telephone initiation.
- Twin replaceable tubes.

Head Office.
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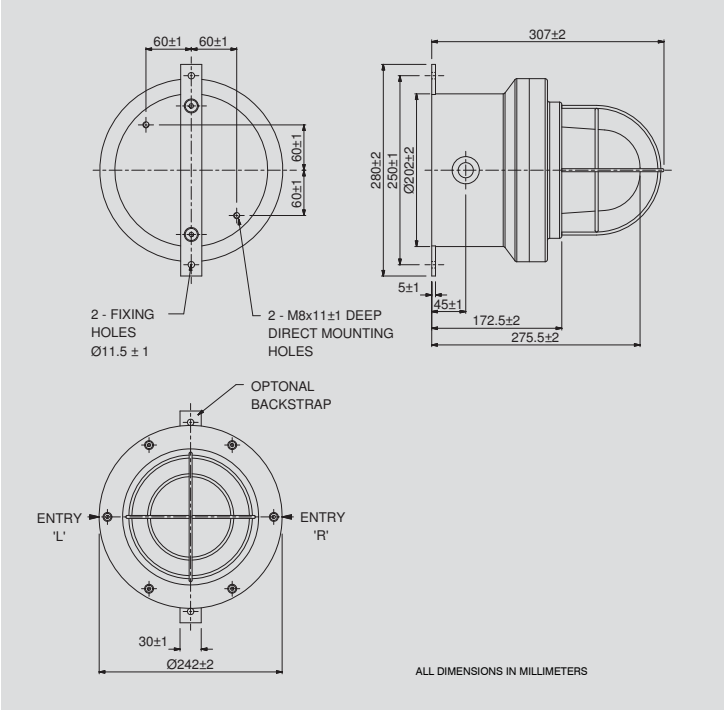
Certification and Specification

ATEX Ex d:	Cert. no. BAS99ATEX2196. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T4/T5/T6 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 10.0094. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T4/T5/T6 Gb.
UL Haz Locs:	Listing no. E187894. Class I, Div 2, Groups C & D. Class I, Zones 1 & 2, AExd IIB T4 & T5.
UL Ord Locs:	Listing no. S8128. Visual Signal Device.
CUTR Ex d:	1Ex d IIB T4/T5/T6 Gb.
Inmetro Ex d:	Ex d IIB T4/T5/T6 Gb.
CQST:	Ex d IIB T4/T5.
Material:	Body: Glass reinforced polyester. Lens: Toughened Glass. Cover Screws + Backstrap: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Weight:	7.0kg.
Certified Temp:	Exd -55ºC to +70ºC (T4). -55ºC to +55ºC (T5). -55ºC to +40ºC (T6). UL -55ºC to +70ºC (Hazardous Locations). -55ºC to +55ºC (Ordinary Locations).
Ingress Protection:	IP66 & 67.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Earth Continuity:	Optional for metal glands provided via a brass plate (not available in UL version).
Terminals:	6 x 6.0mm^2.
Telephone initiation:	Initiation by telephone ringing tone.
Labels:	Duty/Tag Label optional.
Entries:	2 x M20 ISO EExd. 2 x ½" NPT UL.
Tube Life:	>1x10^6 flashes



Electrical Ratings:

	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
XB12 Tube Energy (Joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691
Power Consumption (Watts)	33.6	38.5	44.4

NOTE: The Cd figures are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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

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.

Model: XB12

Certification

Certification	Code
Uncertified	W
ATEX	B
IECEx	J
UL	UL
UL (ordinary locations)	UW
UL Marine	UM
CUTR	G
Chinese (CQST)	Q
Inmetro	DM

Voltage

Voltage	Code
24V d.c.	024
110V a.c.	110
240V a.c.	240

Other voltages available, please specify.

Flashrate

Fpm	Code
60 / min	06

Other flash rates available, please specify.

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Yes	Y

Fixings

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Earth Continuity

Continuity	Code
None	N
Yes	Y*

*Earth continuity not available in UL version.

Tag/Duty

Label	Code
None	N
Yes	Y*

*Please specify.

Unit Options

Option	Code
None	N
Blanking Plug	P
Telephone	T*

*Telephone option not available in UL version.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Special	S*

*Please specify.

Crouse-Hinds by EATON

Intrinsically Safe (Ex ia), Weatherproof

Features

- Zones 0, 1, 2 & safe area use.
- Ex ia IIB/IIC T4.
- ATEX approved, Ex II 1G.
- BASEEFA certified.
- IECEx certified Ga.
- CUTR certified.
- IP66 & IP67.
- Certified temperature: –55°C to +60°C.
- Corrosion resistant GRP body.
- High intensity flash.
- Clear polycarbonate lens.
- Retained stainless steel cover screws.
- Encapsulated electronics.

Introduction

This range of ruggedised, intrinsically safe and weatherproof beacons, intended for use in potentially explosive atmospheres, have 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 unit is available in 12V and 24V versions and for gas groups IIB or IIC.

A lower cost, uncertified version is available.

ATEX IECEx CUTR

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MEDC

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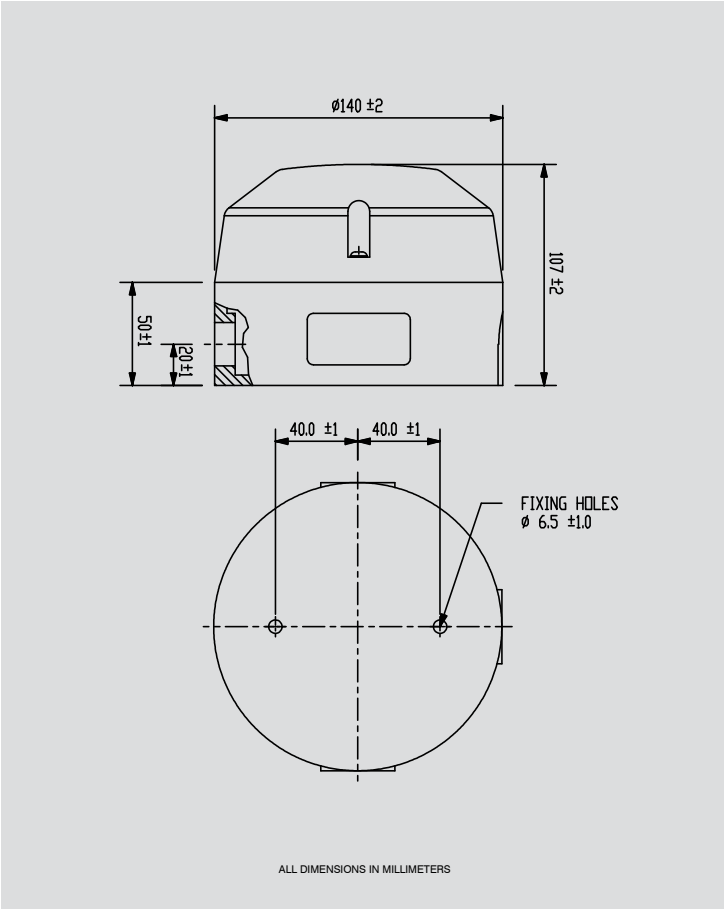
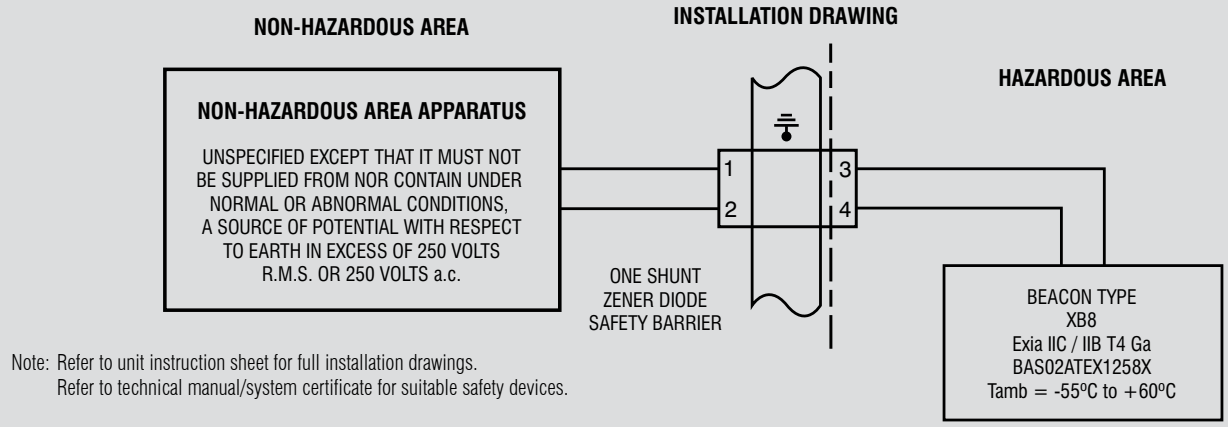
Certification and Specification

ATEX Ex ia:	Cert. no. BAS00ATEX1258X. Certified to: EN60079-0, EN60079-11. Ex II 1G, Ex ia IIB/IIC T4 Ga. System cert. no. Baseefa13Y0230
IECEx Ex ia:	Cert. no. IECEx BAS 10.0111X. Certified to: IEC60079-0, IEC60079-11. Ex ia IIB/IIC T4 Ga.
CUTR Ex ia:	0Ex ia IIB/IIC T4 Ga. Russian Fire Approved.
ABS:	American Bureau of Shipping Type Approval.
Material:	UV stable glass reinforced polyester body. Clear polycarbonate cover/lens. Retained stainless steel cover screws.
Finish:	Painted red as standard or to customer specification.
Tube Energy:	IIB version 0.5 Joules. IIC version 0.4 Joules.
Weight:	1.4 kg.
Certified Temp:	–55ºC to +60ºC.
Ingress Protection:	IP66 & IP67.
Tube Life:	>1 x 10^6 flashes.
Voltage:	12V or 24V via suitable barrier.
Current Consumption:	24V IIB model – 71mA max. nominal. 24V IIC model – 55mA max. nominal. 12V IIB & IIC models – 52mA max. nominal.
Tube Type:	Xenon discharge.
Lens Colour:	Clear as standard. Coloured options available.
Terminals:	8 x 2.5mm^2.
Flash Rate:	1 flash per second.
Labels:	Duty and tag labels optional.
Cable Entries:	Up to 3 x M20 via knockouts.





Note: Refer to unit instruction sheet for full installation drawings.
Refer to technical manual/system certificate for suitable safety devices.

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.

Model

XB8

Certification

Certification	Code
ATEX IIB	BB
ATEX IIC	BC
IECEx IIB	JB
IECEx IIC	JC
CUTR IIB	GB
CUTR IIC	GC

Voltage

Voltage	Code
12V	012
24V	024

Lens Colour

Lens Colour	Code
Clear (Standard)	C
Special	S*

*Please specify.

Label

Label	Code
Duty	D*
Tag	T*
None	N

*Please specify wording.

Finish

Finish	Code
Painted Red	R
Special	S*

*Please specify.

Crouse-Hinds by EATON

UL Listed Only, Weatherproof

Introduction

These listed beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

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

The model XB16 contains supervisory diode and four wire leads for fire alarm applications. This beacon is also available UL 1971 (ADA) listed for hearing impaired applications.

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

Features

- UL listed for USA and Canada.
  - Hazardous locations for USA and Canada:
    - Class I, Div. 2, Groups A, B, C & D*.
    - Class II, Div. 2, Groups F & G.
    - UL 1971 compliant version available†.
  - Ordinary locations: Visual Signal Device.
  - 'T' Rating model dependent. Contact sales office for information.
- IP66 & 67.
- Certified temperature: –55°C to +70°C.
- Pipe mount with ¾" NPT entry.
- Corrosion-free GRP enclosure.
- 580,000 peak candlepower.
- Polycarbonate lens, various colours available†.
- 4 Wire diode monitored board.
- Optional relay initiate.
- Optional lens guard.

** Conforms to UL standard or regulated voltage.*

† UL 1971 version available with clear lens only.

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Certification and Specification

Certification:	UL Listed for USA and Canada: – Hazardous locations for USA and Canada: UL1604. Class I, Div 2, Groups A, B, C & D. Class II, Div. 2, Groups F & G. UL listing No. E251185. – Ordinary locations: Visual Signal Device: UL1638. UL listing No. E251185. – Hazardous locations for hearing impaired: UL1971. 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:	24V d.c., 48V d.c. 110, 120, 230, 240, 254V a.c. Conforms to UL regulated voltage output (24Vdc, 120Vac, 240Vac).
Certified Temp:	–55ºC to +70ºC.
Tube Energy:	10 Joules.
Tube life:	>1 x 10^6 flashes.
Weight:	1.0kg.
Ingress Protection:	IP66 & IP67.
Entries:	Standard 1 x 3/4" NPT pipe mount. (Contact MEDC if 1/2" NPT is required).
Terminals:	8 x 2.5mm².
Labels:	Tag/Duty label option.

Electrical Ratings:

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A)	0.89	0.30	0.38	0.38	0.22	0.22	0.18

Effective candlepower (Cd): 285 at 60 f.p.m.

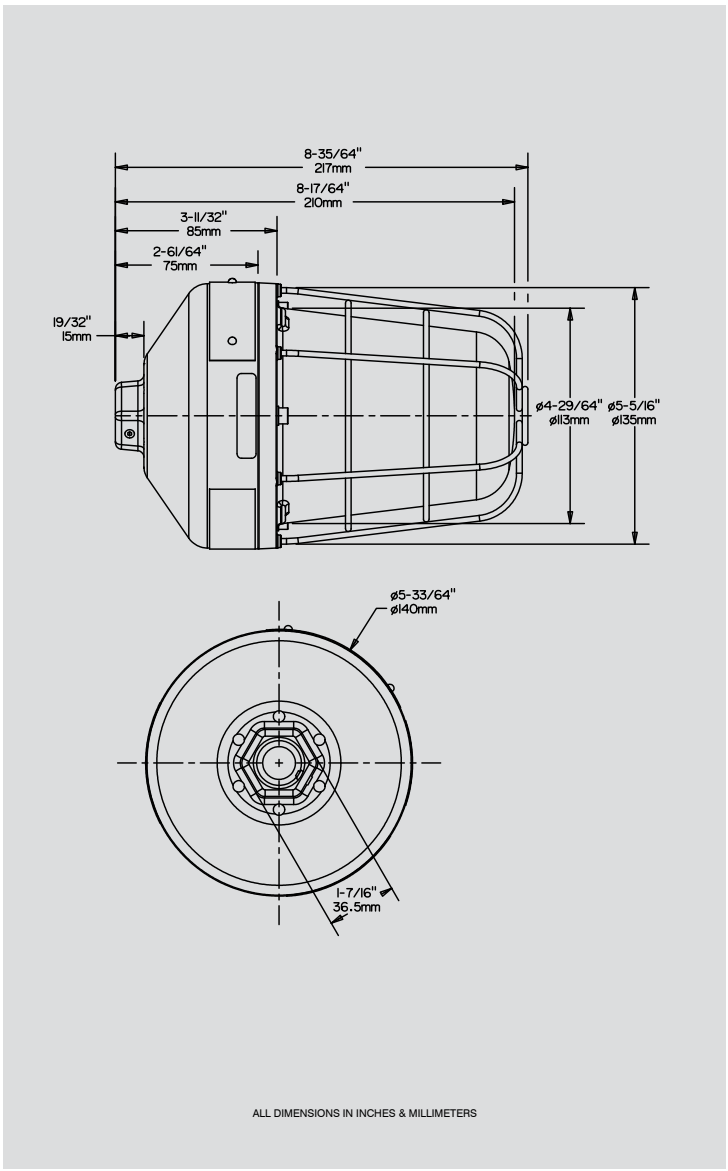
Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse).

UL 1971 On-axis output: 15 Cd.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

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



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.

Model
XB16

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW
UL 1971	US

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Flashrate

Flashrate	Code
60 / min	60
80 / min	80
120 / min	120

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C*

* UL 1971 version available with clear lens only.

Lens Guard

Guard	Code
Yes	Y
None	N

Options

Option	Code
Tag label	T*
Duty label	D*
Relay initiate	R†
None	N

* Please specify
† Suitable for 24V d.c. supplies only.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Harsh Industrial & Marine Environments

Features

- Weatherproof.
- IP66 & IP67.
- Operating temperature: –40°C to +70°C.
- Corrosion resistant red painted GRP body.
- High intensity flash.
- Polycarbonate lens, various colours available.
- Retained stainless steel cover screws.
- Optional lens guard.
- Optional telephone or relay initiate.
- 3 x M20 cable entries.
- Replaceable tube.
- Switchable dual flash.

Introduction

This range of ruggedised, weatherproof beacons, have been designed with high ingress protection to cope with harsh environmental conditions.

IP66/67 Weatherproof

Corrosion Free GRP/Polycarbonate

Head Office.
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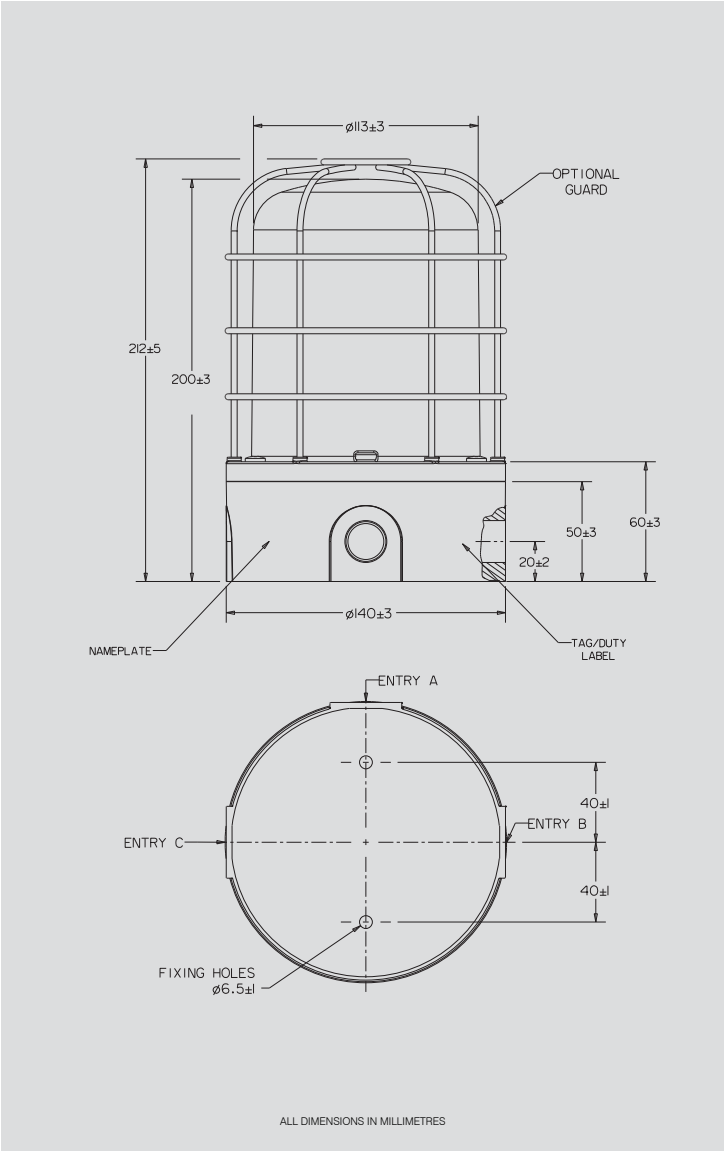
Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Material:	UV stable glass reinforced polyester body. UV stable polycarbonate cover/lens. Retained stainless steel cover screws.
Finish:	Painted red as standard or to Customer specification.
Tube Energy:	10 Joules (second flash 7.5 Joules).
Weight:	1.1kg.
Operating Temp:	–40ºC to +70ºC.
Ingress Protection:	IP66 & IP67.
Tube Life:	>1 x 10^6 flashes.
Voltage:	12V d.c., 24V d.c., 48V d.c., 115V a.c., 230V a.c.
Current Consumption:	Voltage – Current Consumption 12V d.c. – 1.4A 24V d.c. – 650mA 48V d.c. – 360mA 115V a.c. – 180mA 230V a.c. – 100mA
Tube Type:	Xenon discharge.
Lens Colour:	Various colours available.
Terminals:	8 x 2.5mm^2.
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).
Relay Initiate:	Initiation by telephone ringing tone or low voltage control signals - not available with 48Vdc

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86



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.

Model

XB13

Voltage

Voltage	Code
12V d.c.	012
24V d.c.	024
48Vd.c.	048
115V a.c.	115
230V a.c.	230

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
Yes	Y
None	N

Unit Options

Options	Code
Duty	D*
Tag	T*
Telephone Initiate	I
Relay Initiate	R
None	N

* Please specify wording.
† Not available with 48Vdc.

Finish

Finish	Code
Painted Red	R
Special	S*

*Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof

Features

- Zone 1 and Zone 2 use.
- Exd, IIB T3 and T4.
- ATEX approved, Ex II 2G.
- BASEEFA Certified.
- IECEx certified Gb.
- CUTR Certified.
- Inmetro Certified.
- IP66 and IP67.
- Certified temperature: –55°C to +70°C.
- 55W and 70W tungsten halogen bulb*.
- Various rotating speeds available.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.

** Voltage dependent.*

Introduction

These certified rotating beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The housing is manufactured completely from a UV stable, glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion free product.

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

ATEX IECEx CUTR INMETRO

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MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

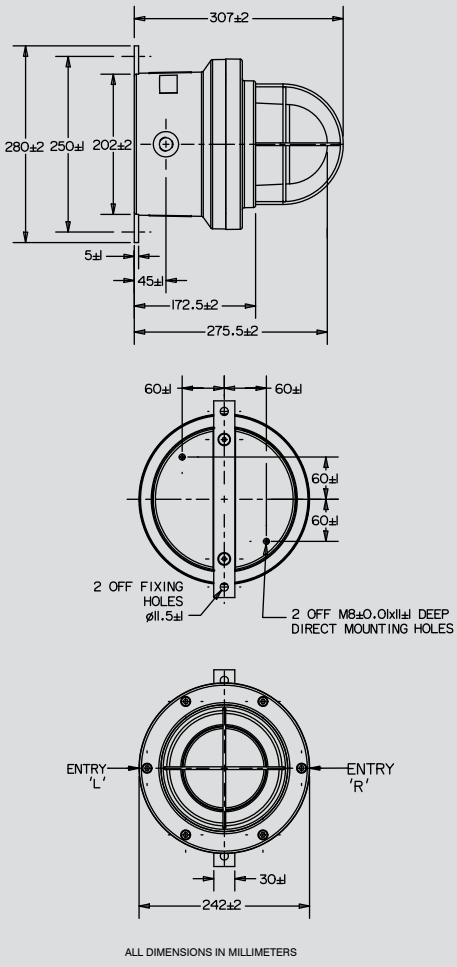
Certification and Specification

ATEX Ex d:	Cert. no. BAS99ATEX2196. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T3/T4 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 10.0094. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T3/T4 Gb.
CUTR Ex d:	1Ex d IIB T3/T4 Gb.
Inmetro Ex d:	Ex d IIB T3/T4/T5/T6 Gb.
Material:	Body: Glass reinforced polyester (GRP). Lens: Glass. Cover screws and backstrap: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Bulb Life: hours	We do not recommend the continuous use of the TH12 for over 3 as this could adversely affect its life.
Bulb Type:	70 Watt H1 tungsten halogen bulb (24V). 55 Watt H1 tungsten halogen bulb (12V).
Certified Temp:	–55ºC to +70ºC (T3), –55ºC to +55ºC (T4).
Weight:	7.6kg.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO.
Terminals:	6 x 6.0mm^2.
Labels:	Tag/Duty label option.

Wattage	**55W**	**70W**	**70W**	**70W**
Voltage	12 d.c	24 d.c.	110 a.c.	240 a.c
Peak Current	4.85A	2.92A	0.64A	0.34A

Rotational Speed (r.p.m.)	**60**	**120**	**180**
Effective Intensity (Cd)	3354	1957	895
Peak Intensity (Cd)	11164	11164	11164

Note: The above figures (Cd) are for a 70W lamp with clear lens.
Rotational speed may vary by ±20% of the stated r.p.m.



Multiplying Factor for Coloured Lenses: UL/UW/UM versions

Red	**Blue**	**Amber**	**Green**	**Yellow**
0.15	0.12	0.51	0.49	0.86

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

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.

Model
TH12

Certification

Certification	**Code**
ATEX	B
IECEx	J
CUTR	G
Inmetro	DM

Speed

Speed	**Code**
60 / min	A
120 / min	B
180 / min	C*

* Not available 110V a.c.

Voltage

Voltage	**Code**
12V d.c.	012*
24V d.c.	024†
110V a.c.	110†
240V a.c.	240†

* 55W only available 12V d.c.
† 70W only available 24V d.c., 110V a.c. & 240V a.c.

Lens Colour

Colour	**Code**
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	**Code**
None	N
Yes	Y

Fixings

Fixings	**Code**
Direct mount without backstrap	D
Direct mount with backstrap	B

Options

Option	**Code**
Tag Label	T*
Duty Label	D*
Earth Continuity	E
None	N

* Please specify.

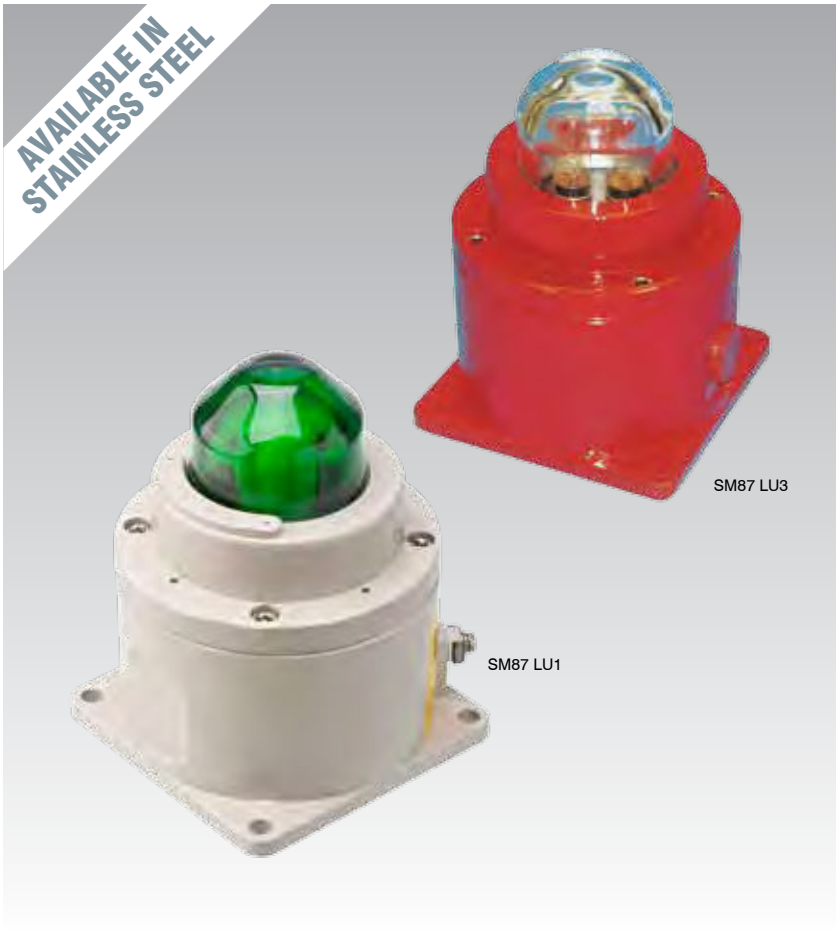
Finish

Finish	**Code**
Natural Black	N
Red	R
Blue	B
Yellow	Y
Grey	G
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof



Introduction

These certified steady beacons have been designed for use in harsh environmental conditions. The marine grade stainless steel or alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex d IIC T5/T6.
- ATEX approved Ex II 2GD*.
- BASEEFA certified.
- UL listed for USA and Canada*:
  - Class I, Div. 1, Groups C & D.
  - Class I, Zone 1, AExd IIB.
- CSA certified*.
- IECEx certified Gb, Db.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- Fluorescent.
- Filament.
- IP66 and IP67.
- Corrosion Resistant.
- Fluorescent version suitable for obstruction or warning lighting.
- Optional guard.

**Model dependent.*

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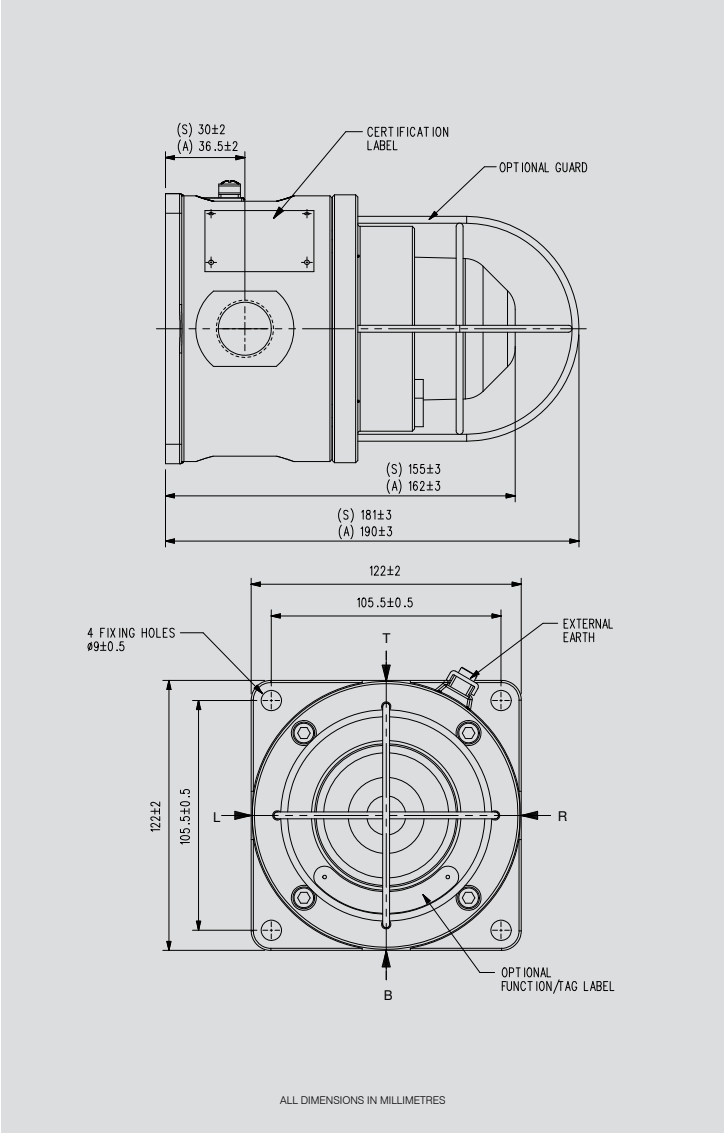
Certification and Specification

Model:	SM87 LU1 – Fluorescent. SM87 LU3 – Filament.
ATEX Ex d:	Cert. no. Baseefa 03ATEX0222. Certified to: EN60079-0, EN60079-1, EN60079-31. SM87 LU1: Ex d IIC T6 Gb, Ex tb IIIC T70ºC/T85ºC Db. SM87 LU3: Ex d IIC T5/T6 Gb, Ex tb IIIC T70ºC/T85ºC/T100ºC Db
IECEx Ex d:	Cert. no. IECEx BAS 09.0059. Certified to: IEC60079-0, IEC60079-1, IEC60079-31.
SM87 LU1:	Ex d IIC T6 Gb, Ex tb IIIC T70ºC/T85ºC Db. SM87 LU3: Ex d IIC T5/T6 Gb, Ex tb IIIC T70ºC/T85ºC/T100ºC Db.
UL:	Listing no. E187894. Class I, Div 1, Groups C & D. Class I, Zones 1.
CSA:	Cert no. 96406. Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981. Class I, Div 1 & 2, Group D.
CUTR Ex d:	SM87 LU1: 1Ex d IIC T6 Gb, Ex tb IIIC T70ºC/T85ºC Db. SM87 LU3: 1Ex d IIC T5/T6 Gb, Ex tb IIIC T70ºC/T85vC/T100vC Db.
Inmetro Ex d:	Exd IIC T4/T5/T6 Gb.
CQST:	Exd IIC T4/T5/T6.
Material:	Grade 316 ANC4B Stainless Steel or Aluminium Alloy LM25TF with glass lens.
Finish:	Epoxy paint finish as standard or to customer's specification.
Certified Temp:	ATEX/IECEx SM87LU1 = -20ºC to +55ºC (T6) SM87LU3 = -55ºC to +55ºC (T6) -55ºC to +70ºC (T5)
Voltage:	24, 48V d.c., 110V 220V 240V 254V a.c. 50Hz as standard. 60Hz available if required.
Fluorescent:	10 Watt tube light output 600 Lumens (240V + 254V a.c. versions). 5 Watt tube max. light output 250 Lumens (d.c. versions & 110V a.c.).
Filament:	Single filament fitted as standard 10 watts. Others may be available, please contact MEDC with your requirements.
Power Consumption: (LU1)	7 Watts for 24V d.c., 48V d.c., 110V a.c., 220V a.c. 14 Watts for 240V a.c. 15 Watts for 254V a.c.
Weight:	Stainless Steel – 3.8kg each. Alloy – 2.5kg.
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Entries:	SM87 LU1 – Up to 3 x M20 or M25 (not on RHS). SM87 LU3 – Up to 4 x M20 or M25.
Terminals:	4 off for up to 2.5mm² cable.



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.

Model

Type	Code
Fluorescent Exd (Alloy)	SM87LU1A†
Fluorescent Exd (Stainless Steel)	SM87LU1S*
Filament Exd (Alloy)	SM87LU3A†
Filament Exd (Stainless Steel)	SM87LU3S*

* Not available UL Listed.
† Not available CSA Certified.

Certification

Certification	Code
ATEX	B
IECEx	J
UL Listed	UL
CSA Certified	C
CUTR Certified	G
Chinese (CQST)	Q
Inmetro	DM

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
220V a.c.	220
240V a.c.	240
254Va.c.	254

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS (not on LU1)	*R
LHS	*L

* Prefix position with entry size code.
e.g. 1T1B=M20 Top and Bottom entries.

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify.

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Yellow/ Black Stripes	X
Grey	G
White	W
Special	S*

* Please specify.

Example:
An Exd filament in alloy with a clear lens suitable for 24V d.c., 2 x 20mm through entry, finished in grey would be our ref: **SM-87LU3AB024CN1R1LNG.**

Crouse-Hinds by EATON

Ex d(e), Weatherproof

Introduction

These certified steady beacons have been designed for use in flammable atmospheres and harsh environmental conditions. The marine grade alloy or stainless steel enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

Available with optional Exe terminal chamber.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex de IIC T3/T4/T5/T6.
- ATEX approved Ex II 2GD.
- BASEEFA certified.
- UL listed for USA and Canada:
  - – Hazardous locations:
    - Class I, Div. 1, Groups C & D.
    - Class I, Zone 1, AExd IIB T4/T5.
  - – Ordinary locations: Visual-Signal Device.
- IECEx certified Gb, Db.
- CUTR certified.
- Brazilian (Inmetro) certified.
- Certified temperature: –55°C to +70°C.
- IP66 and IP67.
- Fluorescent.
- Filament Lamps supplied.
- Corrosion Resistant.
- Exde version has gland earth continuity in the GRP terminal chamber.
- Optional lens guard.
- Tapered spigot flamepath.
- Retained cover screws.

ATEX IECEx cULus CUTR INMETRO

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MEDC

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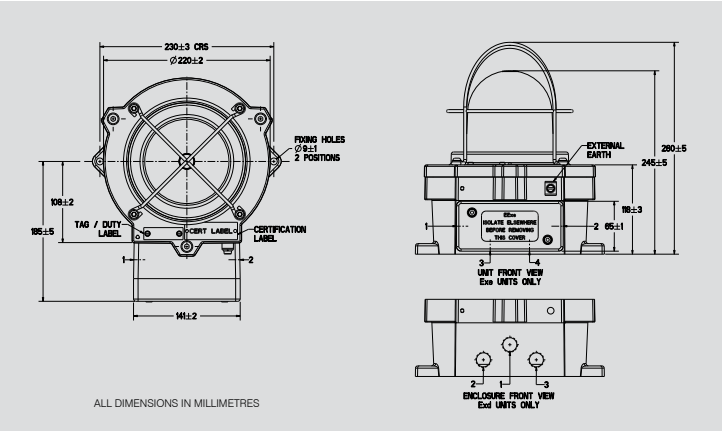
Certification and Specification

Models:	FL4 – up to 3 x 13 watt PL compact fluorescent lamps. FB4 – up to 100 watt GLS filament lamps. E27 holder as standard.
FL4 ATEX Ex d:	Cert. no. Baseefa 04ATEX0224X. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
FL4 ATEX Ex de:	Ex II 2G EEx de IIC.
FL4 IECEx Ex d:	Cert. no. IECEx BAS 10.0078X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T4/T5/T6 Gb. Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
FB4 ATEX Ex d:	Cert. no. Baseefa 04ATEX0224X. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex d IIC T3/T4/T5 Gb, Ex tb IIIC T85ºC/T100ºC/T185ºC Db.
FB4 ATEX Ex de:	Ex II 2G EEx de IIC.
FB4 IECEx Ex d:	Cert. no. IECEx BAS 10.0078X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex II 2GD, Ex d IIC T3/T4/T5 Gb. Ex tb IIIC T85ºC/T100ºC/T185ºC Db.
UL Haz Locs:	Listing no. E187894. Class I, Div 1, Groups C & D. Class I, Zone 1, AExd IIB T4/T5.
UL Ord Locs:	Listing no. S8128. Visual Signal Device. (FL4 only).
FL4 CUTR Ex d:	1Ex d IIC T4/T5/T6 Gb. Ex tb IIIC T85ºC/T100ºC/T135ºC Db.
FB4 CUTR Ex d:	1Ex d IIC T3/T4/T5 Gb, Ex tb IIIC T85ºC/T100ºC/T185ºC Db.
Inmetro Ex d:	Ex d IIC T3/T4/T5/T6 Gb.
Inmetro Ex de:	Ex de IIC T3/T4/T5/T6 Gb.
Material:	LM25TF Marine Grade Alloy body. Grade 316 ANC4B Stainless Steel body. Glass reinforced polyester (GRP) terminal chamber). Toughened Wellglass.
Finish:	Grey epoxy paint finish as standard or to customer's specification.
Voltage:	24V 48V 110V d.c., 110V 120V 220V 240V 254Va.c. ± 10% 50/60hz.
Lamps:	FB4 units are supplied with lamps.
Certified Temp:	FL4 =-55ºC to +70ºC* FB4 =-50ºC to +55ºC (Exde) FB4 =-55ºC to +55ºC (UL Listed) FB4 =-55ºC to +70ºC* (Exd) *Model dependent - see table for details. *Operating temp is –20ºC
Weight:	FL4 (Exd) 6.5 – 7.9 Kg. FL4 (Exde) 7.5 – 8.9 Kg. FB4 (Exd) 6.4 Kg. FB4 (Exde) 7.4 Kg. The above are for alloy versions. Add 8.4 Kg for stainless steel.
Ingress Protection:	NEMA 4x & 6. IP66 and IP67.
Entries:	Up to 3 x 1/2" NPT or 2 x 3/4" NPT in UL unit. Up to 3 x M20 or 2 x M25 ISO in Exd unit. Up to 4 x M20 or 4 x M25 ISO in Exe unit.



Terminals:	Exe 6 off suitable for up to 6mm² cable or 10 off suitable for up to 2.5mm² cable. Exd 8 off suitable for up to 6mm² cable. UL 8 off suitable for up to 10 AWG.

FL4 Lamp Details

Unit Type	Lamp Type	Lamp Ref	Holder Type
FL4	DC Osram Dulux D/E 13W	DD/E 13/XX	G24q–1
	Philips PLC 13W	PLC 13 P4	G24q–1
FL4 AC	Osram Dulux D/E 13W	DD/E 13/XX	G24q–1
	Philips PLC 13W	PLC 13	G24d–1

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

Temperature Ratings

Unit Type	Wattage	T Class	Min. Amb	Max. Amb
FB4	100	T3	-55ºC	55ºC
	60	T4	-55ºC	70ºC
		T5	-55ºC	30ºC
FL4	39	T4	-20ºC	70ºC
		T5	-20ºC	40ºC
	13 & 26	T4	-20ºC	70ºC
		T5	-20ºC	55ºC
		T6	-20ºC	40ºC

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.

Model

FL4
FB4

Voltage

Voltage	Code
24Vd.c.	B
48Vd.c.	C
110Vd.c.	D
110Va.c.	E
120Va.c.	F
220Va.c.	G
240Va.c.	H
254Va.c.	J

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL*
UL (ordinary locations)	UW†
CUTR	G
Inmetro	M

* UL (FB4) – only available 24V d.c.,110Va.c., NPT entries.
* UL (FL4) – only available 24Vd.c., 110Va.c., 240Va.c., NPT entries.
† UW only available for FL4.

Terminals

Type	Code
6 x 6mm² (Exe)	6E*
8 x 6mm² (Exd)	8D
8 x 10 AWG (UL only)	8U

* Not available GOST 'R' or IECEx certified.

Entries

Entries	Code
M20	*B
M25	*C
1/2" NPT	*M†
3/4" NPT	*N†

* Prefix entry size (see diagram above) with entry position code e.g. 2B3B.
† UL Listed version only.

Lamp Wattage

Wattage	Code
FL4 13W (1 x 13W tube)	13
26W (2 x 13W tubes)	26*
39W (3 x 13W tubes)	39*
FB4 60W	60
100W	100

* Not available d.c. or 254V a.c.

Lens

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Yellow	Y
Amber	A

Lens Guard

Guard	Code
None	0
Guard	1

Options

Option	Code
Duty	D*
Tag	T*
Relay Initiate (UL only)	R
None	N

* Please specify.

Material

Material	Code
Stainless Steel	0
Alloy	1

Finish

Finish	Code
Grey	G
Red	R
Blue	B
Yellow	Y
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof

FB11

FB12

Introduction

These certified steady beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The beacon housing is manufactured completely from a UV stable, glass reinforced polyester.

Stainless steel screws and mounting bracket are available ensuring a totally corrosion free product.

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

Features

- Zone 1 and Zone 2 use.
- Ex d IIB T3/T4/T5/T6.
- ATEX approved, Ex II 2GD*.
- UL listed for USA and Canada*:
  - Class I, Div. 2, Groups C & D.
  - Class I, Zone 1, AExd IIB T4/T5.
- BASEEFA Certified.
- IECEx certified Gb, Db*.
- CUTR certified.
- Brazilian (Inmetro) certified.
- Fluorescent.
- Filament.
- IP66 and IP67.
- Certified temperature: –55°C to +70°C*.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.
- 2 x M20 or 2 x 1/2" NPT cable entries.
- Earth continuity option.

**Model dependent.*

ATEX IECEx cULus CUTR INMETRO

Head Office.
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NG17 5FB, UK.

Head Office (USA)
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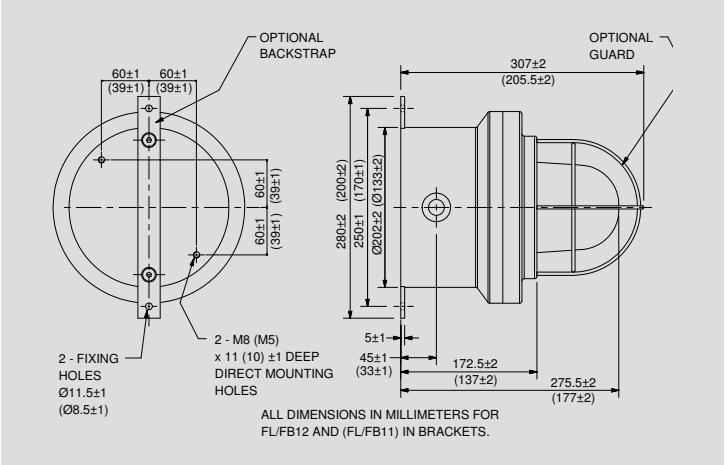
MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

Models:	FL11 & FL12 – Fluorescent, Exd. FB11 & FB12 – Filament, Exd. FB12 – Filament, Exd & UL Listed.
FB11/FL11 ATEX Ex d:	Cert. no. BAS99ATEX2195. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIB T4/T5/T6 Gb, Ex tb IIIC T70ºC/T85ºC/T110ºC Db.
FB11/FL11 IECEx Ex d:	Cert. no. IECEx BAS 10.0101. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 70ºC/85ºC/110ºC Db.
FB12/FL12 ATEX Ex d:	Cert. no. BAS99ATEX2196. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T3/T4/T5/T6 Gb.*
FB11/FL11 IECEx Ex d:	Cert. no. IECEx BAS 10.0094. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T3/T4/T5/T6 Gb.*
FB11/FB12 UL:	Listing no. E187814. Class I, Div 2, Groups C & D. Class I, Zones 1, AExd IIB T4/T5.
FB11/FL11 CUTR Ex d:	1Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 70ºC/85ºC/110ºC Db.
FB12/FL12 CUTR Ex d:	1Ex d IIB T3/T4/T5/T6 Gb.*
Inmetro Ex d:	Ex d IIB T3/T4/T5/T6 Gb. *Model dependent.
Material:	Body: Glass reinforced polyester (GRP). Lens: Glass. Cover Screws + Backstrap: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Voltage:	FL11 & FL12 – 24V d.c., 240V a.c. FB11 & FB12 – 24V d.c., 48V d.c. – 110V a.c., 120V a.c.,220V a.c., 240V a.c., 254V a.c.
Filament:	FB11 – 10W filament fitted as standard – (SBC lamp holder). FB12 – 60W or 100W single filament fitted as standard. Others may be available (UL Listed – 60W only) – (ES27 lamp holder).
Fluorescent:	5 Watt type light output 250 Lumens (FL11 24V d.c. version only) – G23 lamp holder. 10 Watt type light output 600 Lumens (FL11 240V a.c. version only) – G23 lamp holder. 13 Watt type light output 900 Lumens (FL12, per tube) – G24Q-1 lamp holder.
Certified Temp:	FB11 & FB12, EExd = –55ºC to + 70ºC*. FL11 & FL12, EExd = –55ºC to + 70ºC*. *Model dependent – see table for details. * Operating temp is –20ºC
Weight:	FL11, FB11 – 2.8 kg*. FL12 – 7.2 kg*. FB12 – 7.6 kg*. *Model dependent
Terminals:	FL (a.c.) 4 x 2.5mm² FL11 (d.c.), FB11 6 x 2.5mm² FB12/FL12 6 x 6.0mm² FB12 UL 6 x 10 AWG



Ingress Protection:	IP66 and IP67.
Entries:	2 x M20 ISO EExd. 2 x 1/2" NPT UL Listed.
Labels:	Duty/Tag Label optional.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Earth Continuity:	Optional for metal glands provided via a brass plate.

Certified Temperature Ratings

Type	Voltage/Wattage	T Class	Min. Amb.	Max. Amb.
FB11	All	T4	-55ºC	+70ºC
		T5	-55ºC	+55ºC
		T6	-55ºC	+40ºC
FL11	All	T4	-20ºC	+70ºC
		T5	-20ºC	+55ºC
		T6	-20ºC	+40ºC
FB12	100	T3	-55ºC	+20ºC
	60	T4	-55ºC	+55ºC
		T5	-55ºC	+30ºC
FL12	39	T4	-20ºC	+40ºC
		T5	-20ºC	+70ºC
	26	T4	-20ºC	+70ºC
		T5	–20ºC	+55ºC
		T6	-20ºC	+40ºC
	13	T4	-20ºC	+70ºC
		T5	–20ºC	+55ºC
		T6	-20ºC	+40ºC

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.

Model

FL11
FB11
FL12
FB12

Certification

Certification	Code
Uncertified	W
ATEX	B
IECEx	J
UL Listed	UL*
CUTR	G
Inmetro	DM

* UL listed only available FB11 & FB12.

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048*
110V a.c.	110*
120V a.c.	120†
220V a.c.	220*
240V a.c.	240
254V a.c.	254*

Other voltages available, please specify.
*FB11 & FB12 only.
†FB12 UL Listed only.

Lamp Wattage

	Wattage	Code
FL11†	5W d.c. (1x5W tube)	5*
	10W a.c. (1x10W tube)	10*
FB11†	10W a.c. & d.c. (1x10W bulb)	10
FL12	13W a.c. & d.c. (1x13W tube)	13*
	26W a.c. (2x13W tubes)	26*
	39W a.c. (3x13W tubes)	39*
FB12	60W a.c. & d.c. (1x60W bulb)	60
	100W a.c. & d.c. (1x100W bulb)	100

* Not available in UL versions.
† Inmetro Only available on FL11 & FB11.

Lens Colour

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Yellow	Y
Amber	A

Lens Guard

Guard	Code
None	N
Yes	Y

Fixing

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Earth

Continuity	Code
None	N
Yes	Y*

* Please specify wording.

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify.

Finish

Finish	Code
Grey	G
Red	R
Blue	B
Yellow	Y
White	W
Natural Black	N
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d, Weatherproof

Features

- Zone 1 and Zone 2 use.
- Exd IIC T3/T4.
- ATEX approved, Ex II 2GD.
- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class I, Zone 1, AExd IIC T3/T4.
  - Ordinary locations: Visual-Signal Device.
- CUTR Certified.
- Brazilian (Inmetro) certified.
- IECEx Gb, Db.
- Certified temperature –55°C to +70°C.
- Pipe mount or direct mount enclosure.
- Corrosion-free GRP.
- 60W or 100W filament bulb.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional cast or wire lens guard.
- Up to 3 x M20 or 3 x M25 entries.

Introduction

These certified steady beacons have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The housings are manufactured completely from a UV stable, glass reinforced polyester.* Stainless steel screws and mounting bracket are available ensuring a totally corrosion-free product.

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

**UL pipe mount variants use an alloy lens cover, painted black where applicable.*

ATEX IECEx cULus CUTR INMETRO

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MEDC

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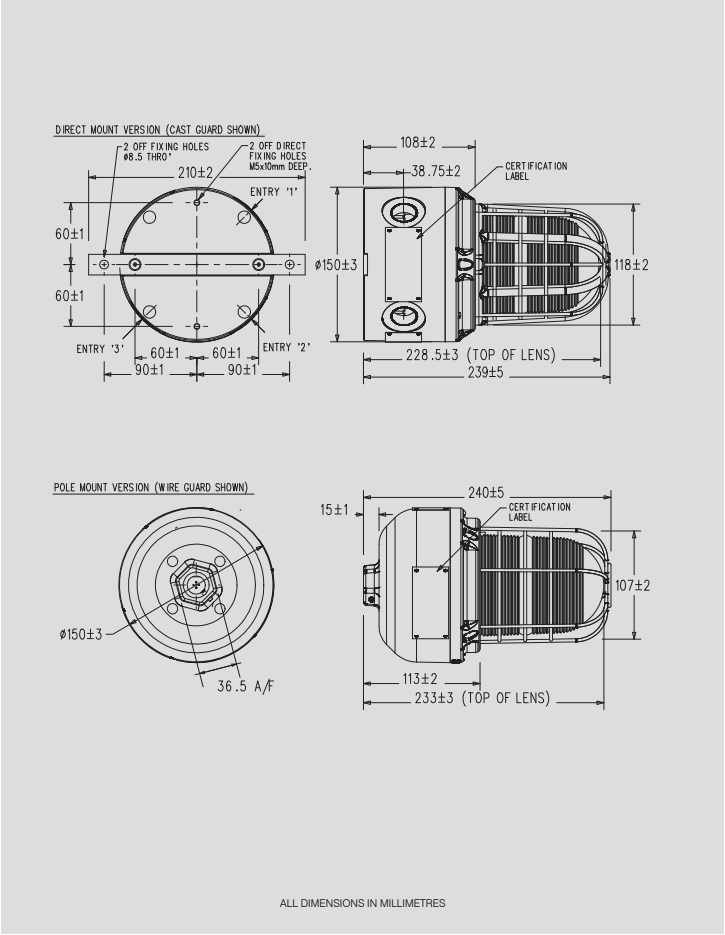
Certification and Specification

ATEX Exd:	Cert. no. Baseefa 04ATEX0009X. Certified to: EN50014, EN50018, EN50281-1-1. Ex II 2GD, Ex d IIC T3/T4 Gb.
IECEx Ex d:	Cert. no. IECEx BAS 05.0048X. Certified to: IEC60079-0, IEC60079-1, IEC61241-1-1. Ex d IIC T3/T4 DIP A21.
UL Haz Locs:	Listing no. E187894. Class I, Div 2, Groups A, B, C & D. Class I, Zones 1, AExd IIC T3/T4.
UL Ord Locs:	Listing no. S8128. Visual Signal Device.
CUTR Ex d:	1Ex d IIC T3/T4 DIP A21.
Inmetro Ex d:	Ex d IIC T3/T4 Gb.
Material:	Body: Glass reinforced polyester. (UL Pipe mount - alloy lens cover) Lens: Glass. Backstrap: stainless steel 316. Wire Guard (optional): Stainless steel wire. Cast Guard (optional): Aluminium LM25M.
Finish:	Natural black or painted to customer specification.
Models:	FB15 ATEX – Available in direct mount version only. FB15 UL – Available in pipe and direct mount versions.
Voltage:	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.
Lamp Type:	60W or 100W GLS filament.
Lamp Holder:	E27 as standard.
Certified Temp:	60W: -55ºC to +55ºC (T4). -55ºC to +70ºC (T3). 100W: -55ºC to +40ºC (T3).
Weight:	Pipe mount: 2.6kg; Direct mount: 3.0kg.
Ingress Protection:	IP66 & IP67.
Entries:	ATEX version: Supplied as 2 x M20 entries as standard – Up to 3 x M20 or 3 x M25 entries. Contact sales office to order. UL version: Supplied as 2 x 3/4" NPT (direct mount) or 3/4" (pipemount) as standard. Other options available: Up to 3 x 1/2" NPT or 3 x 3/4" NPT (direct mount); 1/2" NPT (pipe mount) – contact sales office to order.
Terminals:	Direct mount: 12 x 2.5mm². Pipe mount: 8 x 2.5mm².
Labels:	Tag/Duty label option.



Electrical Ratings:

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A) - 60W lamp	2.5	1.25	0.55	0.50	0.26	0.25	0.24
Current (A) - 100W lamp	4.2	2.1	0.91	0.83	0.43	0.42	0.39

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.

Model

FB15

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL
UL (ordinary location)	UW
CUTR	G
Inmetro	DM

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Lamp

Wattage	Code
60	60
100	100

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Cast	C
Wire	W

Fixings

Fixings	Code
Pipe mount	P*†
Direct mount without backstrap	D†
Direct mount with backstrap	B†

* Only available on UL Listings.
† Contact MEDC if ½" NPT is required for UL version.

Options

Option	Code
None	N
Tag label	T*
Duty label	D*
Blanking Plug	P

* Please specify.

Finish

Finish	Code
Natural Black	N†
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please Specify.
† For UL this is painted black.

Horns and Sounders

The MEDC range of horns and sounders are suitable for a wide variety of applications and feature a variety of tone settings and traditional bells.

Sounders and Horns are used to warn of potentially dangerous situations or to relay instructions. In addition the alarms may operate as stand-alone units or be incorporated into a hazard warning system. A wide variety of sound output levels and other options are also available. The Sounders and Horns output in dB(A) is measured to European standards at 1 metre.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Horns & Sounders												
DB1	■	■	■			■	■				66	68
DB3B	■	■									66 / 67	70
DB3	■	■	■	■		■	■	■	■	■	66 / 67	72
DB3V	■	■				■	■	■			66 / 67	74
dEV 20	■	■									66	76
DB5	■	■			■	■			■		65	78
DB7	■						■				66 / 67	80
DB12											66 / 67	82
DB15											66 / 67	84
DB6	■	■				■					65	86
dGW21/dRGW21	■		■				GOST				66	88

DB1

DB3

DB3V

DB3B

DB3B (short flare)

dEV 20

DB5

DB7

DB12

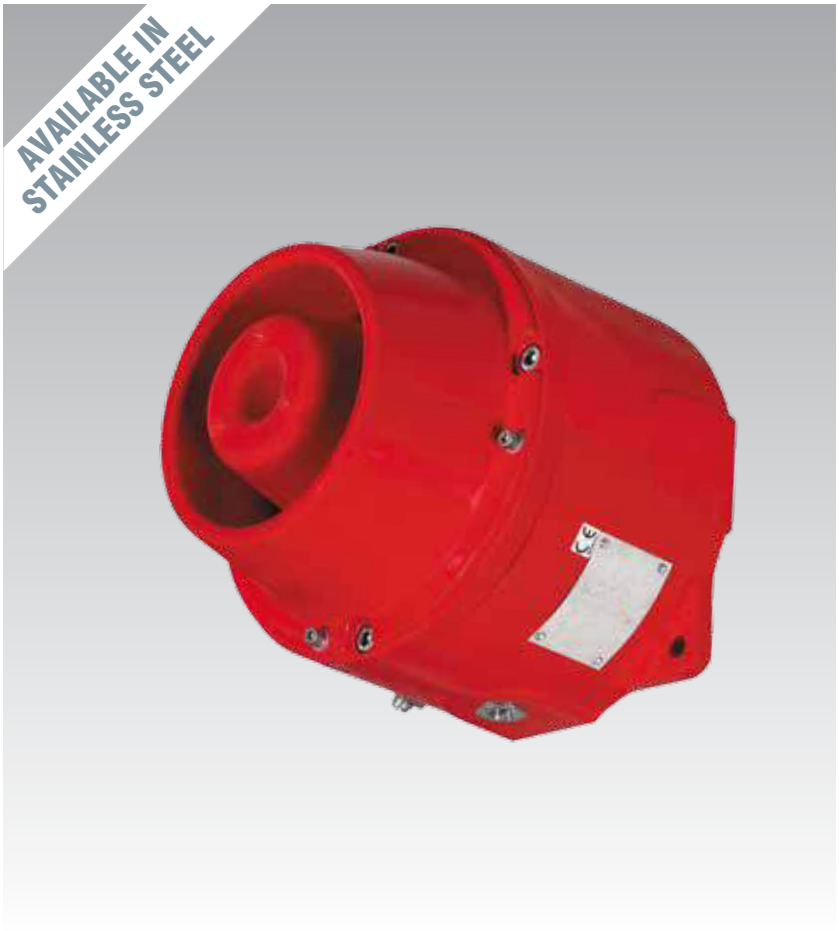
DB15

DB6

dGW21

Crouse-Hinds by EATON

Ex d, Weatherproof



Introduction

This range of lightweight, flameproof Sounders have been designed with a high weatherproof rating to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

Electronic circuitry allows the DB1P and DB1HP to be switched between two selectable tones by either reversing the supply polarity, or connecting a second voltage supply.

The higher output DB1H and DB1HP are particularly suitable for noisy environments.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex d, IIB T5 /T6*.
- ATEX approved, Ex II 2G.
- CENELEC approved, BASEEFA certified.
- UL Listed – Class I, Div 1. Groups C & D.
- IECEx certified, Gb.
- CUTR certified.
- Brazilian (Inmetro) certified.
- IP66.
- Certified temperature: –20°C to +70°C.
- Up to 113 dB(A) output.
- Available in marine grade alloy or stainless steel.
- 27 output tones, user selectable.
- Telephone initiate option.
- Tones can be selected remotely.
- Tones comply with UKOOA/PFEER guidelines.
- Any two tones may be switched via the external voltage supply.
- End of line resistor option.

**Model dependent.*

ATEX IECEx UL CUTR INMETRO

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MEDC

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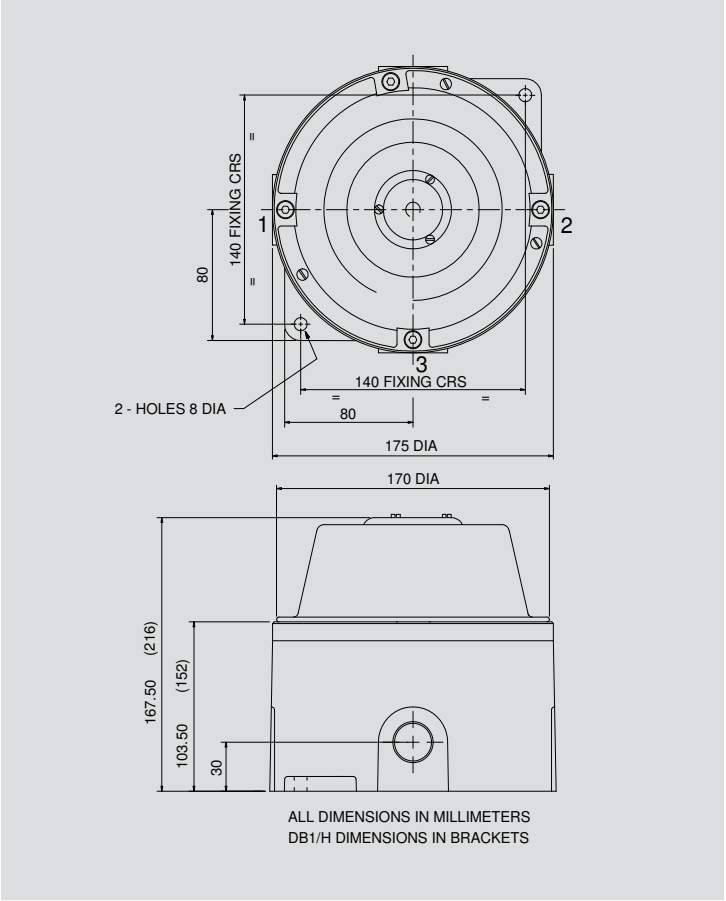
Certification and Specification

ATEX DB1P Ex d:	Cert. no. BAS00ATEX0207X. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T6.
ATEX DB1HP Ex d:	Cert. no. BAS00ATEX0209X. Certified to: EN60079-0, EN60079-1. Ex II 2G, Ex d IIB T5.
IECEx DB1P Ex d:	Cert. no. IECEx BAS 10.0065X. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T6 Gb.
IECEx DB1HP Ex d:	Cert. no. IECEx BAS 10.0064X. Certified to: IEC60079-0, IEC60079-1. Ex d IIB T5 Gb.
UL Haz Locs:	Listing no. E187688. Class I, Div 1, Groups C & D.
CUTR DB1P Ex d:	1Ex d IIB T6 Gb.
Inmetro DB1P Ex d:	Ex d IIB T5/T6 Gb.
Inmetro DB1HP Ex d:	Ex d IIB T5/T6 Gb.
Material:	LM25 corrosion resistant alloy or ANC4B stainless steel with stainless steel cover screws. ABS flare.
Finish:	Epoxy paint finish as standard or to customer specification.
Certified Temp:	ATEX/CENELEC –20ºC to +55ºC (DB1 & DB1P). ATEX/CENELEC –20ºC to +70ºC (DB1H & DB1HP). UL –25ºC to +70ºC.
Weight:	DB1(P) 3.5 Kg Alloy, 8.3 Kg stainless. DB1H(P) 5.6 Kg Alloy, 12.7 Kg stainless.
Ingress Protection:	IP66.
Entries:	Up to 3 x M25 or M20 ISO.
Terminals:	Suitable to accept up to 4mm² cable. Note: Terminals limited to 2.5mm² cable on a.c. version with telephone initiate option only.
Output:	DB1(P)=103±3dB(A) (96±3dB(A) for 12V DB1). DB1H(P)=110 ± 3dB(A) @ 1 metre. Note: Sound level is dependent upon the tone selection.
Labels:	Tag and Duty labels optional.
Tone Selection:	Single Stage Unit a.c. 27 user selectable tones including, PFEER/UKOOA tones. Two Stage Unit d.c. Switchable between any two of the 27 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: Reverse monitoring is achievable on Two Stage Version by selection of terminals.



Current Consumption:

	DB1(P)	DB1H(P)
12V	125mA	900mA
24V	250mA	700mA
48V	250mA	350mA
120V	60mA	200mA
240V	50mA	100mA

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.

Model

DB1P
DB1HP

Certification

Certification	Code
ATEX/CENELEC	B
IECEx	J
UL	UL
CUTR	G
Inmetro	DM

UL - Available Alloy only.
- 12V d.c., 24V d.c., 48V d.c. 110V a.c. only.

* Only available in DB1P

Material

Material	Code
Alloy	A
Stainless Steel	S

Voltage

Voltage	Code
12V d.c.	012
24V d.c.	024
48V d.c.	048
110V a.c.	110
240V a.c.	240

Entries

Entries	Code
M20	A
M25	B
1/2" NPT (UL Only)	C
3/4" NPT (UL Only)	D
LHS	*1
RHS	*2
Bottom	*3

* Prefix position with entry size code e.g. A1A3 = M20 left and bottom entries.

Duty

Duty	Code
None	N
Required	D*

* Please specify wording.

Tag

Tag	Code
None	N
Required	T*

* Please specify wording.

Options

Options	Code
Not required	N
Telephone Initiate	T†
Relay Initiate	R
Remote Tone Select	S
End of line resistor	E*

* State value.
† Not available UL certified.

Finish

Finish	Code
Red	R
Grey	G
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d(e), Weatherproof

Introduction

The DB3B is a high power explosion proof sounder, introduced as a replacement for the current DB3 with improved functionality and performance. Certified for use in a wide range of temperatures from -55°C to +70°C the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

Capable of producing 125dB @ 1m and with a range of pre-recorded tones, the DB3B includes an integral volume control which is ideal when a lower output is required.

The unit is provided with versatile control options allowing compatibility with a wide range of control methods and PLCs. The standard DC unit provides 3 tone stages, each stage has 28 tones available which can be independently selected. The unit can be controlled by reversing the polarity of the power supply (2 stage) or providing a common negative and switching between multiple positive supplies. The DB3B proves its versatility by additionally being able to work with a common positive supply and switching the negatives. The tone stages of the DB3B can also be controlled via voltage free contacts provided by a control panel.

The flexibility of the range continues with a wide range of supply voltages. The short flare option is worthy addition to the range offering a high SPL in a compact unit.

Features

- Ex d / Ex de IIC/IIIC T4/T5/T6.
- ATEX certified.
- IECEx certified.
- CUTR Certified.
- CQST Certified.
- Certified temperature -55°C to +70°C.*
- IP66 & IP67.
- Optional Ex e terminal chamber.
- Up to 125dB output @ 1m.
- Integral volume control.
- 28 tones, user selectable.
- 3 stage unit remotely switchable.
- Tones can be programmed to customer's specification.
- DC supply voltage between 12V and 48V.
- End of line resistor option.
- Sounder & beacon combination units available, for further details contact MEDC.
- Ex enclosure - Glass reinforced polyester.
- Flare - High impact thermoplastic polyester.
- Stainless Steel mounting bracket and cover screws.
- Mounting bracket has ratchet facility as standard.
- Optional swivel bracket available.

**Model Dependent.*

Short Flare Version

ATEX IECEx CUTR

Head Office.
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Certification and Specification

ATEX Ex d Gas: Cert. no. Baseefa13ATEX0229X.
Certified to: EN60079-0, EN60079-1.
Ex II 2G, Ex d IIC T4/T5/T6 Gb.

ATEX Ex d Gas & Dust: Cert. no. Baseefa13ATEX0231X.
Certified to: EN60079-0, EN60079-1, EN60079-31.
Ex II 2GD, Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

ATEX Ex de Gas: Cert. no. Baseefa13ATEX0232X.
Certified to: EN60079-0, EN60079-1, EN60079-7.
Ex II 2G, Ex de IIC T4/T5/T6 Gb.

ATEX Ex de Gas & Dust: Cert. no. Baseefa13ATEX0233X.
Certified to: EN60079-0, EN60079-1, EN60079-7, EN60079-31.
Ex II 2GD, Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/ T100°C/ T85°C Db, IP66.

IECEx Ex d Gas: Cert. no. IECEx BAS 13.0112X
Certified to: IEC60079-0, IEC60079-1.
Ex d IIC T4/T5/T6 Gb.

IECEx Ex d Gas & Dust: Cert. no. IECEx BAS 13.0113X
Certified to: IEC60079-0, IEC60079-1, IEC60079-31.
Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

IECEx Ex de Gas: Cert. no. IECEx BAS 13.0114X
Certified to: IEC60079-0, IEC60079-1, IEC60079-7.
Ex de IIC T4/T5/T6 Gb.

IECEx Ex de Gas & Dust: Cert. no. IECEx BAS 13.0115X
Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31.
Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

CUTR Ex d Gas: 1Ex d IIC T4/T5/T6 Gb.

CUTR Ex d Gas & Dust: 1Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

CUTR Ex de Gas: 1Ex de IIC T4/T5/T6 Gb.

CUTR Ex de Gas & Dust: 1Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

CQST Ex d Gas: Ex d IIC T4/T5/T6 Gb.

CQST Ex d Gas & Dust: Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

Material: Ex enclosure - Flame retardant, UV stable, Glass reinforced polyester.
Flare - Flame retardant, high impact, UV stable, thermoplastic polyester.
(UV stability tested to ISO 4892 part 3).
Hardware - Bracket, fixings and captive cover screws in 316 stainless steel.

Fire retardancy: Body - Glass reinforced polyester. V0 flammability rating.
Outer Flare - Thermoplastic Polyester. V0 flammability rating.

Finish: Body - natural black. Flare - natural black, natural red or painted as specified. (Black short flare painted black).

Voltage: DC: 12 - 48V AC: Up to 254V. If using an EOL resistor with a value between 700Ω and 2KΩ the maximum voltage must be limited to 28.8Vdc, if using an EOL resistor with a value between 470Ω and 700Ω the maximum voltage should be limited to 26Vdc.

Weight: Ex d - 4.6kg, Ex de - 5.4kg. Based on long flare DC unit.

Ingress Protection: IP66 & IP67.

Earth Continuity: Optional for Ex de version. Not available on Ex d unit.

Entries: Up to 2 x M20 or ½" NPT. Blanking plug available.

Terminals: AC: 7 x 2.5mm² (4 for loop in/out power, 3 for tone selection) (Standard unit only).
DC: 8 x 2.5mm² (8 for loop in/out power and tone selection) (Standard unit only).

Mounting arrangement: Stainless steel bracket with ratchet facility, optional swivel bracket available.

Labels: Optional duty and tag labels available.

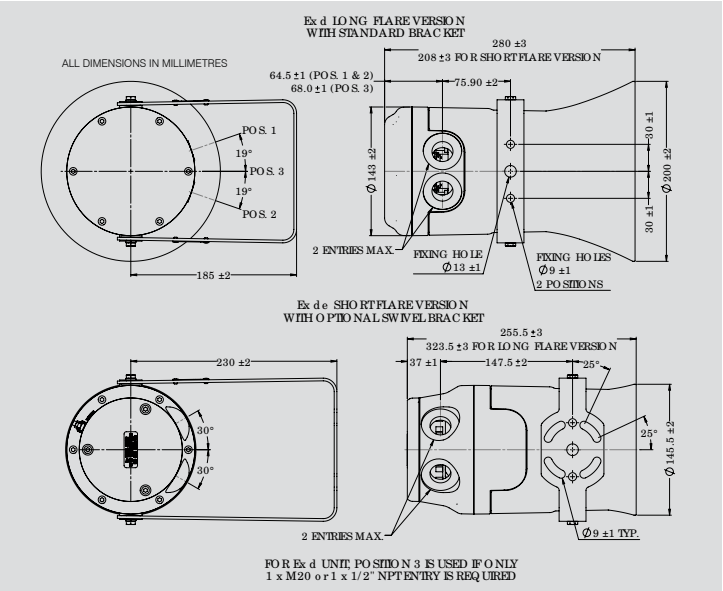
Tone information: 28 tones per stage. Additional custom tones available (Contact MEDC)
Suitable for use with 200Hz tones.

Maximum output dB @ 1400Hz:

Flare type	Short	Long
IIC Gas	122dB	125dB
IIIC Gas & Dust	116dB	119dB

Certified Temperature:

Protection Type	Minimum Temp	Maximum Temp
Ex d	-55°C	+70°C
Ex de	-50°C	



Tone activation and selection

Voltage	Unit	No. of stages	Tone activation	Tone selection
DC	Standard.	1	Apply power.	1 x DIP switch.
		2	Reverse polarity.	2 x DIP switches.
			Common -ve with 2 +ve supplies.	2 x DIP switches.
			*Common +ve with 2 -ve supplies.	2 x DIP switches.
		3	Common -ve with 3 +ve supplies.	3 x DIP switches.
	Alternative tone activation. (Option M)	2	*Common -ve with 2 +ve supplies.	2 x DIP switches.
		3	Common +ve with 3 -ve supplies.	3 x DIP switches.
	Volt free activation (remote). (Option R).	1 - 5	Volt free activation (remote switching).	1 x DIP switch for stage 1. Tones preselected for subsequent stages.
AC	Standard.	1	Apply power.	1 x DIP switch
	Volt free activation (remote). (Option R).	1 - 2	Volt free activation (remote switching).	1 x DIP switch for stage 1. Tone preselected for the 2nd stage.

*Reverse polarity line monitoring can be used with common positive or negative switching to give up to 2 operational stages and a 3rd monitoring connection. An EOL resistor can be fitted as shown in the technical manual. All connection details are shown in the technical manual.

Current Consumption: Based on a continuous 970Hz tone.

Voltage	Current for IIC unit	Current for IIIC unit
12Vdc	700mA	716mA
24Vdc	329mA	339mA
48Vdc	171mA	173mA
110Vac	115mA	122mA
120Vac	106mA	113mA
220Vac	59mA	63mA
230Vac	52mA	55mA
240Vac	55mA	58mA
254Vac	59mA	63mA

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.

Model: DB3B

Certification

Certification	Code
ATEX Ex d	D
ATEX Ex de	E
IECEx Ex d	DJ
IECEx Ex de	EJ
CUTR Ex d	DG
CUTR Ex de	EG
CQST EX d	Q
Weatherproof	W

Ex Atmosphere

Ex Atmosphere	Code
None	N*
IIC Gas	G
IIIC Gas & Dust	GD

* If Weatherproof select N for Ex Atmosphere

Voltage

Voltage	Code
12-48V d.c.	048
110V a.c.	110
120V a.c.	120
220V a.c.	220
230V a.c.	230
240V a.c.	240
254V a.c.	254

Labels

Labels	Code
None	N
Duty	D*
Tag	T*

* Please specify.

Entries

Entries	Code
1 x M20	1B*
2 x M20	2B
2 x M20 Inc 1 x plug	2BP
1 x ½" NPT	1C*
2 x ½" NPT	2C*
2 x ½" NPT Inc 1 x plug	2CP*

* Not available Ex e.

Options

Options	Code
None	N
Swivel bracket	B
EOL	E*
Earth cont.	G†
Alternative tone activation	M**
Volt free activation (remote)	R**
Short flare	S
Custom tones (not std 28)	T‡

* Specify value (Min 470Ω).
** These options cannot be selcted together
Please note voltage limitation.
† Ex e only. ‡ Specify details

Finish

Finish	Code
Natural Black	N†
Natural Red	R
Yellow	Y
Grey	G
Blue	B
Special	S*

* Please specify.
† Short flare painted black.

Exd(e), Weatherproof

Introduction

This range of lightweight all GRP, flameproof sounders is intended for use in potentially explosive gas and dust atmospheres and 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.

An optional Exe terminal chamber is available.

An uncertified version is available for use in non-explosive atmospheres.

Features

- Zone 1, Zone 2 and non-Ex use.
- Ex de IIC T4/T5.
- ATEX approved, EEx II 2GD.
- Optional Exe terminal chamber.
- IECEx certified Gb, Db.
- UL Listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div 2, Groups A-D.
    - Class II, Div 2, Groups F & G.
    - Class I, Zones 1 & 2, AExd IIC T5.
  - Ordinary locations: Audible-Signal Device.
- ULC certified for Class I, Zone 1 AEx d IIC. Class I & II, Division 2.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- SIL 1 Certified.
- Designed in accordance with EN54-3.
- *Certified temperature: –55°C to +70°C.
- All GRP corrosion free flamepaths.
- Up to 118dB(A) output.
- Integral volume control.
- 27 tones, user selectable.
- Tones comply with UKOOA/PFEER guidelines.
- Two tones may be switched via the external voltage supply – now available in a.c. and d.c. versions.
- Tones may be programmed to customer specification.
- d.c. version accepts any voltage between 12V d.c. and 48V d.c.
- End of line resistor option.
- Sounder/Beacon Combination Unit available.

**Depending on version.*

ATEX IECEx cULus ULC LISTED CUTR INMETRO CQST

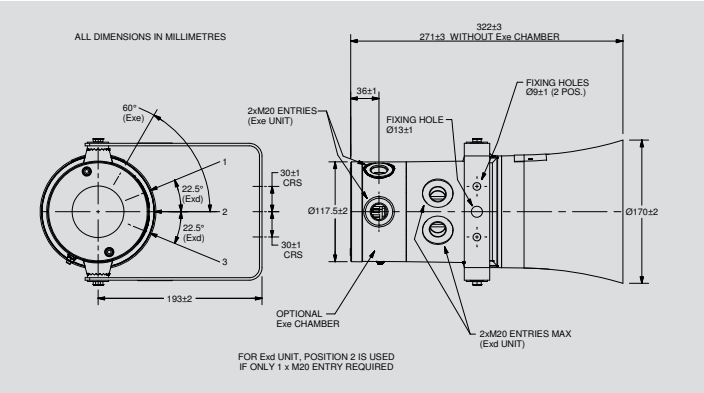
Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

ATEX EEx d:	Cert. no. BAS00ATEX2097X. Certified to: EN50014, EN50018. Ex II 2GD, EEx d IIC T4/T5.
ATEX EEx de:	Cert. no. BAS00ATEX2098X. Certified to: EN50014, EN50018, EN50019. Ex II 2GD, EEx de IIC T4/T5.
IECEx Ex d:	Cert. no. IECEx BAS 11.0083X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
IECEx Ex de:	Cert. no. IECEx BAS 11.0084X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31. Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
UL Haz Locs:	Listing no. E203310. Class I, Div 2, Groups A - D. Class II, Div 2, Groups F & G. Class I, Zones 1 & 2, AExd IIC T5.
UL Ord Locs:	Listing no. S8116. Audible signal device.
CUTR Ex d: †	1Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
CUTR Ex de: †	1Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
Inmetro Ex d:	Ex d IIC T4/T5 Gb.
Inmetro Ex d e:	Ex d e IIC T4/T5 Gb.
CQST:	Exd IIC T4.
ABS:	American Bureau of Shipping for DB4D and DB4E only.
SIL:	SIL1 certification to IEC61508. Cert. No. Sira FSP 11010/01.
EN54:	Designed in accordance with EN54-3.
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester. Swivel bracket & captive cover screws in stainless steel.
Finish:	Body and horn, natural black or painted to customer colour requirements.
Voltage:	Up to 48V d.c. Up to 254V a.c.
Weight:	6.0kg approx. dependent on model (+0.5kg for Exe).
Ingress Protection:	IP66 & 67.
Entries:	Up to 2 x M20 Exd 2 x M20 Exe. Up to 2 x 1/2" NPT UL. Note: ATEX/UL Dual Listed version up to 2 x 1/2". NPT or 2 x M20 via adapter (fitted).
Terminals:	4 x 2.5mm² (a.c.), 6 x 2.5mm² (d.c.).
Output:	Long Flare: 115dB(A) ± 3dB(A) (tone dependent). Short Flare: 108dB(A) ± 3dB(A) (tone dependent).
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Mounting:	Stainless steel bracket with ratchet facility.
Earth Continuity:	Included on Exde version.
Labels:	Duty and tag labels optional.
Tone Selection:	27 user selectable tones available.
Sounder/Beacon Unit:	The DB3 may be combined with an MEDC beacon to create a combined audio/visual alarm. Contact MEDC for price and specification.



Certified Temperature:

	Exd	Exde	UL	GOST R Exde	Chinese Exd
DB3 & DB3P	–20ºC to +70ºC	–20ºC to +70ºC	–55ºC to +70ºC	–20ºC to +40ºC	–20ºC to +55ºC
DB3L&DB3LP*	–55ºC to +70ºC	–50ºC to +70ºC	n/a	–55ºC to +55ºC	n/a

* DB3L & DB3LP IECEx Min Temp - 40ºC

Two Stage Unit DB3P: Switchable between two tones:
D.C. (i) Reversing the polarity of the supply, or
(ii) by a 3 wire common +ve system, switching between the two –ve lines.
A.C. (iii) Closing/opening connection between 2 terminals e.g. by using a volt free relay contact at the panel. 2 tones must be specified at time of order.

3 & 4 Tone unit: Remote 3 & 4 tone unit available – contact sales office for details.

Volume Control

*Nominal Output dB(A)	Input Current mA
93	50
105	100
108	150
111	200
112	250
114	300
115	350

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

Current Consumption

V	I
12V d.c.	760mA
24V d.c.	380mA
48V d.c.	190mA
110V a.c	135mA
120V a.c.	124mA

V	I
220V a.c.	68mA
230V a.c.	65mA
240V a.c.	62mA
254V a.c.	59mA

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.

Model

Model	Details
DB3	Standard unit
DB3P	Two stage
DB3L*†	Low temp. standard unit
DB3LP*†	Low temp. two stage

* Available unpainted only.
† Min IECEx temp - 40ºC.

Certification

Certification	Code
Uncertified	W
Exd	D
Exde	E
IECEx Exd	DJ
IECEx Exde	EJ
UL Listed	UL*
UL (Ordinary Locations)	UW
ATEX/UL Dual Listed	AU
CUTR Exd	DG
CUTR Exde	EG
Chinese (CQST)	Q
Inmetro Exd	DM
Inmetro Exde	EM

* Not all options are available UL listed.
For ULC ordering codes and technical details please refer to the US data sheet.

Voltage

Voltage	Code
12V-48V d.c.	048
110V a.c.	110
120V a.c.	120
220V a.c.	220
230V a.c.	230
240V a.c.	240
254V a.c.	254

Labels

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify wording.

Entries

Entries	Code
1 x M20 (Exd)	1B
2 x M20 (Exd/Exde)	2B
1 x 1/2" NPT (UL only)	1C
2 x 1/2" NPT (UL only)	2C

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

Options

Option	Code
None	N
End of line resistor	E*
Special tone	S

* State value.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Exd(e), Weatherproof

Features

- Zone 1, Zone 2 and non-Ex use.
- Ex de IIC T4/T5.
- ATEX approved, EEx II 2GD.
- Optional Exe terminal chamber.
- BASEEFA certified.
- IECEx certified Gb, Db.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- *Certified temperature: –55°C to +70°C.
- All GRP corrosion free flamepaths.
- Up to 110dB(A) output.
- Integral volume control.
- d.c. version accepts any voltage between 12V d.c. and 48V d.c.
- End of line resistor option.
- Sounder/Beacon Combination Unit available.
- Bell recording version available.

**Depending on version.*

Introduction

This range of lightweight all GRP, flameproof voice sounders is intended for use in potentially explosive gas and dust atmospheres and 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.

This unit offers up to 20 seconds of speech which can be recorded via an integral microphone or an input from an external source. The unit incorporates a variable delay allowing speech to be repeated at equal intervals of up to approximately 15 seconds.

In addition, a ‘mechanical bell’ sound version is available.

An optional Exe terminal chamber is available.

An uncertified version is available for use in non-explosive atmospheres.

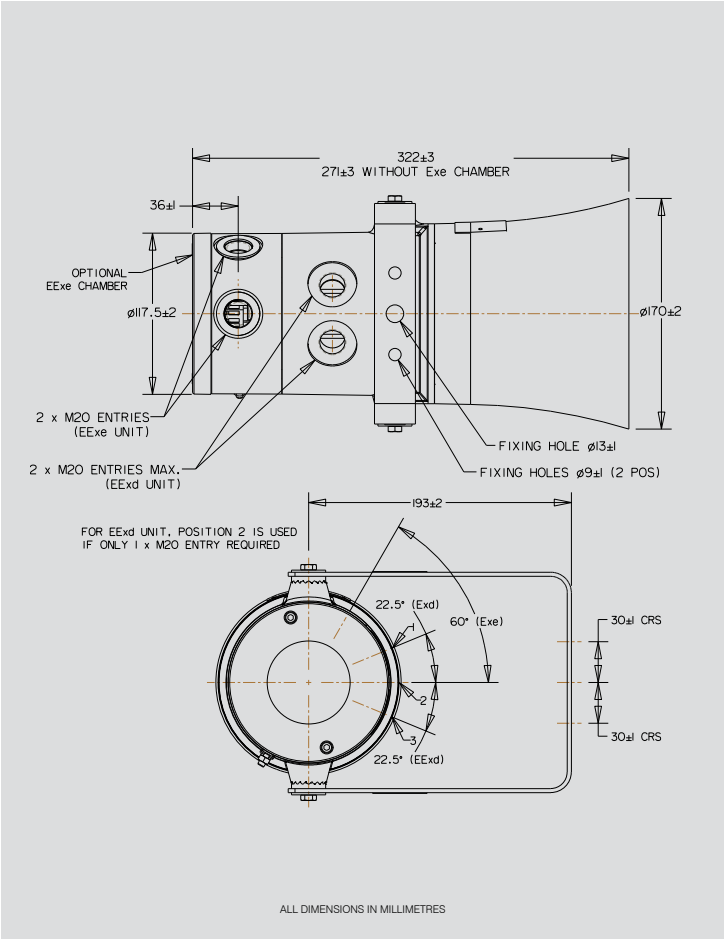
Certification and Specification

ATEX EEx d:	Cert. no. BAS00ATEX2097X. Certified to: EN50014, EN50018. Ex II 2GD, EEx d IIC T4/T5.
ATEX EEx de:	Cert. no. BAS00ATEX2098X. Certified to: EN50014, EN50018, EN50019. Ex II 2GD, EEx de IIC T4/T5.
IECEx Ex d:	Cert. no. IECEx BAS 11.0083X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
IECEx Ex de:	Cert. no. IECEx BAS 11.0084X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31. Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
CUTR Ex d:	1Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
CUTR Ex de:	1Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
Inmetro Ex d:	Ex d IIC T4/T5 Gb.
Inmetro Ex de:	Ex d e IIC T4/T5 Gb.
CQST:	Exd IIC T4.
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester (GRP). Swivel bracket & captive cover screws in stainless steel.
Finish:	Body and horn, natural black or painted to customer colour requirements.
Voltage:	Up to 48V d.c.
Weight:	6.0kg approx. dependent on model (+0.5kg for Exe).
Ingress Protection:	IP66 & 67.
Entries:	Up to 2 x M20 Exd. 2 x M20 Exe.
Terminals:	6 x 2.5mm² (d.c.).
Output:	110dB(A) (message dependent).
Volume Control:	Potentiometer.
Voice Recording:	Up to 20 seconds recording time.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Mounting:	Stainless steel bracket with ratchet facility.
Earth Continuity:	Included on Exde version.
Sounder/Beacon Unit:	The DB3V may be combined with an MEDC beacon to create a combined voice/visual alarm. Contact MEDC for price and specification.
Labels:	Duty and tag labels optional.

Certified Temperature:

	Exd	Exde	GOST R&K Exd	GOST R Exde	Chinese Exd
DB3V	–20ºC +70ºC	–20ºC +70ºC	–20ºC +50ºC	–20ºC +40ºC	–20ºC +55ºC
DB3LV*	–55ºC +70ºC	–50ºC +70ºC	–55ºC +55ºC	–55ºC +55ºC	n/a

* DB3LV IECEx Min Temp - 40ºC.



Current Consumption:

V	I
12V d.c.	1.2A
24V d.c.	600mA
48V d.c.	300mA

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.

Model

Model	Details
DB3V	Voice unit
DB3LV †	Low temp voice unit*

* Available unpainted only.
† Min IECEx temp -40ºC.

Certification

Certification	Code
Uncertified	W
ATEX Exd	D
ATEX Exde	E
IECEx Exd	DJ
IECEx Exe	EJ
CUTR Exd	DG
CUTR Exde	EG
Chinese (CQST)	Q
Inmetro Exd	DM
Inmetro Exde	EM

Options

Options	Code
Duty	D*
Tag	T*
End of line resistor	E†
Bell tone	0
None	N

* Please specify wording.
† State value.

Entries

Entries	Code
1 x M20 (Exd)	1B
2 x M20 (Exd/Exe)	2B
2 x M20 (Exd/Exe)	2BP*

* With one certified plug fitted.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Explosion-proof Sounder dEV20 - Up to 115 dB(A)

Crouse-Hinds by EATON

Ex de

Introduction

Hazardous areas often require the use of acoustical signals for warning or information purposes. The ExII-sounder dEV20 offers both of these signalling features and is designed for continuous operation.

The ExII-sounder dEV20 has an ingress protection rating of IP66, meaning it is suitable for both indoor and outdoor installation.

The ExII-Sounder consists of a flame-proof housing manufactured from a light grade aluminium alloy and a sound channel made from impact-resistant polyester.

The sounder dEV20 includes two signal levels. The signal tone for the first level is adjusted with the slide switches 1-5 (S0) according to the signal choice list. The signal tone for the second signal level is adjusted with the slide switches 6-10 (S1).

Delivery condition: S0 = Tone 24 ,

S1 = Tone 4

Features

- Sound pressure level: up to 115 dB(A)
- 32 signal tones, 2-stage alarm
- Volume adjustable (3 steps of 10 dB)
- Aluminium housing, Polyamide
- ATEX Approval
- IP66
- II 2 G Ex d e IIB + H^2 T6 Gb
- II 2 D Ex tb IIIC T85°C Db

Warning in a chemical plant

The ExII-sounder dEV20 is made to protection category IP66 and may be used in zones 1 + 2 and 21 + 22.

ATEX IECEx

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

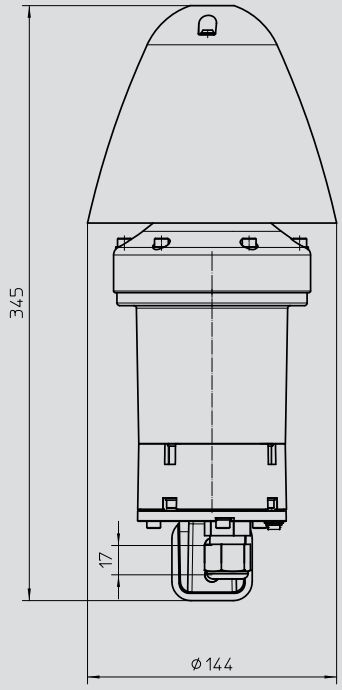
Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

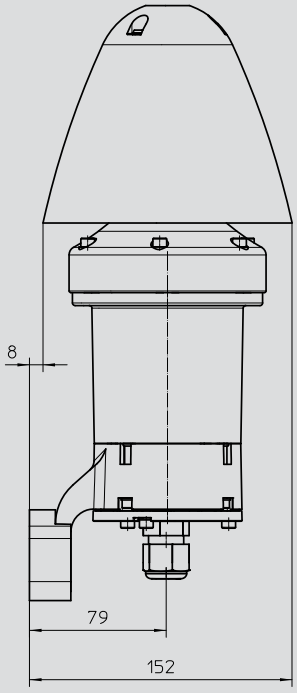
MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Type of protection:	ATEX Cert. No. PTB 12 ATEX 1014. II 2 G Ex d e IIB + H2 T6 Gb. II 2 D Ex tb IIIC T85ºC Db. IECEx Cert. No. IECEx PTB 13.0012 Ex d e IIB + H2 T6 Gb Ex tb IIIC T85ºC Db
Protection class:	I.
Certified temp:	T6: -50ºC to +60ºC
Housing:	Seawater resistant Aluminium, sound protection hood Polyamide (black).
Weight:	2.8 kg
IP rating:	IP66.
Cable entries:	M20 x 1.5 (cable 5.5 to 13 mm).
Signal selection:	By DIP switches.
Volume:	Max. 115 dB(A) reducible in 3 levels each by 10 dB.
Signal tone:	32 for each signal level.
Current consumption:	93 - 460mA (dep. on voltage variation).
Power consumption:	Max. 14 W.
Clamping capacity:	To 2.5 mm^2.
Dimensions:	~ Ø 144 x 345 mm.





ALL DIMENSIONS IN MILLIMETRES

Ordering Information

Type	Name	Voltage	Current Consumption	Article no.
dEV20	Ex-Sounder	24 VDC	460 mA	F215 910 13
dEV20	Ex-Sounder	85 - 265 VAC	93 mA (230 V)	F215 910 07

Crouse-Hinds by EATON

Intrinsically Safe (Exia)

Features

- Zone 0, Zone 1 and Zone 2 use.
- Ex ia IIC T4.
- ATEX approved Ex II 1G & Ex 1 M1.
- BASEEFA certified.
- IECEx certified, Ga.
- FM Approved – Class I, Div. 1, Groups A-D.
- CSA certified.
- Brazilian (Inmetro) certified.
- IP65.
- Certified temperature: –20°C to +55°C.
- Volume control as standard.
- Up to 103 dB(A).
- 26 different sound outputs, user selectable by internal switches.
- Encapsulated electronics.
- Second tone selectable using third wire.

Introduction

This range of lightweight, intrinsically safe Sounders have been designed with a high weatherproof rating to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The unit is available in 2 models: 12V and 24V.

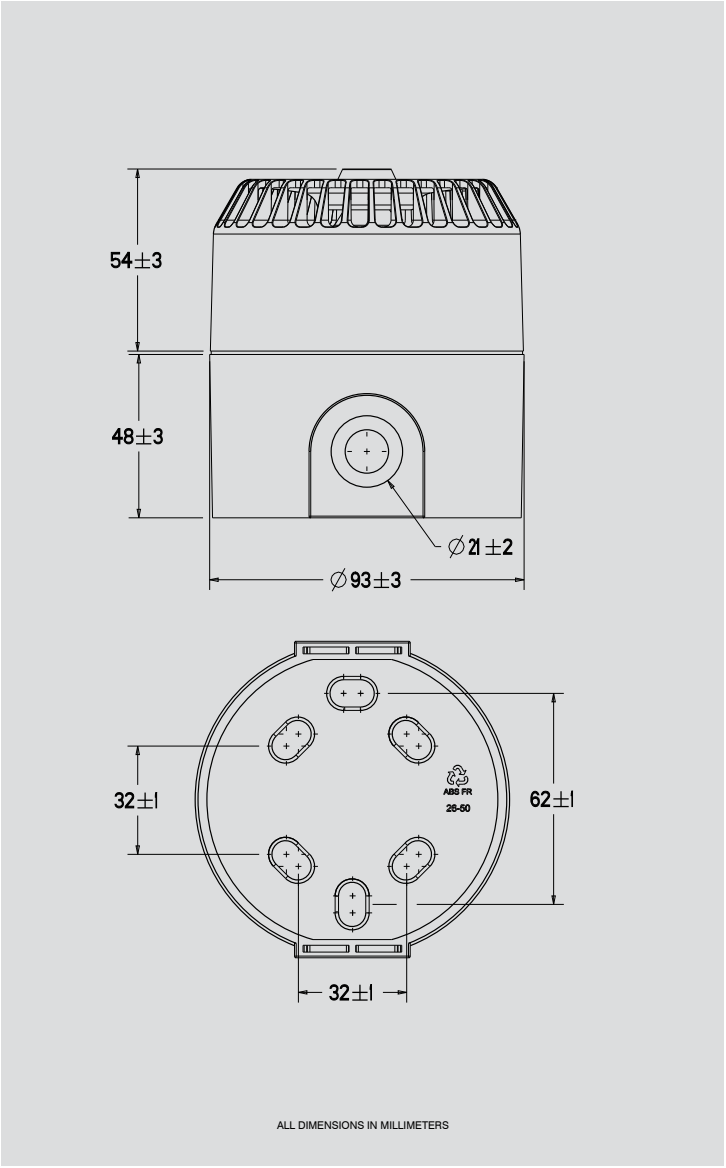
Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Certification:	Certified to IEC60079-0, IEC60079-11, IEC60079-26. Certified to EN60079-0, EN60079-11, EN60079-26. ATEX Cert. No. BAS00ATEX1259X. Ex II 1 G Ex ia IIC T4 Ga. System Cert. No. (BAS no.) Ex 01E2024. HSE(M) to EN50014, EN50020 and EN50303. Exia 1 Cert. No. MECS01ATEX4260 (unit) and 94Y7095 (system). IECEx BAS 08.0043x Exia IIC T4 Ga. FM Approved to Class 1, Div 1 groups A, B, C and D. J.I. 3008604. Refer to FM Data sheet at rear of catalogue for complete information. CSA to C22.2 Nos. 0, 0.4, 0.5, 25, 30, 205. Class 1 groups A, B, C and D. Cert. No. 79122. Brazilian (Inmetro) certified Ex ia IIC T4 Ga. American Bureau of Shipping Type Approval.
Material:	A.B.S. (Acrylonitrile Butadiene Styrene).
Finish:	Available in Red as standard.
Sound Output:	100± 3dB(A) for 12V and 24V versions. Typical max value only – variable with tone. Tones comply with BS 5839 Part 1.
Current Consumption:	24V model – 14 mA max. nominal. 12V model – 12 mA max. nominal.
Certified Temp:	–20ºC to +55ºC.
Weight:	0.3kg.
Entries:	2 x M20 side entries.
Terminals:	6 off suitable to accept up to 2.5mm² cable, for looping.



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.

Model

DB5

Certification

Certification	Code
BASEEFA GP 1	M*
BASEEFA GP 2	B
IECEx	J
FM	FM
CSA	C
Inmetro	IM

* 12V only.

Voltage

Voltage	Code
12V	012
24V	024

Tag Label

Tag Label	Code
None	N
Yes	Y*

*Please specify.

Finish

Finish	Code
Red	R
Special	S*

*Please specify.

Crouse-Hinds by EATON

Intrinsically Safe (Ex ia), Weatherproof

Features

- Zones 0, 1, 2 and safe area use.
- Ex ia IIB/IIC T4.
- ATEX approved Ex II 1G.
- Weatherproof uncertified version.
- BASEEFA certified.
- CUTR certified.
- IP66 & IP67.
- Certified temperature: –55°C to +70°C.
- Corrosion resistant red painted GRP.
- Up to 110 dB(A) output.
- 27 tones, user selectable.
- Tones comply with UKOOA/PFEER guidelines.
- Any two tones may be switched by the external voltage supply.
- Retained stainless steel cover screws.

Introduction

This range of ruggedised, intrinsically safe and weatherproof sounders, 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 unit is available in 12V and 24V versions and for gas groups IIB or IIC.

A lower cost, uncertified version is available for use in non-explosive atmospheres.

ATEX CUTR

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MEDC

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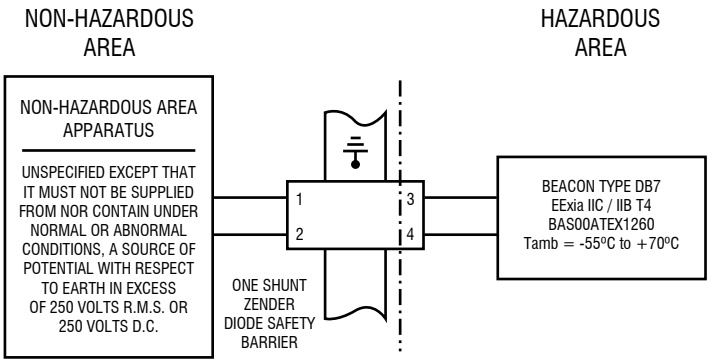
Certification and Specification

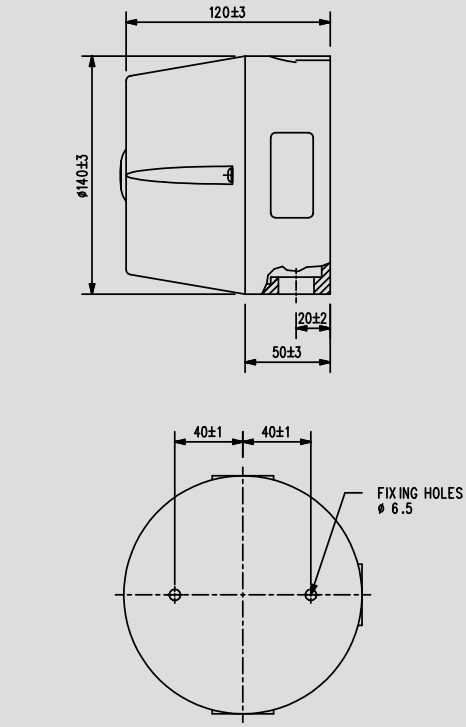
ATEX EEx ia:	Cert. no. BAS00ATEX1260X. (Apparatus) Cert. no. 96D2362. (System) Certified to: EN50014, EN50020, EN50039. Ex II 1G, EEx ia IIC T4. Ex II 1G, EEx ia IIB T5.
CUTR EEx ia:	0EEx ia IIC T4. 0EEx ia IIB T4. Russian Fire Approved.
Material:	UV stable glass reinforced polyester. Retained stainless steel cover screws.
Finish:	Painted red as standard or to customer specification.
Voltage:	12V or 24V via suitable barrier.
Current Consumption:	24V models 34mA – 68mA. 12V models 25mA – 55mA.
Sound Output:	107± 3dB(A) at 1 metre for 12V and 24V IIB versions. 103± 3dB(A) at 1 metre for 12V and 24V IIC versions. Typical value only – variable with tone.
Tone Selection:	Switchable between any two of the 27 tones by reversing the polarity of the supply.
Certified Temp:	–55ºC to +70ºC.
Weight:	1.0 kg.
Ingress Protection:	IP66 & IP67.
Entries:	Up to 3 x M20 via knockouts.
Terminals:	8 x 2.5mm^2 .
Labels:	Duty and tag labels available.

INSTALLATION DRAWING



REFER TO TECHNICAL MANUAL FOR SUITABLE BARRIERS

NOTE: REFER TO UNIT INSTRUCTION SHEET FOR FULL INSTALLATION DRAWING



ALL DIMENSIONS IN MILLIMETRES

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.

Model

DB7P

Certification

Certification	Code
Uncertified	W
ATEX/CENELEC IIB	BB
ATEX/CENELEC IIC	BC
CUTR IIB	GB
CUTR IIC	GC

Voltage

Voltage	Code
12V	012
24V	024

Labels

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify wording.

Finish

Colour	Code
Painted Red	R
Special	S*

*Please specify.

Crouse-Hinds by EATON

Harsh Industrial & Marine Environments

Features

- IP66 & IP67.
- Operating temperature: –55°C to +70°C.
- Corrosion resistant red painted GRP.
- Up to 110 dB(A) output.
- 27 tones, user selectable.
- Tones comply with UKOOA/PFEER guidelines.
- Any two tones may be switched by the external voltage supply (d.c. version).
- Retained stainless steel cover screws.
- Available compliant to AFNOR NF S 32 001.

Introduction

This range of sounders have been specially designed for use in demanding industrial and marine environments where a robust construction and highingress protection rating is required.

The body is manufactured completely from a UV stable glass reinforced polyester which is also highly flame retardant and impact resistant. Stainless steel screws are incorporated thus ensuring a corrosion free product.

MEDC can also provide a range of sounders suitable for use in potentially explosive atmospheres.

For more information please contact MEDC.

IP66/67 Weatherproof | **Corrosion Free All GRP**

Head Office.
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3413 North Sam Houston Parkway West,
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Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Certification:	UV stable glass reinforced polyester. Retained stainless steel cover screws.	
Finish:	Painted red as standard or to customer specification.	
Voltage:	d.c. 12V, 24V. a.c. 115/230V.	
Current Consumption:	24V operation 55mA - 100mA. 12V operation 55mA - 90mA.	115V operation 8.5mA - 14mA. 230V operation 4.5mA - 7mA.
Operating Temp:	–55ºC to +70ºC.	
Weight:	1.2kg approx. Dependent on model.	
Ingress Protection:	IP66 & IP67.	
Entries:	Up to 3 x M20 via knockouts.	
Terminals:	6 x 2.5mm².	
Output:	107± 3dB(A) at 1 metre. Typical value only – variable with tone.	
Labels:	Duty and tag labels optional for details.	

Volume Control

*Nominal Output dB(A)	Input Current mA
92	60
100	70
104	80
109	90

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

Tone Selection:

Single Stage DB12: 27 user selectable tones available.

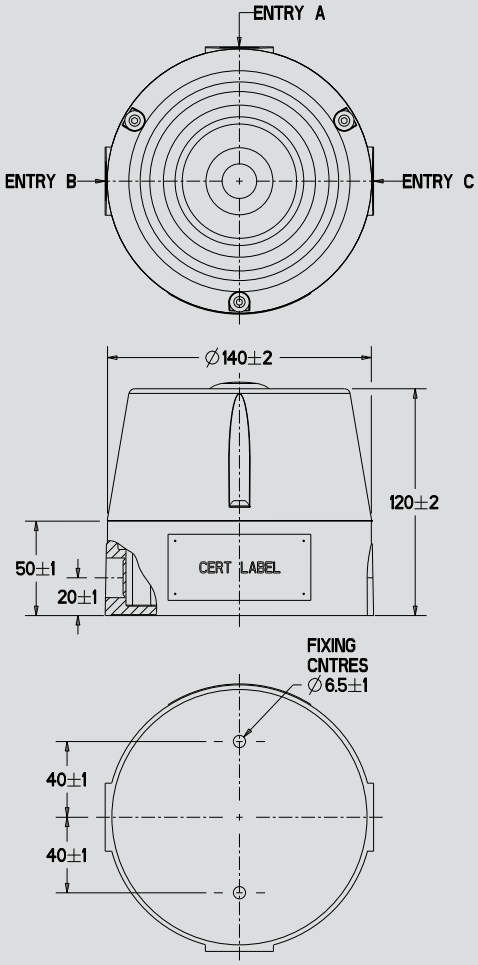
DB12P (Two stage unit): Switchable between any two tones by either:

(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 d.c. versions only.

AFNOR NF S 32 001 compliant version available – contact sales office.



ALL DIMENSIONS IN MILLIMETRES

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.

Model

Model	Details
DB12	Standard Unit
DB12P	Two Stage (d.c. only)

Voltage

Voltage	Code
12V d.c.	012
24V d.c.	024
115/230V a.c.	115

Labels

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify wording..

Finish

Finish	Code
Red	R
Special	S*

* Please specify.

Crouse-Hinds by EATON

Harsh Industrial & Marine Environments

Features

- IP66 and IP67.
- Temperature range: –55°C to +70°C.
- Corrosion resistant grey painted GRP.
- Up to 117dB(A) output.
- 27 user selectable tones.
- Tones may be programmed to customer specification.
- Stainless steel ratcheted mounting bracket.
- Earth continuity available.
- Paint finish to customer requirement.
- Available compliant to AFNOR NF S 32 001.

Introduction

This range of sounders have been specially designed for use in demanding industrial and marine environments where a robust construction and high ingress protection rating is required.

The body is manufactured completely from a UV stable glass reinforced polyester which is also highly flame retardant and impact resistant. Stainless steel screws are incorporated thus ensuring a corrosion free product.

MEDC can also provide a range of sounders suitable for use in potentially explosive atmospheres.

For more information please contact MEDC.

IP66/67 Weatherproof

Corrosion Free All GRP

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Certification and Specification

Certification:	Body & horn in UV stable, glass reinforced polyester. Swivel bracket in stainless steel. Cover screws in stainless steel.
Finish:	Painted to customer specification.
Voltage:	Up to 48V d.c. Up to 254V a.c.
Operating Temp:	–55ºC to +70ºC.
Weight:	2.6kg approx. Dependent on model.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO.
Terminals:	4 x 2.5mm² (a.c.), 6 x 2.5mm² (d.c.).
Output:	DB15 117dB(A) maximum.
Mounting:	Stainless steel bracket with ratchet facility.
Earth Continuity:	Available.
Labels:	Duty and tag labels optional.

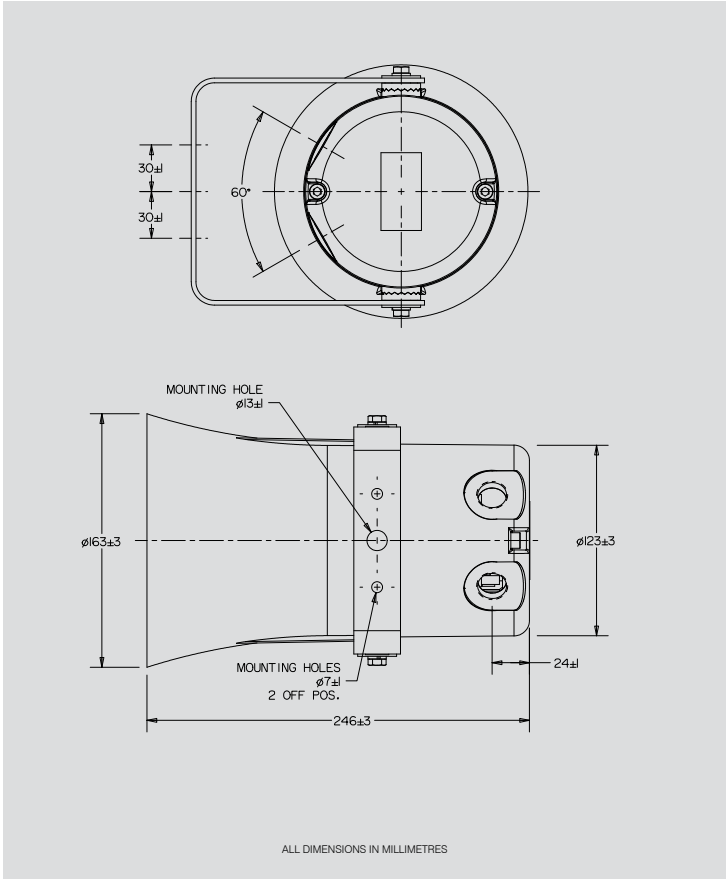
Volume Control:

*Nominal Output dB(A)	Input Current mA
100	150
105	250
108	350
110	450
112	550

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

Current Consumption:

V	I
12V d.c.	900mA
24V d.c.	600mA
48V d.c.	280mA
110V a.c	150mA
120V a.c.	175mA
220V a.c.	93mA
240V a.c.	86mA
254V a.c.	80mA



Tone Selection:

DB15: (Single):	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: (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 d.c. versions (DB15P) only.

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.

Model

DB15
DB15P

Voltage

Voltage	Code
12V d.c.	012
24V-48V d.c.	048
110V a.c.	110*
120V a.c.	120*
220V a.c.	220*
240V a.c.	240*
254V a.c.	254*

* DB15P not available in a.c. version.

Options

Options	Code
Duty	D*
Tag	T*
Earth Continuity	E
End of Line Resistor	R†
Blanking Plug	P
None	N

* Please specify wording.
† Specify value.

Finish

Finish	Code
Painted Grey	G
Red	R
Special	S*

* Please specify

Crouse-Hinds by EATON

Exd, Weatherproof

Introduction

This explosion-proof bell is available in two voltages.

The bell is manufactured from cast iron, finished in epoxy paint.

Colour to customer's specification.

Features

- Zone 1 and Zone 2 use.
- Exd IIB T5.
- ATEX approved Ex II 2G.
- BASEEFA certified.
- IECEx certified, Gb.
- Brazilian (Inmetro) certified.
- IP65.
- Certified temperature: –20°C to +55°C.
- 2 cable entries.
- Captive cover screws.

ATEX IECEx INMETRO

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MEDC

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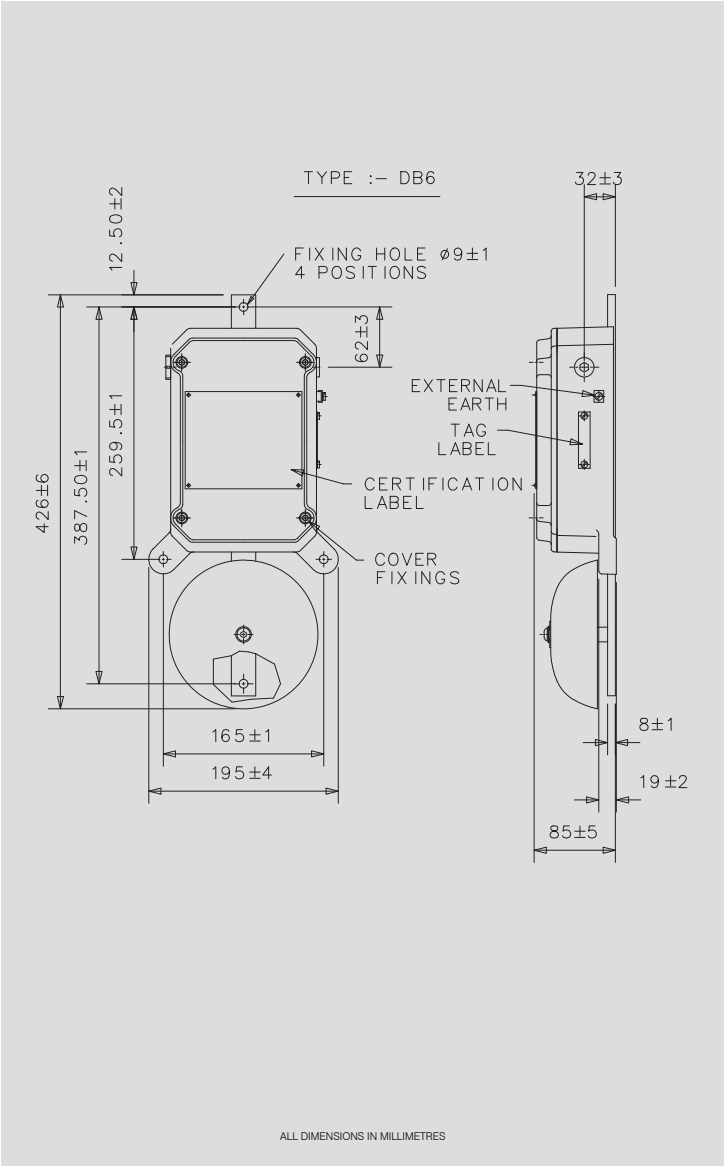
Certification and Specification

Certification:	Certified to IEC60079-0, IEC60079-1. Certified to EN60079-0, EN60079-1. ATEX Cert. No. Baseefa03ATEX0257, Ex II 2 G Ex d IIB T5 Gb. IECEx Cert. No. IECEx BAS 09.0040 Exd IIB T5 Gb. Brazilian (Inmetro) Certified: Ex d IIB T5 Gb.
Material:	Cast Iron.
Finish:	Grey epoxy paint as standard or to customer specification.
Voltage:	24V d.c. or 200/254V a.c. 50/60 Hz.
Contact Spring:	Phosphor Bronze.
Contacts:	Silver.
Coil:	Bakelite former.
Magnet:	Laminated iron.
Armature:	Pivoted to operate shaft and hammer at back of gong through flameproof bearing.
Certified Temp:	-20ºC to +55ºC.
Weight:	11 kg.
Ingress Protection:	IP65.
Earthing:	M6 Internal and external earthing points provided.
Entries:	2 x M20 ISO with one Exd blank fitted.
Labels:	Tag label optional.
Termination:	Terminals suitable for 4 x 4mm² cables.

Ratings:

Voltage	VA	Amps	dB(A) rating
24V d.c.	1.92	0.08	98 ± 3
200/254 a.c.	6/12.7	0.03/0.05	106 ± 3

24V d.c. unit polarised and suppressed for use on monitored fire alarm system sounder circuits.



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.

Model

DB6

Voltage

Voltage	Code
24V d.c.	B
240V a.c.	H

Certification

Certification	Code
ATEX	B
IECEx	J
Inmetro	DM
Weatherproof	W

Tag Label

Tag Label	Code
Label	Y*
None	N

* Please specify wording.

Finish

Colour	Code
Grey	G
Red	R
Special	S*

* Please specify.

Ex-Signalling bell dGW 21 / dRGW 21 - Up to 105dB(A)

Crouse-Hinds by EATON

Ex de

Introduction

The signalling bell dGW21 was designed to warn, call and signal in group II explosive atmospheres and rough environmental conditions in hazardous areas.

The signalling bell produces a sound volume of approx. 105dB(A) at 1 meter distance.

The frequency of the sound of the bell is approx 1kHz, meaning the signal can be clearly heard against lower frequency background noise. The bell can also be activated with the presence of a telephone ringing signal in the dRGW 21 version.

The protection of this product is a mixture of Exd “flameproof” for the driver system and Exe “increased safety” for the termination chamber. The dRGW 21 offers initiation by a relay from a telephone ringing voltage. The flameproof chamber contains the electromagnetic driver system and the enclosure is made from GRP (glass-fibre reinforced polyester), guaranteeing protection against corrosion. As the dGW 21 is safety class II, so there is no equipotential bonding necessary.

All D.C. versions are also equipped with an electronic contact breaker, increasing product service life.

Features

- ATEX II 2 G Ex de IIC T6
- Housing made of glass-fibre reinforced polyester (GRP)
- Volume: approx: 105 dB(A)
- Protection: IP 66
- Safety class II

  (no equipotential bonding necessary)
- Version dRGW 21 with integrated telephone call relay
- Integrated terminal box realized in Ex protection

  mode increased safety

Acoustic signalling device in a chemical plant

The frequency of the sound of the bell is approx 1kHz, meaning the signal can be clearly heard against lower frequency background noise.

ATEX UL

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MEDC

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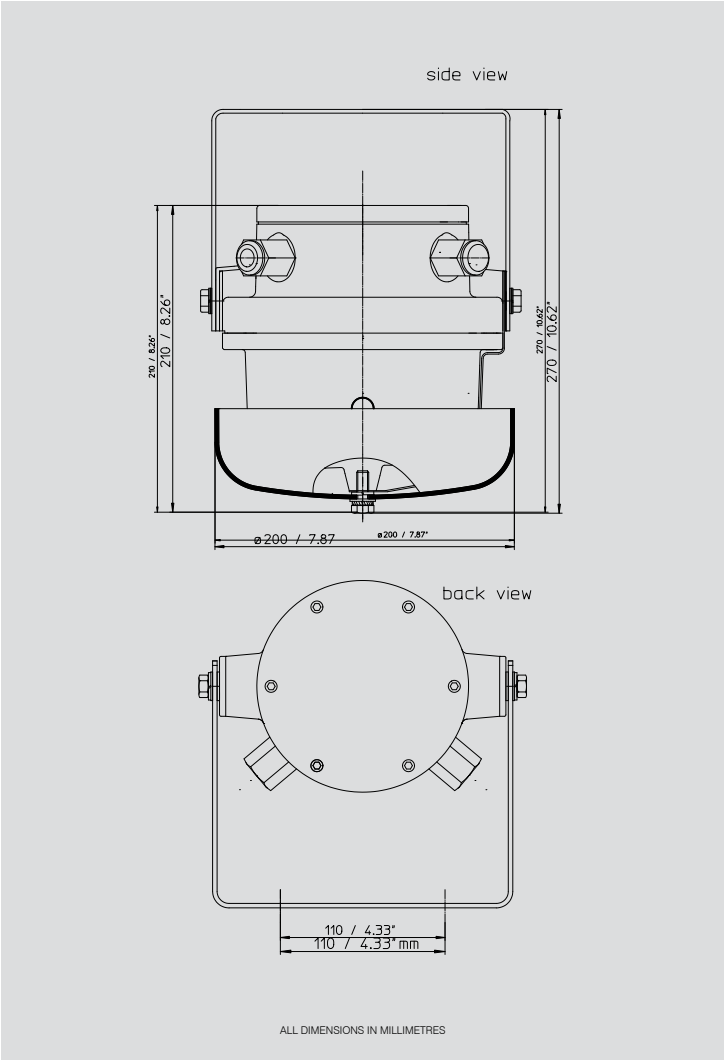
Certification and Specification

Explosion Protection:	II 2 G Ex de IIC T6.
Protection:	IP 66.
Safety class:	II (no equipotential bonding necessary).
Housing:	GRP glass-fibre reinforced polyester.
Colour:	Black or red.
Cable gland:	1x M20 x 1.5 cable gland and 1 blind plug M20 x 1.5.
Connection terminals:	1.5 mm^2 fine wire. 2.5 mm^2 single wire.
Operating conditions:	Indoors and outdoors.
Operating position:	Bell dome to the front (tappet downwards).
Volume:	Approx. 105 dB(A) at 1m distance.
Operating mode:	Continuous.
Temperature range:	
Operation:	-20ºC to +40ºC.
Storage:	-30ºC to +80ºC.
Weight:	Approx. 5.5 kg.



Ordering Information

Type	Name	Voltage Ue	Oper. Volt range Ue	Current Cons	Article no.
Housing black					
dGW 21	Ex-Signalling Bell	12 VDC	+10/-15%	0.60 A	F910 122 10*
dGW 21	Ex-Signalling Bell	24 VDC	+10/-15%	0.35 A	F910 242 10*
dGW 21	Ex-Signalling Bell	110 VAC	+10/-15%	0.14 A	F911 101 10*
dGW 21	Ex-Signalling Bell	110 VDC	+10/-15%	0.13 A	F911 102 10*
dGW 21	Ex-Signalling Bell	230 VAC	+10/-15%	0.06 A	F912 301 10*
dGW 21	Ex-Signalling Bell	240 VAC 60 Hz	+10/-15%	0.07 A	F912 401 1060*
dRGW 21	Ex-Signalling Bell with telephone relay	230 VAC	+10/-15%	0.06 A	F912 301 1000*
Housing red					
dGW 21	Ex-Signalling Bell	12 VDC	+10/-15%	0.60 A	F910 122 1013*
dGW 21	Ex-Signalling Bell	24 VDC	+10/-15%	0.35 A	F910 242 1013*
dGW 21	Ex-Signalling Bell	110 VAC	+10/-15%	0.14 A	F911 101 1013*
dGW 21	Ex-Signalling Bell	110 VDC	+10/-15%	0.13 A	F911 102 1013*
dGW 21	Ex-Signalling Bell	230 VAC	+10/-15%	0.06 A	F912 301 1013*

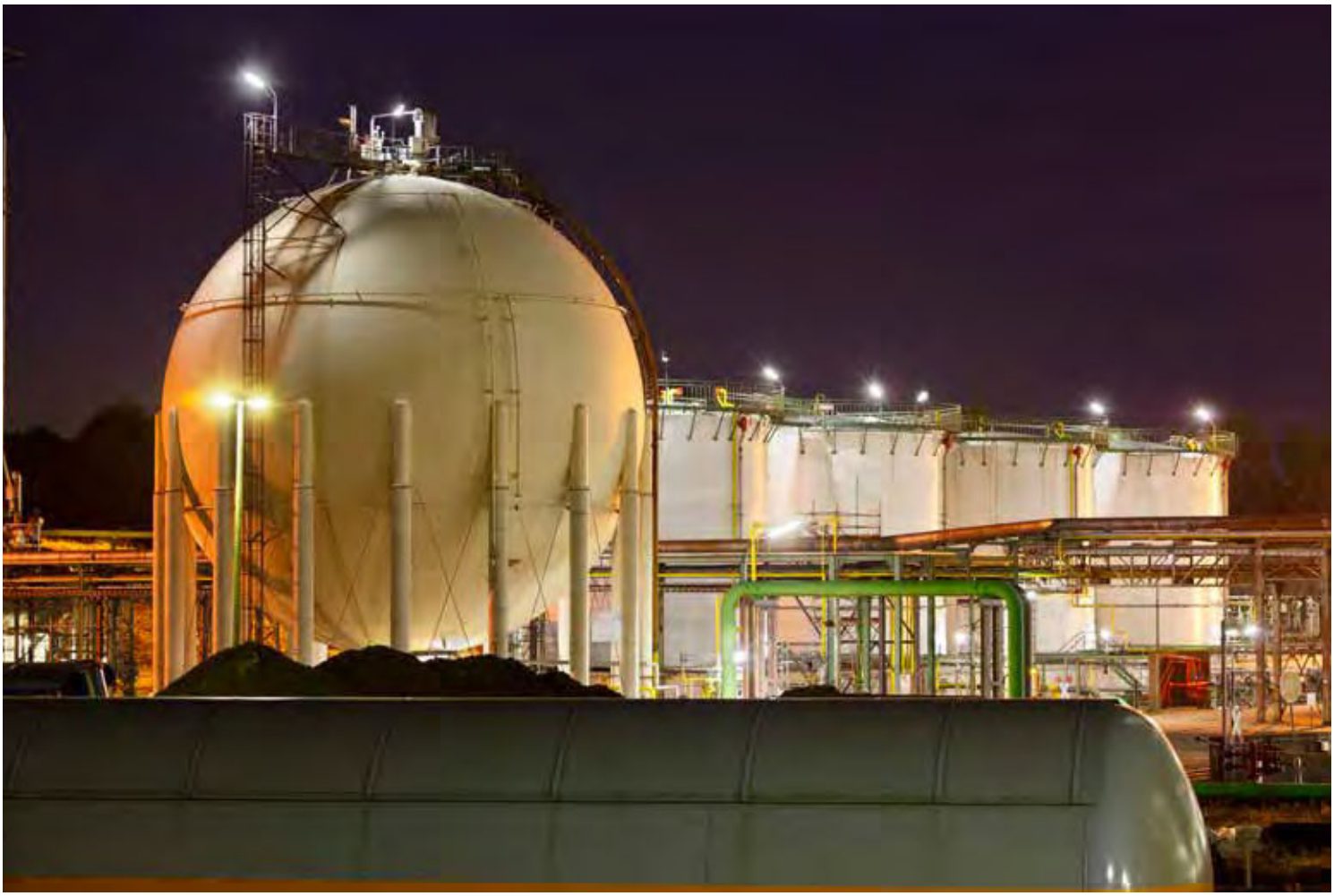
*All article-numbers are ATEX-variants

Loudspeakers

MEDC's range of explosion protected, heavy duty, industrial and commercial speakers are designed to meet the requirements for public address, voice alarm and evacuation procedures. This range of loudspeakers, specifically designed for potentially explosive gas and dust atmospheres, is suitable for use in the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The units can be operated as part of 100 or 70 volt line systems, and include a wide range of sound output levels, which are all measured in dB(A) at 1 watt / 1 metre.

MEDC ensures the production of rugged, hard wearing products by using corrosion free materials such as GRP (glass reinforced polyester) and stainless steel.



Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Loudspeakers												
DB4B	■	■									66 / 67	92
DB4	■	■	■			■	■	■	■	■	66 / 67	94
DB20C	■	■				■	■				66 / 67	96
DB20	■	■				■	■				66 / 67	98
DB10	■	■				■	■	■			66 / 67	100
DB16	■	■	■			■	■				66 / 67	102
DB18	■										66 / 67	104
DB14											66 / 67	106

DB4B

DB4

DB20C

DB20

DB10

DB16

DB18

DB14

Ex d(e), Weatherproof

Features

- Ex d / Ex de IIC/IIIC T4/T5/T6.
- ATEX certified.
- IECEx certified.
- CUTR Certified.
- CQST Certified.
- Certified temperature -55°C to +70°C.*
- IP66 & IP67.
- Optional Ex e terminal chamber.
- 127dB at 25W, 1m.*
- 8W, 15W & 25W versions.
- Power tappings, via integral transformer.
- Frequency response 350Hz - 8kHz.
- Ex enclosure - Glass reinforced polyester.
- Flare - High impact thermoplastic polyester.
- Stainless steel mounting bracket and cover screws.
- Mounting bracket has ratchet facility as standard
- Optional swivel bracket available.
- Optional resettable fuse†.

**Depending on version.*
† Contact MEDC for details.

Introduction

The DB4B is a high power explosion proof loudspeaker, introduced as a replacement for the current DB4 with improved intelligibility and acoustic performance. Certified for use in a wide range of temperatures from -55°C to +70°C the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

The frequency response of the unit ensures that critical voice messages and general alarm tones are highly intelligible. The specific SPL figure for sensitivity is 1W @ 1m is 113dB whilst at 1m the 25W unit produces 127dB, the 15W unit 125dB and the 8W unit 123dB.

Options include DC blocking capacitors for monitored systems, resettable fuses for compliance with marine regulations and a swivel bracket that gives the installer greater flexibility when positioning the unit. The short flare option is a worthy addition to the range offering a high SPL and wide dispersion angle in a compact unit.

ATEX IECEx CUTR

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Certification and Specification

ATEX Ex d Gas: Cert. no. Baseefa13ATEX0229X.
Certified to: EN60079-0, EN60079-1.
Ex II 2G, Ex d IIC T4/T5/T6 Gb.

ATEX Ex d Gas & Dust: Cert. no. Baseefa13ATEX0231X.
Certified to: EN60079-0, EN60079-1, EN60079-31.
Ex II 2GD, Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

ATEX Ex de Gas: Cert. no. Baseefa13ATEX0232X.
Certified to: EN60079-0, EN60079-1, EN60079-7.
Ex II 2G, Ex de IIC T4/T5/T6 Gb.

ATEX Ex de Gas & Dust: Cert. no. Baseefa13ATEX0233X.
Certified to: EN60079-0, EN60079-1, EN60079-7, EN60079-31.
Ex II 2GD, Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

IECEx Ex d Gas: Cert. no. IECEx BAS 13.0112X.
Certified to: IEC60079-0, IEC60079-1.
Ex d IIC T4/T5/T6 Gb.

IECEx Ex d Gas & Dust: Cert. no. IECEx BAS 13.0113X.
Certified to: IEC60079-0, IEC60079-1, IEC60079-31.
Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

IECEx Ex de Gas: Cert. no. IECEx BAS 13.0114X.
Certified to: IEC60079-0, IEC60079-1, IEC60079-7.
Ex de IIC T4/T5/T6 Gb.

IECEx Ex de Gas & Dust: Cert. no. IECEx BAS 13.0115X.
Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31.
Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66.

CUTR Ex d Gas: 1Ex d IIC T4/T5/T6 Gb.

CUTR Ex d Gas & Dust: 1Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

CUTR Ex de Gas: 1Ex de IIC T4/T5/T6 Gb.

CUTR Ex de Gas & Dust: 1Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

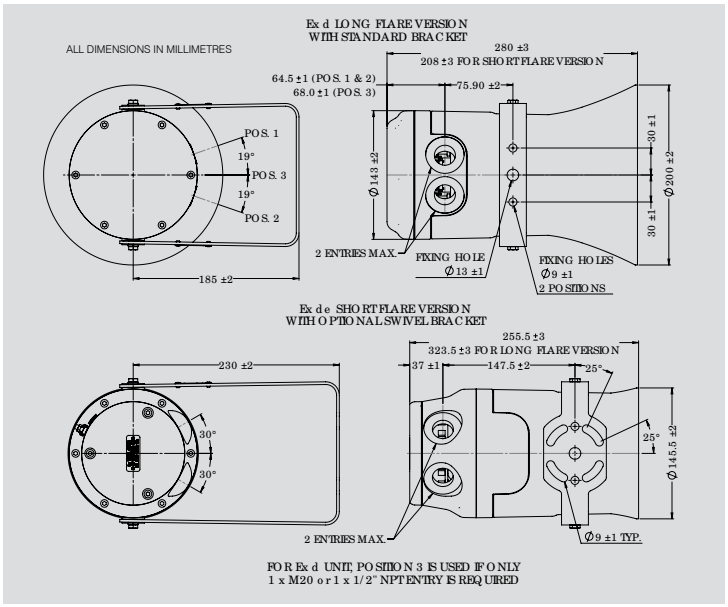
CQST Ex d Gas: Ex d IIC T4/T5/T6 Gb.

CQST Ex d Gas & Dust: Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db.

Material:	Ex enclosure - Flame retardant, UV stable, Glass reinforced polyester. Flare - Flame retardant, high impact, UV stable, thermoplastic polyester. (UV stability tested to ISO 4892 part 3). Hardware - Bracket, fixings and captive cover screws in 316 stainless steel.
Fire Retardancy :	Body - Glass reinforced polyester. V0 flammability rating. Outer Flare - Thermoplastic Polyester. V0 flammability rating.
Finish:	Body - natural black. Flare - natural black, natural red or painted as specified. (Black short flare painted black).
Rated Power:	8W, 15W or 25W (other ratings available, contact MEDC).
Frequency Range:	Frequency response 350Hz to 8kHz. 8W and 15W units are available for use @ 200Hz.
Weight:	Ex d - 5.0kg, Ex de - 5.8kg. Based on long flare with transformer.
Ingress Protection:	IP66 & IP67.
Earth Continuity:	Optional for Ex de version. Not available on Ex d unit.
Entries:	Up to 2 x M20 or 1/2" NPT. Blanking plug available.
Terminals:	Ex d - 8 x 2.5mm². Ex de - 8 x 4.0mm².
Mounting arrangement:	Stainless steel bracket with ratchet facility, optional swivel bracket available.
Labels:	Optional duty and tag labels available.
Dispersion angle:	Long flare (-6dB) 1kHz = 140°, 4kHz = 40°. Short flare (-6dB) 1kHz = 240°, 4kHz = 50°.
Driver Impedance:	8Ω.
SPL 1W/1m (Sensitivity):	113dB (IIC long flare).

Maximum Output dB (1/3 octave average smoothed):

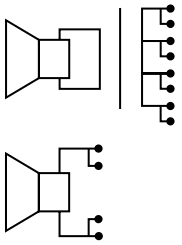
	8W unit		15W unit		25W unit	
Flare type	**Short**	**Long**	**Short**	**Long**	**Short**	**Long**
IIC Gas	119dB	123dB	122dB	125dB	124dB	127dB
IIIC Gas & Dust	114dB	117dB	117dB	119dB	119dB	121dB



Transformer:
Used by combining the rated power tappings below.

Tappings	Power 8W	15W	25W
1:2	8.0	15.0	25.0
2:3	4.0	7.5	2.5
3:4	2.0	5.0	6.0
1.3	1.5	4.0	4.0
2:4	0.7	2.0	2.0
1.4	0.4	0.8	1.0

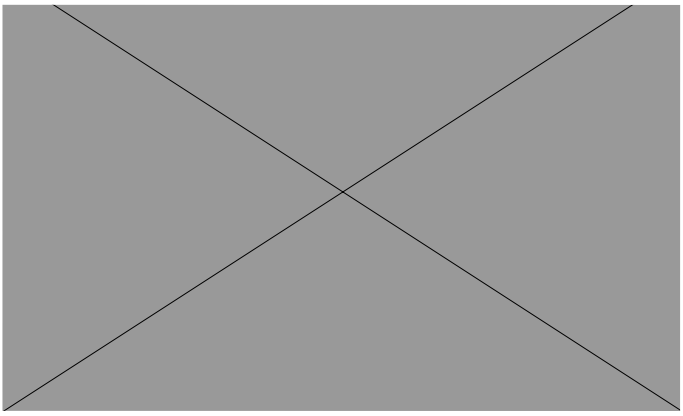
Transformer Tapping Options:



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.

Frequency Response for IIC long flare unit @ 25W, 1m with ⅓ octave averaging.
Test data from NTI test equipment.



Certified Temperature:

Protection Type	Minimum Temp	Maximum Temp		
	All units	**8W unit**	**15W unit**	**25W unit**
Ex d	-55°C	+70°C	+65°C	+55°C
Ex de	-50°C			

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.

Model: DB4B

Certification

Certification	Code
ATEX Ex d	D
ATEX Ex de	E
IECEx Ex d	DJ
IECEx Ex de	EJ
CUTR Ex d	DG
CUTR Ex de	EG
CQST Ex d	Q
Weatherproof	W

Ex Atmosphere

Ex Atmosphere	Code
None	N*
IIC Gas	G
IIIC Gas & Dust	GD

* If Weatherproof select N for Ex Atmosphere

Wattage

Wattage	Code
8 Watt	8
15 Watt	15
25 Watt	25*

* Select 25 if 8Ω is required.

Transformer

Transformer	Code
8Ω	N
100V	100

Labels

Labels	Code
None	N
Duty	D*
Tag	T*

* Please specify.

Entries

Entries	Code
1 x M20	1B*
2 x M20	2B
2 x M20 Inc 1 x plug	2BP
1 x 1/2" NPT	1C*
2 x 1/2" NPT	2C*
2 x 1/2" NPT Inc 1 x plug	2CP*

* Not available Ex e.

Options

Options	Code
None	N
Swivel bracket	B
Capacitor	C*
Earth cont.	G†
Short flare	S

* Specify value.
† Ex e only.

Finish

Finish	Code
Natural Black	N†
Natural Red	R
Yellow	Y
Grey	G
Blue	B
Special	S*

* Please specify.
† Short flare painted black.

Crouse-Hinds by EATON

Exd(e), Weatherproof

Introduction

This range of loudspeakers, intended for use in potentially explosive gas and dust atmospheres, has a power rating of up to 25 watts and is suitable for use in all gas groups including hydrogen.

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.

An optional Exe terminal chamber is available.

An uncertified version is available for use in non-explosive atmospheres.

Features

- Zone 1, Zone 2 & non-Ex use.
- Exd IIC T4/T5.
- ATEX approved, EEx II 2GD.
- BASEEFA certified.
- UL listed for USA and Canada:
  - Class I, Div 2, Groups A-D.
  - Class II, Div 2, Groups F & G
  - Class I, Zones 1 & 2, AExd IIC, T5.
- IECEx certified Gb, Db.
- CUTR certified.
- Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- Optional Exe terminal chamber.
- IP66 and IP67.
- SIL 2 Certified.
- Certified temperature: –55°C to +70°C*.
- GRP corrosion-free flamepaths.
- 119dBA at 25 watts at 1 metre.
- 8, 15, 20 and 25 watt versions.
- Addressable capability.
- Power tappings, via integral transformer.
- Ratcheted swivel bracket.
- Stainless steel sinter.
- Stainless steel mounting bracket.
- Tapered flamepath.

**Depending on version.*

ATEX IECEx cULus CUTR INMETRO CQST

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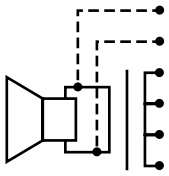
Certification and Specification

ATEX EEx d:	Cert. no. BAS00ATEX2097X. Certified to: EN50014, EN50018. Ex II 2GD, EEx d IIC T4/T5.
ATEX EEx de:	Cert. no. BAS00ATEX2098X. Certified to: EN50014, EN50018, EN50019. Ex II 2GD, EEx de IIC T4/T5.
IECEx Ex d:	Cert. no. IECEx BAS 11.0083X. Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
IECEx Ex de:	Cert. no. IECEx BAS 11.0084X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31. Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db.
UL Haz Locs:	Listing no. E203310. Class I, Div 2, Groups A - D. Class II, Div 2, Groups F & G. Class I, Zones 1 & 2, AExd IIC T5.
CUTR Ex d:	1Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
CUTR Ex de:	1Ex de IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. Russian Fire Approved.
Inmetro Ex d:	Ex d IIC T4/T5 Gb.
Inmetro Ex d e:	Ex d e IIC T4/T5 Gb.
CQST:	Exd IIC T5.
ABS:	American Bureau of Shipping for DB4D and DB4E only.
SIL:	SIL2 certification to IEC61508. Cert. No. Sira FSP 11011.
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester. Swivel bracket in stainless steel. Captive cover screws in 316 stainless steel.
Finish:	Body and horn, natural black or painted to client's colour requirements.
Rated Power:	8, 15, 20 or 25 watts RMS continuous (at 25ºC).
Weight:	5.0kg approx. dependent on model. (Add 0.5kg for Exe version).
Ingress Protection:	IP66 & 67.
Entries:	1 x M20 Exd. 2 x M20 Exd/Exde. 2 x 1/2" NPT.
Terminals:	8 x 2.5mm². Other terminal arrangements available on request.
Output:	Long Flare: Short Flare: 107 dBA at 1 Watt at 1 metre. 100 dBA at 1 Watt at 1 metre. 119 dBA at 25 Watts at 1 metre. 109 dBA at 8 Watts at 1 metre. Measured in accordance with IEC 268.
Frequency Range:	400Hz to 8kHz.
Voice Coil Impedance:	8 ohms.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Mounting:	Bracket with ratchet facility.
Earth Continuity:	Included on Exe version.
Addressable:	Consult MEDC for specification.
Labels:	Duty and tag labels optional.

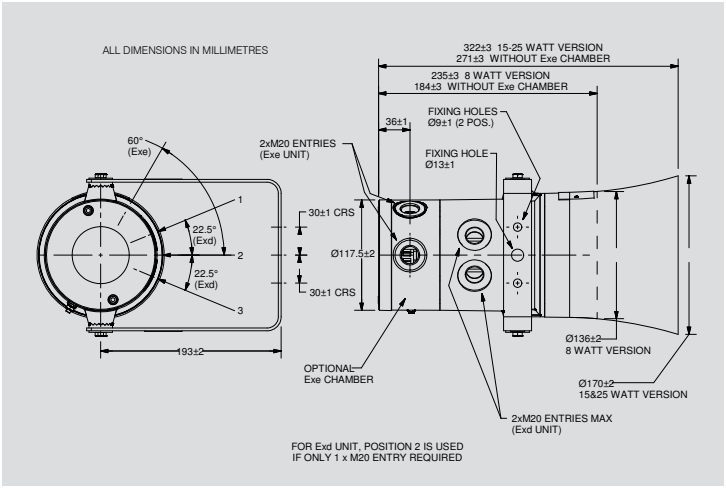


Transformer: Used to vary the rated power by selecting different tappings (see table).

Transformer Tapping Options:

Transformer Power Tappings	25W	20W	15W	8W
1:2	25.0	20.0	15.0	8.0
2:3	12.5	10.0	7.5	4.0
3:4	6.0	6.0	5.0	2.0
1:3	4.0	5.0	4.0	1.5
2:4	2.0	2.0	2.0	0.7
1:4	1.0	1.5	0.8	0.4

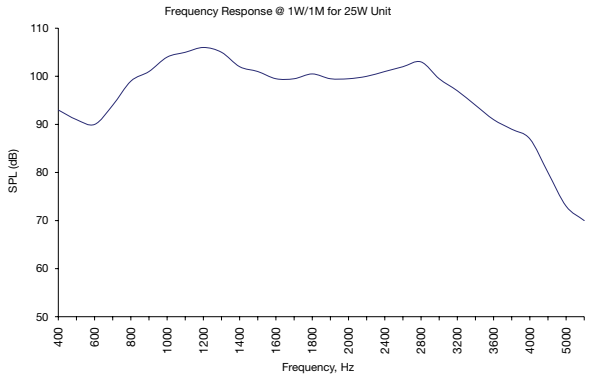
Standard: i) Loop in/loop out (4 x 2) power tap change; 8 terminals.
Optional: ii) 4 terminal tap change with 2 terminals (5 & 6) directly connected to driver (8 ohms).

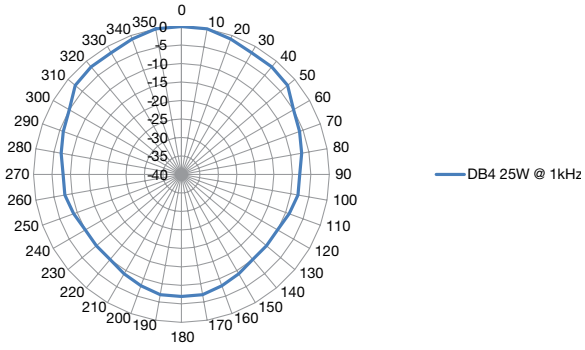


Certified Temperature:

	Exd (≤5W)	Exd (>15W)	Exde (≤15W)	Exde (>15W)	UL
DB4	–20ºC +70ºC	–20ºC +55ºC	–20ºC +70ºC	–20ºC +50ºC	–55ºC +70ºC
DB4L*	–55ºC +70ºC	–55ºC +55ºC	–50ºC +70ºC	–50ºC +50ºC	n/a

*DB4L IECEx Min Temp - 40ºC.





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.

Model

DB4
DB4L*†

* DB4L available unpainted only.
† Min IECEx temp - 40ºC.

Max Rated Power

Power	Code
8 watt	8
15 watt	15
20 watt	20*
25 watt	25

* Not available. UL listed.

Certification

Certification	Code
Uncertified	W
EExd	D
EExde	E
IECEx Exd	DJ
IECEx Exde	EJ
UL listed	UL
CUTR Exd	GD*
CUTR Exde	GE*
Chinese (CQST) Exd	Q
Inmetro Exd	DM
Inmetro Exde	EM

* Russian Fire Approval as standard.

Transformer

Transformer	Code
Yes	X*
None	N

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

Tag/Duty

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify.

Entries

Entries	Code
1 x M20	1B
2 x M20 (Exd/Exde)	2B
1 x 1/2" NPT (UL listed only)	1C
2 x 1/2" NPT (UL listed only)	2C

To specify certified plug suffix appropriate code with 'P', e.g. 2BP is 2 x 20mm entries with one certified plug.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Exde, Weatherproof

Features

- Zone 1& 2 and Zone 21 & 22 use.
- Ex II 2 GD.
- BASEEFA certified.
- CUTR certified.
- Brazilian (Inmetro) certified.
- IECEx Approved.
- IP66 & IP67.
- Certified temperature –50°C to +70°C*.
- GRP and Flame-Retardant ABS corrosion free construction.
- 100dB (A) at 1 watt at 1 metre.
- Power tappings via integral transformer.
- Tool-free mounting method.
- 100V or 70V line versions available.
- Earth continuity available.
- 8 terminal option to facilitate 'loop in and loop out' wiring.

*Temperature class relates to ambient temperature

(see over).

Introduction

This range of Ceiling-Mounted loudspeakers, intended for use in potentially explosive atmospheres, has a power rating of up to 8 Watts (upon request) and is suitable for use in the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The lightweight, patented design provides self-supporting and self-locking mounting onto a ceiling tile from 0.5 to 55mm thick. The speaker is held in the mount via a twist-fit support and locking grille, giving access from above or below and allowing first fit of either ceiling or speakers. The DB20C's compact design will fit a ceiling cavity of limited space and its aesthetically pleasing appearance will enhance the surroundings.

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MEDC

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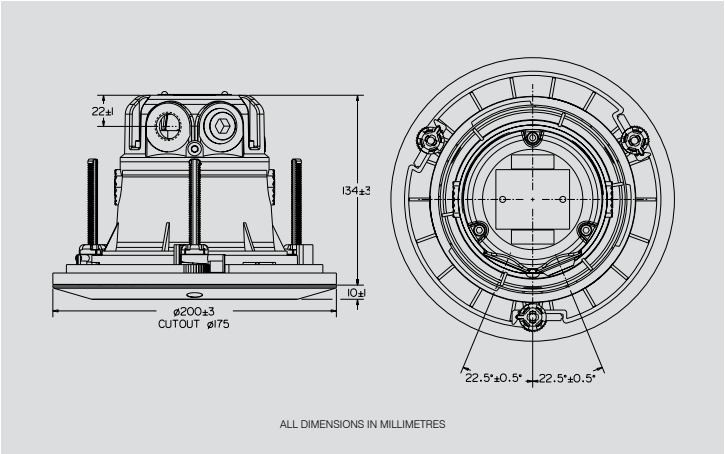
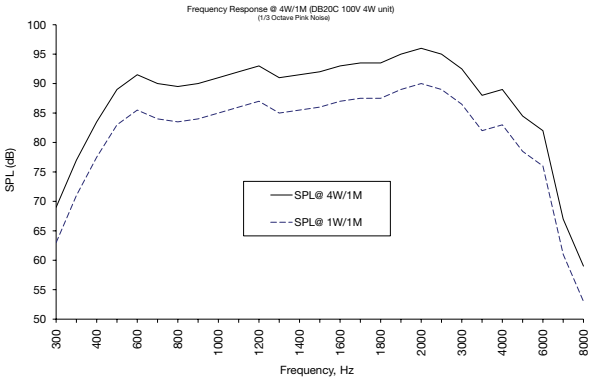
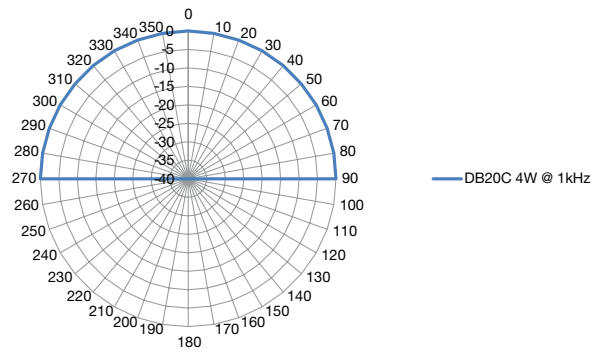
Certification and Specification

ATEX Ex de IIC:	Cert. no. Baseefa05ATEX0199. Certified to: EN60079-0, EN60079-1, EN60079-7, EN61241-0, EN61241-1. Ex II 2 GD, Ex de IIC T4, Ex tD A21 T130ºC (-50ºC to +70º). Ex II 2 GD, Ex de IIC T4, Ex tD A21 T115ºC (-50ºC to +55º). Ex II 2 GD, Ex de IIC T5, Ex tD A21 T100ºC (-50ºC to +40º).
IECEx Ex de IIC:	Cert. no. IECEx BAS 05.0083. Certified to: EN60079-0, EN60079-1, EN60079-7, EN61241-0, EN61241-1. Ex de IIC T4, Ex tD A21 T130ºC (-50ºC to +70º). Ex de IIC T4, Ex tD A21 T115ºC (-50ºC to +55º). Ex de IIC T5, Ex tD A21 T100ºC (-50ºC to +40º).
CUTR:	2Exde IIC T4, Ex tD A21 T130ºC/T115°C/T100°C
Inmetro:	Ex d e IIC T4/T5 Gb.
Material:	Body & Cover - Natural black, UV stable, glass reinforced polyester. Outer flare - UV stable ABS.
Finish:	Natural ABS finish equivalent to RAL9010.
Rated Power:	4 Watts RMS continuous (at 25ºC).
Output:	Maximum output at 1W/1M is 100 dB(A). Maximum output at 4W/1M is 106 dB(A). *Other wattages available contact MEDC sales for details.
Frequency Range:	400Hz to 7kHz.
Voice Coil Impedance:	8 ohms.
Certified Temp:	-50ºC to +70ºC (T4) and Tamb -50ºC to +40ºC (T5).
Weight:	1.5kg approx.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO + 1 x certified plug.
Terminals:	4 x 4.0mm² as standard. 8 x 2.5mm² optional, ATEX and IECEx only.
Mounting:	Via integral ceiling-mount bezel.
Ceiling Cutout:	Ø175mm.
Earth Continuity:	Available via optional earthing stud.



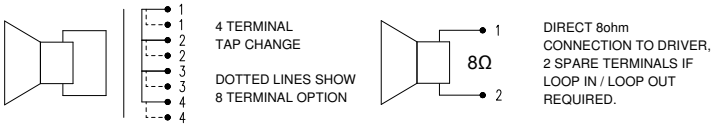




Transformer: Used by combining the rated power tappings below.

Transformer Tappings	Power (Watts) (4W unit)
1:2	4.00
2:3	2.00
3:4	1.00
1:3	0.75
2:4	0.38
1:4	0.20

Transformer Tapping Options:



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.

Model

DB20C

Certification

Certification	Code
ATEX IIC	BC
IECEx IIC	JC
Inmetro IIC	MC
CUTR IIC	GC

Transformer

Transformer	Code
Transformer	X*
8ohm version	N

*100V Line Std 70V Line available please specify.

Options

Options	Code
None	N
Tag label	T*
Earth continuity	E
8 terminals	8‡

* Please specify.
‡ Option only available with ATEX and IECEx certified units, if not selected will be supplied with 4 terminals as standard.

Crouse-Hinds by EATON

Exde, Weatherproof

Introduction

This range of loudspeakers, intended for use in potentially explosive atmospheres, has a power rating of up to 8 Watts and is suitable for use in the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The body and cover are manufactured from a UV stable glass reinforced polyester. The flare is manufactured from UV stable ABS.

Stainless steel screws and mounting stirrup are incorporated to ensure a corrosion-free product.

Features

- Zone 1& 2 (and Zone 21 & 22 : IIC version) plus non-Ex use.
- ATEX Approved.
- Ex II 2G Ex de IIB T3/T4.
- IIC Gas Group and Dust approved version available.
- Brazilian (Inmetro) certified.
- CUTR certified.
- IECEx Approved.
- IP66 & IP67.
- Certified temperature: –50°C to +70°C*.
- GRP corrosion-free flamepath.
- 112dB(A) at 8 watts at 1 metre (IIB Version).
- Power tappings via integral transformer.
- Ratcheted swivel mounting stirrup.
- Stainless steel fixtures.
- 100V or 70V line and 8Ω versions available.
- Earth continuity available.
- 8 terminal option to facilitate 'loop in and loop out' wiring.

**Temperature class relates to ambient temperature (see over)*

ATEX IECEx CUTR INMETRO

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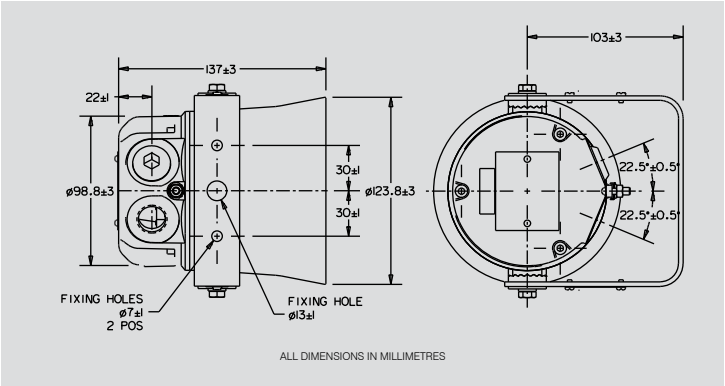
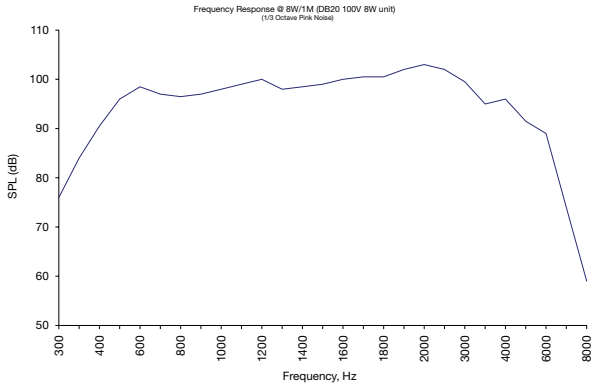
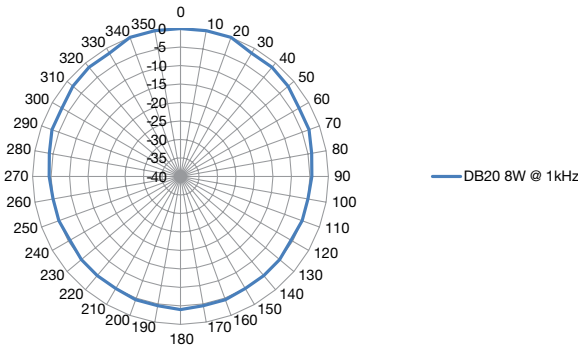
Certification and Specification

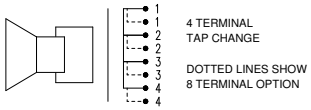
ATEX Ex de IIB:	Cert. no. Baseefa05ATEX0198. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex II 2 G, Ex de IIB T3. Ex II 2 G, Ex de IIB T4.
ATEX Ex de IIC:	Cert. no. Baseefa05ATEX0198. Certified to: EN60079-0, EN60079-1, EN60079-7, EN61241-0, EN61241-1. Ex II 2 GD, Ex de IIC T4, Ex tD A21 T130ºC. Ex II 2 GD, Ex de IIC T4, Ex tD A21 T115ºC. Ex II 2 GD, Ex de IIC T5, Ex tD A21 T100ºC.
IECEx Ex de IIB:	Cert. no. IECEx BAS 05.0082. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. Ex de IIB T3. Ex de IIB T4.
IECEx Ex de IIC:	Cert. no. IECEx BAS 05.0083. Certified to: EN60079-0, EN60079-1, EN60079-7, EN61241-0, EN61241-1. Ex de IIC T4, Ex tD A21 T130ºC. Ex de IIC T4, Ex tD A21 T115ºC. Ex de IIC T5, Ex tD A21 T100ºC.
CUTR:	2Exde IIB T3/T4. 2Exde IIC T4/T5, Ex tD A21 T130°C/T115°C/T100°C.
Inmetro:	Ex d e IIB T3/T4 Gb, Ex d e IIC T4/T5 Gb.
Material:	Body & Cover - UV stable, glass reinforced polyester. Outer flare - UV stable ABS. Mounting stirrup and fixtures in stainless steel.
Finish:	Natural black or painted or to client's requirements.
Rated Power:	8 Watts RMS continuous (at 25ºC).
Output:	IIB version: Maximum output at 1W/1M is 103 dB(A). Maximum output at 4W/1M is 109 dB(A). Maximum output at 8W/1M is 112 dB(A). IIC version: Maximum output at 1W/1M is 100 dB(A). Maximum output at 4W/1M is 106 dB(A). Maximum output at 8W/1M is 109 dB(A).
Frequency Range:	400Hz to 7kHz.
Voice Coil Impedance:	8 ohms.
Certified Temp:	IIB version: Tamb -50ºC to +70ºC (T3) and Tamb -50ºC to +40ºC (T4). IIC version: Tamb -50ºC to +70ºC (T4) and Tamb -50ºC to +40ºC (T5).
Weight:	1.5kg approx.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO + 1 x certified plug.
Terminals:	4 x 4.0mm² as standard. 8 x 2.5mm² optional, ATEX and IECEx only.
Mounting:	Via Stirrup with ratchet facility.
Earth Continuity:	Available.
Labels:	Optional stainless steel tag and duty labels.
Transformer:	Used by combining the rated power tappings below.

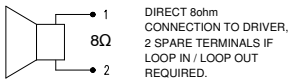






Transformer Tappings	Power (Watts) 8W unit	4W Unit
1:2	8.00	4.00
2:3	4.00	2.00
3:4	2.00	1.00
1:3	1.50	0.75
2:4	0.75	0.38
1:4	0.40	0.20





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.

Model

DB20

Certification

Certification	Code
ATEX IIB	BB
ATEX IIC	BC
IECEx IIB	JB
IECEx IIC	JC
CUTR IIB	GB
CUTR IIC	GC
Inmetro IIB	MB
Inmetro IIC	MC
Weatherproof	W

Max Rated Power

Power	Code
8 Watts	8
4 Watts	4

Transformer

Transformer	Code
Transformer	X*
8Ω version	N

* ATEX = 100V Line
70V Line available please specify.

Options

Option	Code
None	N
Duty label	D*
Tag label	T*
Earth continuity	E
8 terminals	8‡

* Please specify.
‡ Option only available with ATEX and IECEx certified units, if not selected will be supplied with 4 terminals as standard.

Finish

Colour	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex de, Weatherproof

Introduction

This range of loudspeakers, intended for use in potentially explosive gas atmospheres, has a power rating of up to 15 Watts and is suitable for use in gas groups IIB plus hydrogen and IIC.

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.

Features

- Zone 1, Zone 2 & non-Ex use.
- Ex de IIB + H_2 or IIC T4/T5/T6.
- ATEX certified, Ex II 2G.
- IECEx certified, Gb.
- Certified by BASEEFA.
- CUTR certified.*
- Chinese (CQST) certified.*
- Brazilian (Inmetro) certified.*
- IP66 and IP67.
- Certified temperature: -40°C to +65°C.**
- GRP corrosion-free flamepath.
- 115dB(A) at 15 Watts at 1 metre.
- 8 & 15 Watt versions.
- Power tappings via integral transformer.
- Ratcheted swivel mounting stirrup.
- Fitted with 316L stainless steel fixtures.
- Earth continuity available.
- Retained cover screws.
- Internal earth stud fitted as standard.

**Please contact MEDC Technical Sales.*

*** Model dependent, please contact MEDC Technical Sales for -50°C products.*

ATEX IECEx CUTR INMETRO CQST NAN YANG

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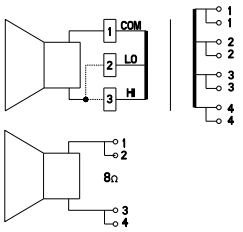
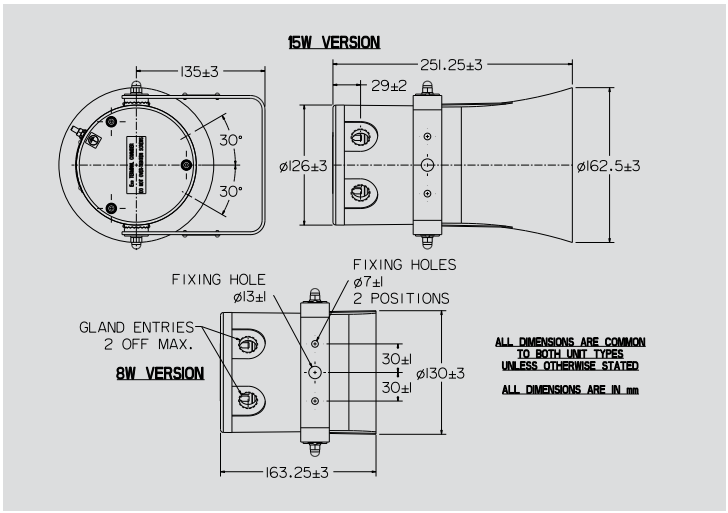
Certification and Specification

ATEX Ex de IIB+H_2:	Cert. no. Baseefa11ATEX0101X. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex II 2G, Ex de IIB + H_2 T4/T5/T6 Gb.
ATEX Ex de IIC:	Cert. no. Baseefa11ATEX0102X. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex II 2G, Ex de IIC T4/T5/T6 Gb.
IECEx Ex de IIB+H_2:	Cert. no. IECEx BAS 11.0041X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. Ex de IIB + H_2 T4/T5/T6 Gb.
IECEx Ex de IIC:	Cert. no. IECEx BAS 11.0042X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. Ex de IIC T4/T5/T6 Gb.
CUTR Ex de IIB+H_2:	1Ex de IIB + H_2 T4/T5/T6 Gb.
CUTR Ex de IIC:*	1Ex de IIC T4/T5/T6 Gb.
Inmetro Ex de:	Ex d e IIB + H_2 T4/T5/T6 Gb.
CQST:	Ex d e IIB + H_2 T4/T5/T6 Gb.
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester. Mounting stirrup and fixtures in 316L stainless steel.
Finish:	All natural or body and horn can be painted to customer specification.
Rated Power:	8 & 15 Watts RMS continuous (25ºC).
Weight:	Long Flare (15W): 4.5kg Gross weight. 3.6kg Net weight. Short Flare (8W): 4kg Gross weight. 3.1kg Net weight.
Ingress Protection:	IP66 and IP67.
Entries:	Up to 2 x M20 ISO into Exe chamber.
Terminals:	8 x 4.0mm² or 4 x 4.0mm².
Output:	Maximum output for IIB unit @ 1W/1M is 105dB(A). Maximum output for IIB unit @ 15W/1M is 115dB(A). Maximum output for IIC unit @ 1W/1M is 98dB(A). Maximum output for IIC unit @ 15W/1M is 107dB(A).
Frequency Range:	400Hz to 8kHz.
Certified Temp:	-40ºC to + 40ºC (T6)** -40ºC to + 55ºC (T5)** -40ºC to + 65ºC (T4)**
Voice Coil Impedance:	8 ohms.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Mounting:	Via stirrup with ratchet facility (supplied fitted).
Earth Continuity:	Internal/External earth stud linked to gland continuity.
Labels:	Optional stainless steel tag and duty labels.
Transformer:	100V line as standard. Use by combining the rated power tappings below.

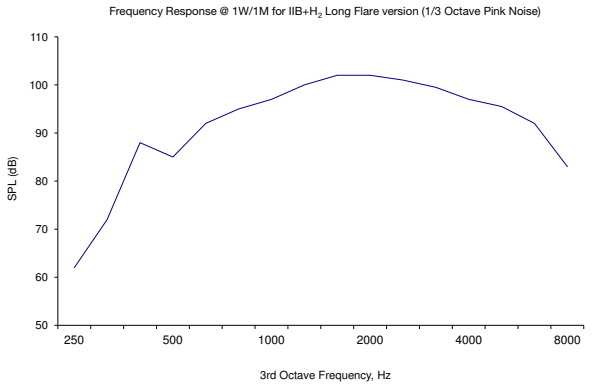


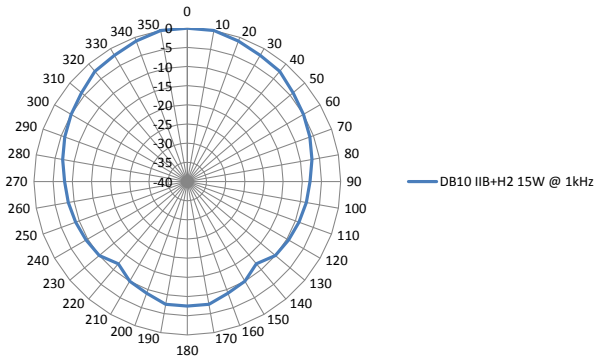
Terminals	Power	
	15W	8W
1:2 (HI)	15.0W	8.0W
1:3 (HI)	7.5W	4.0W
1:4 (HI)	3.75W	2.0W
1:2 (LO)	2.5W	1.0W
1:3 (LO)	1.25W	0.5W
1:4 (LO)	0.75W	0.25W



Transformer Tapping Options:

Standard:	i)	8 terminals (4 x 2), loop in/loop out for 6 tappings.
Optional:	ii)	4 terminals (2 x 2), loop in/loop out, direct 8Ω connection to driver.





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.

Model

DB10

Certification

Certification	Code
ATEX	B
IECEx	J
CUTR	G
Chinese (CQST)	Q*
Inmetro	EM*

Gas Group

Group	Code
IIB+H2	B
IIC	C†

† Not Inmetro or CQST certified

Max Rated Power

Power	Code
8 Watt	8
15 Watt	15

Transformer

Transformer	Code
Yes	X*
8 ohm version	N

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

Options

Options	Code
Duty	D*
Tag	T*
Earth Continuity including stud	ES
Ext. Earth Stud (only)	S
None	N

* Please specify wording.

Entries

Entries	Code
1 x M20	1B
2 x M20	2B
2 x M20 entries with one certified plug fitted	2BP

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

* Please contact MEDC Technical Sales for availability.
** Model dependent, please contact MEDC Technical Sales for -50ºC products.

Crouse-Hinds by EATON

Ex de, Weatherproof

Introduction

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.

With an integral increased safety chamber, for termination, this unit offers both high output and easy installation.

In addition, the 25 Watt version still offers superior output with a higher ambient certified temperature (+65°C).

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.

Features

- Zone 1, Zone 2 & non-Ex use.
- Ex de IIB/IIC, T3/T4*.
- ATEX certified, Ex II 2G/Ex II 2GD*.
- IECEx certified Gb, Db
- BASEEFA certified.
- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div 2, Groups A-D*.
    - Class I, Zone 1, AExde IIB/IIC T3/T4*.
  - Ordinary locations: Signalling Speaker.
- CUTR certified.
- Brazilian (Inmetro) certified.
- IP66 and IP67.
- Certified temperature: –50°C to +65°C*.
- GRP corrosion-free flamepath.
- Up to 122dBA at 30 Watts at 1 metre*.
- 25 and 30 Watt versions.
- Power tappings via integral transformer.
- Ratcheted swivel mounting stirrup.
- Stainless steel fixtures.
- 100V line or 8Ω.

**Depending on version.*

ATEX IECEx cULus CUTR INMETRO

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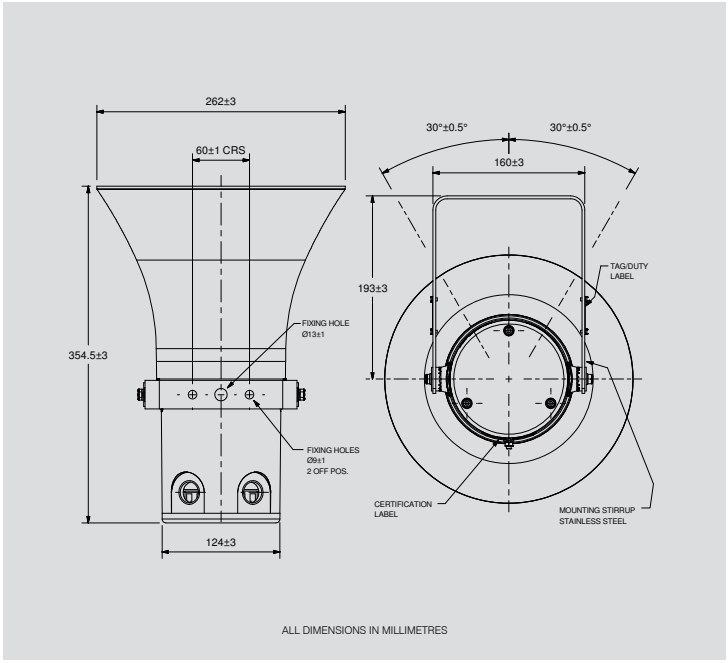
Certification and Specification

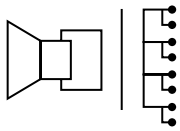
ATEX Ex de IIB:	Cert. no. Baseefa04ATEX0166X. Certified to: EN60079-0, EN60079-1, EN60079-7. 30 Watt ATEX Ex II 2G, Ex de IIB T3 Gb. 25 Watt ATEX Ex II 2G, Ex de IIB T3 Gb.
ATEX Ex de IIC:	Cert. no. Baseefa04ATEX0167X. Certified to: EN60079-0, EN60079-1, EN60079-7, EN60079-31. 30 Watt ATEX Ex II 2GD Ex de IIC T3 Gb, Ex tb IIIC T110ºC Db. 25 Watt ATEX Ex II 2GD Ex de IIC T3 Gb, Ex tb IIIC T110ºC Db.
IECEx Ex de IIB:	Cert. no. IECEx BAS 12.0076X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. 30 Watt, Ex de IIB T3 Gb. 25 Watt, Ex de IIB T3 Gb.
IECEx Ex de IIC:	Cert. no. IECEx BAS 12.0077X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-31. 30 Watt, Ex de IIC T3 Gb, Ex tb IIIC T110ºC Db. 25 Watt, Ex de IIC T3 Gb, Ex tb IIIC T110ºC Db.
UL Haz Locs:	Listing no. E203310A. Class 1, Div 2, Groups C & D, Class 1, Zone 1, AExde IIB T3. Class 1, Div 2, Groups A - D, Class 1, Zone 1, AExde IIC T110ºC.
UL Ord Locs:	Listing no. 58847.
Ordinary locations:	Signalling Speaker.
CUTR Ex de IIB:	1Ex de IIB T3 Gb.
CUTR Ex de IIC:	1Ex de IIC T3 Gb, Ex tb IIIC T110ºC Db.
Inmetro Ex d e IIB:	Ex d e IIB T3 Gb.
Inmetro Ex d e IIC:	Ex d e IIC T3 Gb.
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 requirements.
Rated Power:	30 Watts RMS continuous (at 25ºC).
Certified Temp:	-50ºC to +40ºC (30W version) -50ºC to +65ºC (25W version).
Weight:	5.5kg approx.
Ingress Protection:	IP66 & IP67.
Entries:	Up to 2 x M20, 2 x M25 ISO, 2 x 1/2" NPT or 2 x 3/4" NPT into termination (Exe) chamber.
Terminals:	Up to 8 x 2.5mm².
Output:	IIB Version: Maximum output at 1W/1m is 110dBA. Maximum output at 25W/1m is 121dBA. Maximum output at 30W/1m is 122dBA. IIC Version: Maximum output at 1W/1m is 107dBA. Maximum output at 25W/1m is 118dBA. Maximum output at 30W/1m is 119dBA.
Frequency Range:	370Hz to 8kHz.
Voice Coil Impedance:	8 ohms.
Mounting:	Via stirrup with ratchet facility.
Earth Continuity:	Available via optional earthing stud or by internal earth arrangement.
Labels:	Optional stainless steel tag and duty labels.



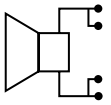
Transformer:
Used by combining the rated power tappings below.

Transformer Tappings	Power (30W unit) W	Power (25W unit) W
1:2	30.0	25
2:3	25.0	12.5
3:4	12.0	6.0
1:3	6.0	4.0
2:4	4.0	2.0
1:4	2.0	1.0

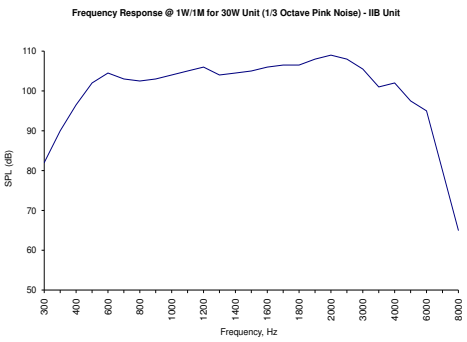
Transformer Tapping Options:

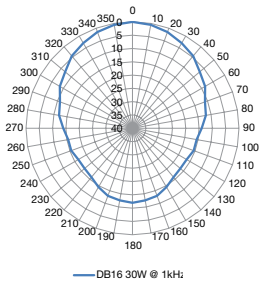


i) Loop in/ loop out (4 x 2) power tap change; 8 terminals.



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





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.

Model
DB16

Certification

Certification	Code
ATEX IIB	BB
ATEX IIC	BC
IECEx IIB	JB
IECEx IIC	JC
UL (C & D)	UB*
UL (A-D)	UC†
UL (ordinary locations)	UW
CUTR IIB	GB
CUTR IIC	GC
Inmetro IIB	MB
Inmetro IIC	MC

Unit suitable for gas groups.
* C & D.
† A-D.

Max Rated Power

Power	Code
30 Watts	30
25 Watts	25*

* Not available in UL versions.

Transformer

Transformer	Code
Yes	X*
No	N

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

Options

Option	Code
None	N
Duty label	D*
Tag label	T*
Internal earth continuity	E
Earth stud	B

* Please specify wording.

Entries

Entries	Code
1 x M20	1B
2 x M20	2B
1 x M25	1C
2 x M25	2C
1 x 1/2" NPT	1M
2 x 1/2" NPT	2M
1 x 3/4" NPT	1N
2 x 3/4" NPT	2N

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

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex nA, Weatherproof

Features

- Zone 2 use.
- Ex nA II T4.
- ATEX compliant, Ex II 3 GD.
- BASEEFA tested.
- IP66 & 67.
- Ambient temperature: –55°C to +55°C.
- 117dbA at 15 Watts at 1 metre.
- Power tappings via integral transformer.
- Stainless steel ratcheted swivel mounting stirrup.
- Stainless steel fixtures.
- 100V line or 8Ω.

Introduction

This loudspeaker, intended for use in Zone 2, potentially explosive gas and dust atmospheres, has a power rating of up to 15 Watts and is suitable for use in all gas groups including hydrogen.

The 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.

ATEX

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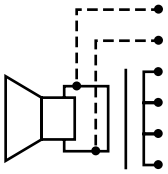
Certification and Specification

Certification:	CENELEC EN50014, 21. Ex nA II T 135ºC (-55ºC to +55ºC) T4, Zone 2.
Material:	Body & horn in anti-static, UV stable, glass reinforced polyester. Mounting stirrup and fixtures in stainless steel.
Finish:	Natural Black or body and horn can be painted to client requirements.
Rated Power:	15 watts RMS continuous (at 25ºC).
Certified Temp:	–55ºC to +55ºC.
Weight:	2.6kg approx.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO.
Terminals:	Up to 8 x 2.5mm².
Output:	Maximum output at 1W/1m at 900Hz is 107 dBA. Maximum output at 15W/1m at 900Hz is 117 dBA.
Frequency Range:	400Hz to 7kHz.
Voice Coil Impedance:	8 ohms.
Fire Retardancy:	GRP is fire retardant to ISO 1210.
Mounting:	Via stirrup with ratchet facility.
Earth Continuity:	Available.
Labels:	Optional stainless steel tag and duty labels.
Transformer:	Used by combining the rated power tappings below.

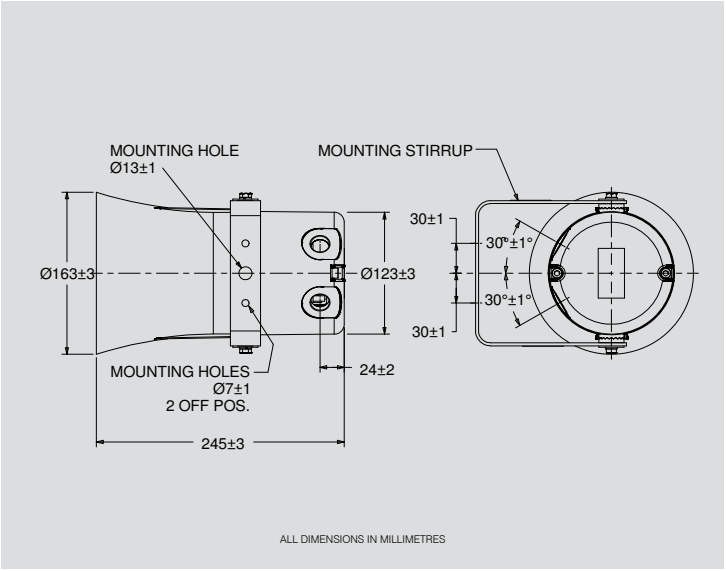


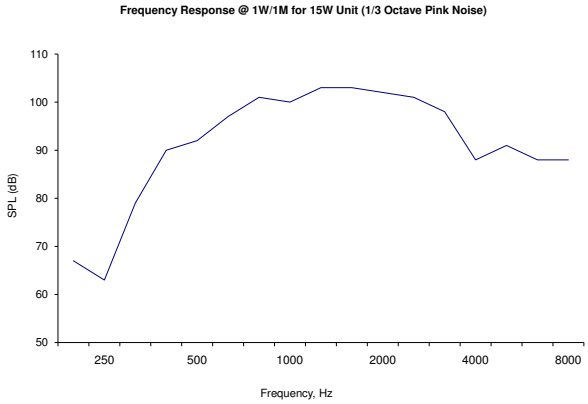
Transformer Tappings (Option (iii) shown)

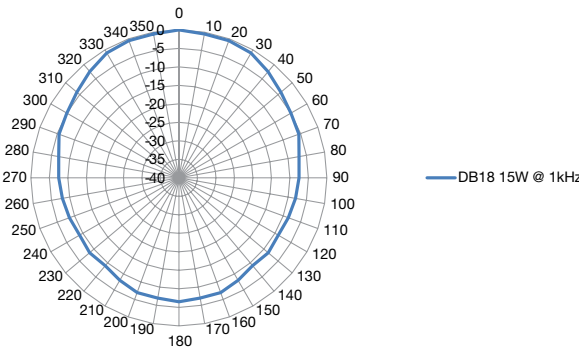
Transformer Tappings	Power W
1:2	15.0
2:3	7.5
3:4	5.0
1:3	4.0
2:4	2.0
1:4	0.8

Transformer Options:

Standard:	i)	Loop in/Loop out (4 x 2) power tap change; 8 terminals.
Optional:	ii)	Loop in/loop out (2 x 2) 8 ohm; 4 terminals.
	iii)	4 terminal tap change with 2 terminals (5 & 6), directly connected to driver (8 ohms).







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.

Model

DB18

Transformer

Transformer	Code
Yes	X*
Transformer and 8 ohm terminals	X8
None (direct to driver)	N

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

Option

Option	Code
Duty label	D*
Tag label	T*
Earth continuity	E
Blanking Plug	P
None	N

* Please specify wording.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

*Please specify.

Harsh Industrial & Marine Environments

Features

- IP66 and IP67.
- Temperature range: –55°C to +70°C.
- Corrosion resistant GRP.
- 117dBA at 15 watts at 1 metre.
- 100V line transformer.
- Power tappings, via integral transformer.
- Addressable capability.
- Stainless steel ratcheted mounting bracket.
- Earth continuity available.
- BS5839 part 8 compliant version available.

Introduction

This range of loudspeakers has a power rating of 15 Watts and is suitable for use in demanding environments where a robust construction and high ingress protection rating is required.

The body is manufactured completely from a UV stable glass reinforced polyester which is also highly flame retardant and impact resistant. Stainless steel screws are incorporated thus ensuring a corrosion free product.

MEDC can also provide a range of speakers suitable for use in potentially explosive atmospheres.

For more information please contact MEDC.

IP66/67 Weatherproof

Corrosion Free All GRP

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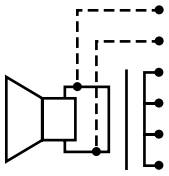
Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

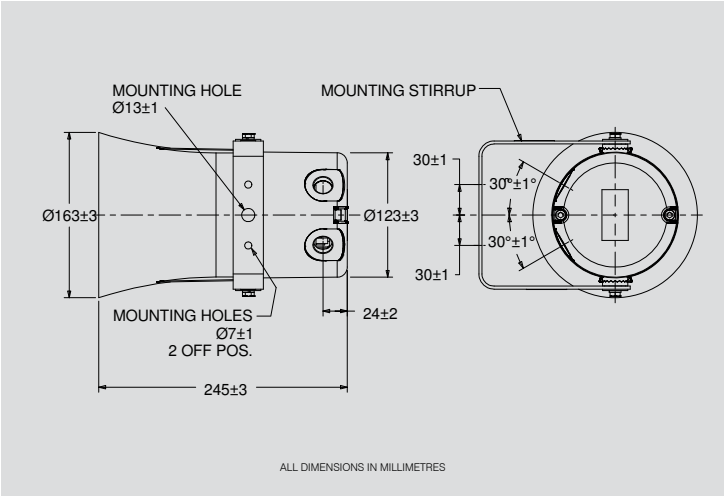
Material:	Body & horn in UV stable, glass reinforced polyester. Swivel bracket in stainless steel. Cover screws in stainless steel.
Finish:	Painted to customer's specification.
Rated Power:	15 watts RMS continuous (at 25ºC).
Certified Temp:	–55ºC to +70ºC.
Weight:	2.6kg approx. dependent on model.
Ingress Protection:	IP66 & IP67.
Entries:	2 x M20 ISO.
Terminals:	Up to 8 x 2.5mm^2. Other terminal arrangements available on request.
Output:	Maximum output at 1W/1m at 900Hz is 107 dBA. Maximum output at 15W/1m at 900Hz is 117 dBA.
Frequency Range:	400Hz to 7kHz.
Voice Coil Impedance:	8 ohms.
Mounting:	Via stirrup with ratchet facility.
Earth Continuity:	Available.
Labels:	Duty and tag labels optional.
Transformer:	Used to vary the rated power by selecting different tappings (see table below).

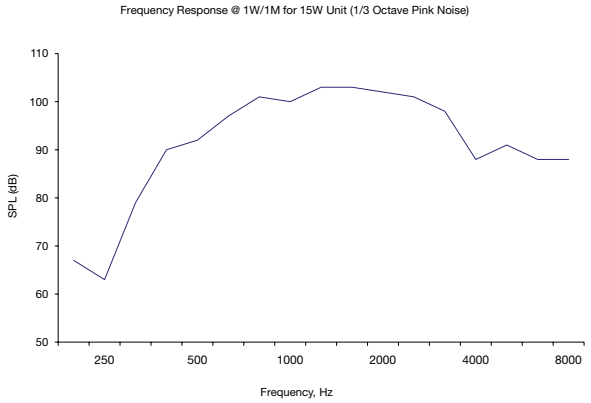


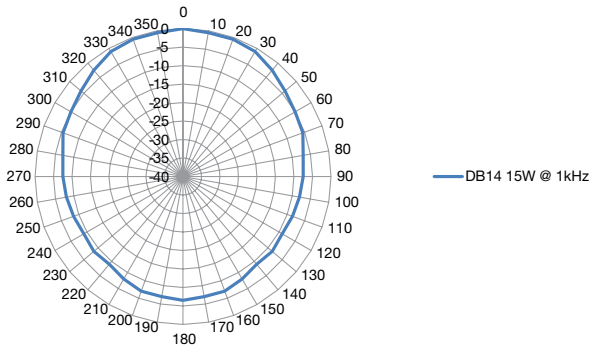
Transformer Tappings	Power W
1:2	15.0
2:3	7.5
3:4	5.0
1:3	4.0
2:4	2.0
1:4	0.8

Transformer Options:

Standard: i) Standard Tapping: Loop in/Loop out (4 x 2) terminal tap change (8 terminals).
ii) Optional Tapping: 4 terminal tap change with 2 terminals (5 & 6), directly connected to driver (8 ohms).







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.

Model

DB14

Transformer

Transformer	Code
Yes	X*
None	N

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

Option

Option	Code
Duty label	D*
Tag label	T*
Earth continuity	E
BS5839, part 8 compliant	PT8
Blanking Plug	P
None	N

* Please specify wording.

Finish

Finish	Code
Painted Grey	G
Red	R
Special	S*

*Please specify.

Combination Units and Status Lights

MEDC's range of combination units are designed for the purpose of alerting audio and visual awareness to an emergency situation in harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries. As well as the products found in this section, combination units can be built to order from various MEDC sounders and beacons. Please contact MEDC for details.

MEDC also offer a range of Status Lights designed for potentially explosive atmospheres and harsh environmental conditions. Status lights are commonly found in oil, gas, petrochemical and other hazardous areas where multi-coloured lamp combinations are used to identify the safety status of specific zones. Customers can choose from a range of materials, including stainless steel and GRP and a selection of light sources including LED.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Status Lights & Combination Units												
CU1	■	■				■	■		■		66 / 67	110
DB3/XB11	■	■	■								66 / 67	112
DB1/SM87HXB	■	■	■								66	113
DB3/SM87HXB	■	■	■								66 / 67	113
DB12/XB13											66 / 67	113
DB15/XB13											66 / 67	113
SM87SL & XB11SL	■	■	■		■	■	■	■			66 / 67	114
SL5	■	■						■			66 / 67	116
SL15	■	■	■	■		■	■	■			66 / 67	118

CU1

DB3/XB11

DB1/SM87HXB

DB3/SM87HXB

DB12/XB13

SM87SL & XB11SL

SL5

SL15

Crouse-Hinds by EATON

Ex de, Weatherproof

Introduction

This range of beacon/sounder units, intended for use in potentially explosive gas atmospheres, has a sound output of up to 116dB(A) and tube energy of up to 10 joules (beacon). It 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. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths.

Features

- Zone 1, Zone 2 & non-Ex use.
- Ex de IIB T3 (T4 Pending).
- ATEX approved, Ex II 2 G.
- IECEx approved, Gb.
- CUTR certified.
- BASEEFA certified.
- Brazilian (Inmetro) certified.
- IP66 and 67.
- Certified temperature: –50°C to +70°C*.
- Up to 116 dB(A)*.
- Version with independent beacon/sounder operation now available.
- 27 Tones, user selectable (dual tone option - d.c. voltage).
- Tones comply with UKOOA/PFEER guidelines.
- Integral volume control.
- GRP corrosion-free flamepath.
- Ratcheted swivel mounting stirrup.
- Stainless steel fixtures.
- Tapered flamepath.

**Model dependent.*

ATEX IECEx CUTR INMETRO

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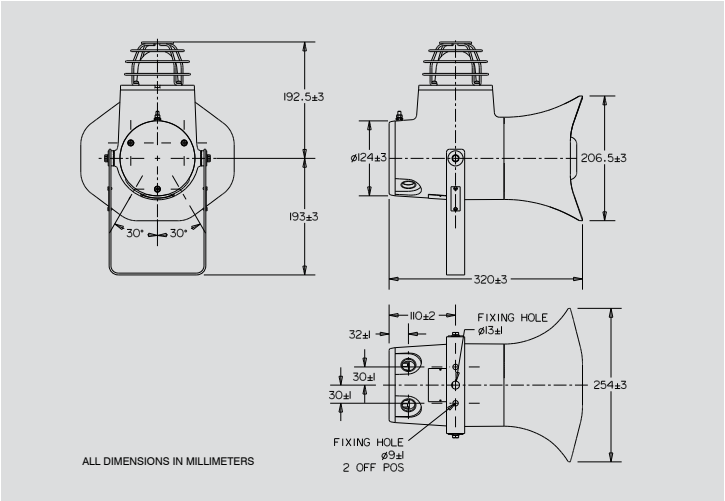
Certification and Specification

ATEX Ex de:	Cert. no. Baseefa04ATEX0273X. Certified to: EN60079-0, EN60079-1, EN60079-7. Ex II 2G, Ex de IIB T3 Gb. (T4 Pending).
IECEx Ex de:	Cert. no. IECEx BAS 11.0149X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7. Ex de IIB T3 Gb. (T4 Pending).
CUTR Ex de:	1Ex de IIB T3 Gb. Russian Fire Approved.
Inmetro Ex d e:	Ex d e IIB T3 Gb. (T4 Pending).
ABS:	American Bureau of Shipping Type Approval for CU1S, CU1SW, CU1H & CU1HW only.
Material:	Body, flares & covers: Glass Reinforced Polyester (GRP). Lens: Glass. Guard fitted as standard. Cover screws & mounting strap: Stainless steel.
Finish:	Natural black or painted to customer specification.
Certified Temp:	Standard unit: -50ºC to +50ºC (CU1-S & CU1-SP). High temperature unit: -50ºC to +70ºC (CU1-H & CU1-HP).
Weight:	6.5kg approx.
Ingress Protection:	IP66 & IP67.
Entries:	Up to 2 x M25, 2 x M25 ISO, 2 x M20 with 1/2" NPT adaptor or 2 x M25 with 3/4" NPT adaptors into termination (Exe) chamber.
Terminals:	8 x 4.0mm^2.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Mounting:	Stainless steel bracket with ratchet facility.
Earth Continuity:	Available as an option.
Labels:	Duty and tag label option to customer's requirements.
Tube Energy:	5 or 10 Joules
Sound Output:	Sound Standard unit: 116dB(A) ± 3 dB(A) (tone dependent). High temp. unit: 110 dB(A) ±3 dB(A) (tone dependent).
Tone Selection:	27 user selectable tones.
Two Stage Unit: (d.c. only)	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. If a two stage unit is ordered with either Independent Sounder/Beacon operation or Telephone or Relay Initiate, it will be wired for reverse polarity tone switching only, to allow loop in, loop out installation.. *Will not affect beacon operation.



Independent Beacon /Sounder Operation: DC: 3 wire common-ve as standard (4 wire available on request).
AC: 4 wire.

Reverse Line Monitoring: Available on request. Please contact MEDC Technical Sales for more details.

Current Consumption at full power (60fpm):

Input Voltage	CU1S 10J	CU1H 10J	CU1S 5J	CU1H 5J
24Vd.c.	1680mA	960mA	1390mA	750mA
48Vd.c.	864mA	-	-	-
110Va.c.	365mA	360mA	-	-
120Va.c.	417mA	370mA	-	-
230Va.c.	172mA	165mA	-	-
240Va.c.	182mA	165mA	-	-
254Va.c.	241mA	220mA	-	-

Integral volume control (beacon set to 60fpm) (Not applicable to CU1H)

* Nominal Output (dB(A)	CU1S 10J	CU1S 5J
105dB(A)	850mA	650mA
108dB(A)	1000mA	780mA
111dB(A)	1150mA	940mA
114dB(A)	1400mA	1190mA
116dB(A)	1680mA	1390mA

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

High temperature CU1H is set to 107dB(A). For the 24Vd.c. version 960mA @ 10J & 750mA @ 5J.

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

Type	Code
Standard unit	CU1S
Two stage	CU1SP*
High temp.	CU1H
Standard unit	
Two stage	CU1HP*

*DC versions only.

Certification

Certification	Code
ATEX	B
IECEx	J
CUTR	G*
Inmetro	EM
Weatherproof	W

* Russian Fire Approval as standard.

Voltage

Voltage	Code
24Vd.c.	024
48Vd.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Power

Power	Code
5 Joule	F*
10 Joule	T

* Available 24Vd.c only.

Flashrate

Flashrate	Code
60 / min	06
80 / min	08
120 / min	12

* Current consumption available for 80/min and 120/min on request.

Lens

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Labels

Label	Code
None	N
Duty Label	D*
Tag label	T*

* Please specify.

Options

Options	Code
Tel. Initiate	T†
Relay Initiate	R†
Independent Operation	I†
Earth cont.	C
Special Tone	S*
EOL Res.	E*
None	N

* Please specify.
† T, R or I not available on same unit.

Entries

Entries	Code
1 x M20	1B
2 x M20	2B
1 x M25	1C
2 x M25	2C
1 x 1/2" NPT	1M
2 x 1/2" NPT	2M
1 x 3/4" NPT	1N
2 x 3/4" NPT	2N

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

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Crouse-Hinds by EATON

Exd(e), Heavy Duty Industrial & Marine, Weatherproof

Introduction

This range of audio/visual combination units may be assembled from MEDC's range of beacons and sounders. Mounted on a sturdy, drilled, painted, stainless steel plate, the units are pre-wired as standard such that a single input operates both the sounder and beacon simultaneously.

Units are available for use in potentially explosive atmospheres and dedicated units are now available for use in industrial and marine environments.

Features

- *Zones 1, 2 and safe area use.
- *ATEX approved Ex II 2GD.
- *IECEx certified Gb, Db.
- *UL listed Class I, Div. 1 & 2, Groups C & D.
- IP66 and 67.
- *Certified temperature: –55°C to +70°C.
- Corrosion free GRP beacon/sounder.
- Beacon available as xenon, filament, fluorescent or LED.
- Xenon: up to 21J.
- Filament: up to 100W.
- Fluorescent: up to 39W.
- LED: up to 192cd.
- Sounder: up to 115dBA output at 1 metre.
- All stainless steel (316), epoxy painted back plate.

**Model dependent.*

Other combinations of beacons and sounders are available – please contact sales office for detailed specifications.

ATEX IECEx c UL us UL IP66/67 Weatherproof

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1. DB3/XB11 – Explosionproof Xenon 5J; Sounder up to 115dB(A), all GRP corrosion free products.

Certification:	ATEX: Ex II 2 GD Ex d IIB T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. IECEx: Ex d IIB T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db cULus: Class I, Div. 2, Groups C & D.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: XB11 (Xenon 5J). Option: Filament (10W). Fluorescent (≤ 10W).
Sounder:	Standard: DB3 (long flare) ≤ 115dBA at 1 metre. Option: DB3 (short flare) ≤ 108dBA at 1 metre.
Dimensions (mm):	420 (height) x 220 (width) x 337 (depth).
Options:	Refer to data sheet. Specify when ordering.

Ordering information – Standard product. Specify options 1 to 4.

Product	1. Certification	2. Voltage	3. Lens colour	4. Finish	
DB3+XB11	ATEX, IECEx, UL	see above	Red Amber	Natural Black or Red	

2. DB1/SM87HXB – Explosionproof Xenon 5J; Sounder up to 110dB(A), LM25 or stainless steel construction, red finish.

Certification:	ATEX: Ex II 2 G Ex d IIB T5/T6* Gb IECEx: Ex d IIB T5/T6* Gb UL: Class I, Div. 1, Groups C & D.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: SM87 (Xenon 5J). Option: Filament (10W). Fluorescent (≤ 10W). LED (≤ 192cd).
Sounder:	Standard: DB1 HP ≤ 110dB(A) at 1 metre. Option: DB1 P ≤ 106dB(A) at 1 metre.
Dimensions (mm):	351 (height) x 228 (width) x 205 (depth).
Options:	Refer to data sheet. Specify when ordering.

* Model dependent.

Ordering information – Standard product. Specify options 1 to 5

Product	1. Body Material	2. Certification	3. Voltage	4. Lens colour	5. Finish
DB1HP+SM87HXB	LM25 or Stainless Steel	ATEX, IECEx, UL	see above	Red Amber	specify

3. DB3/SM87HXB – Explosionproof Xenon 5J; LM25 or stainless steel, Sounder up to 115dB(A), GRP construction, red finish.

Certification:	ATEX: Ex II 2 GD Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db. IECEx: Ex d IIC T4/T5 Gb, Ex tb IIIC T100ºC/T135ºC Db cULus: Class I, Div. 2, Groups C & D.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	LM25 or stainless steel.
Sounder:	Corrosion-free GRP.
Beacon:	Standard: SM87 HXB (Xenon 5J). Option: Filament (10W). Fluorescent (≤ 10W). LED (≤ 192cd).
Sounder:	Standard: DB3 (long flare) ≤ 115dB(A) at 1 metre. Option: DB3 (short flare) ≤108dB(A) at 1 metre (also available close coupled). DB3 (short flare close coupled) ≤ 108dB(A) at 1 metre
Dimensions (mm):	420 (height) x 220 (width) x 337 (depth).
Options:	Refer to data sheet. Specify when ordering.

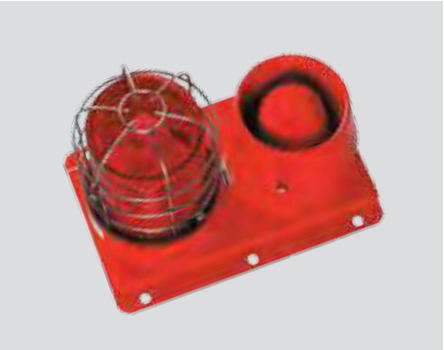
Close coupled version shown. Other options available.

Ordering information – Standard product. Specify options 1 to 5.

Product	1. Body Material	2. Certification	3. Voltage	4. Lens colour	5. Finish
DB3+SM87HXB	LM25 or Stainless Steel	ATEX, IECEx, UL	see above	Red Amber	specify

4. DB12/XB13 or DB15/XB13 – Heavy Duty Industrial & Marine Xenon 10J; Sounder DB12 (DB15) up to 110dB(A) 117 dB(A)

Applications:	Harsh Industrial & Marine Environments.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: XB13 (Xenon 10J).
Sounder:	Standard: DB12 ≤ 110dB(A) at 1 metre. Standard: DB15 ≤ 115dB(A) at 1 metre.
Dimensions (mm):	300 (height) x 195 (width) x 220 (depth).



Ordering information – Standard product. Specify options 1 to 3

Product	1. Voltage	2. Lens colour	3. Finish		
DB12+XB13	see above	Red Amber	Natural Red		

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Features

- Zone 1 and Zone 2 use.
- Exd.
- *ATEX approved, Ex II 2GD.
- *BASEEFA certified.
- IECEx certified Gb, Db.
- *UL listed for USA and Canada:
  - Class I, Div. 1 & 2, Groups C & D.
  - Class I, Zone 1, AExd IIB T6.
- *CSA certified.
- CUTR certified
- *Chinese (CQST) certified.
- Brazilian (Inmetro) certified.
- IP66 & 67.
- *Certified temperature: –55°C to +70°C.
- *LED, xenon, fluorescent, filament.
- Marine grade alloy, stainless steel option or GRP.
- Close-coupled and pre-wired to customer's requirements.

**Model dependent.*

Introduction

This range of versatile status lights has been designed to suit various offshore and onshore applications.

Available as LED, xenon, filament and fluorescent beacons.

The SM87 SL range is manufactured in marine grade alloy or stainless steel and the XB11 SL in corrosion-free GRP to provide a wide range of status lights to suit clients' requirements.

All units can be supplied as 1, 2, 3, 4 or 5 way.

Note: Units shown are for illustration purposes only, other variants are available.

ATEX IECEx cULus GOST INMETRO

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Certification and Specification

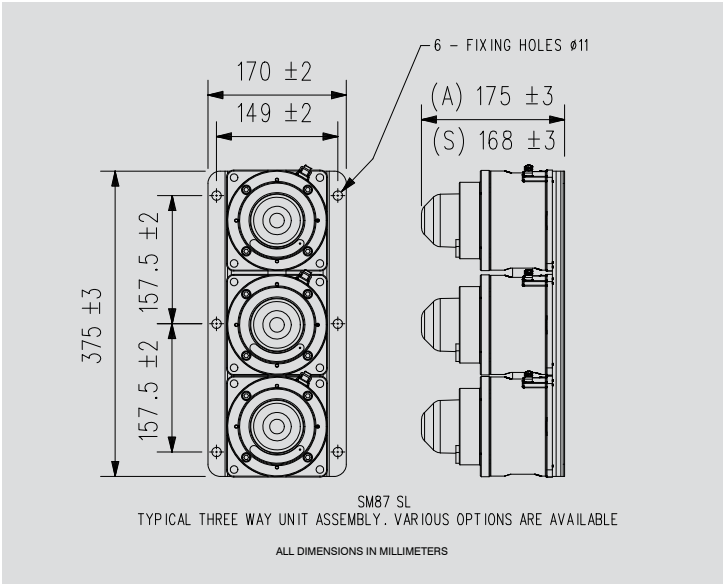
SM87SL

Lamp Types:	LED 192 Candela. Xenon 6 joules maximum. Fluorescent 10W or 5W. Filament 40W maximum.
Certification:	Certified to IEC60079-0, IEC60079-1, IEC60079-31. Certified to EN60079-0, EN60079-1, EN60079-31. ATEX Cert. No. Baseefa 03ATEX0222. Ex II 2 GD Ex d IIC T5/T6 Gb, Ex tb IIIC 65ºC…100ºC Db. IECEx Cert. No. IECEx BAS 09.0059. Ex d IIC T3/T4/T5/T6 Gb, Ex tb IIIC T55ºC…T155ºC Db. UL Listed for USA and Canada: Class I, Div 1, Groups C & D, Class I, Zone 1, AExd IIB T6, Listing No. E187894. CSA Certified: Class I, Div 1 & 2, Group D. Cert. No. 96406. CUTR Certified: 1Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 75ºC/90ºC/105ºC Db. Chinese Certified: Exd IIC T4 (Filament), Exd IIC T6 (Fluorescent & Xenon). Brazilian (Inmetro) Certified: BR-Ex d IIC T3/T4/T5/T6.
Voltage Frequency:	50 Hz as standard. 60 Hz available if required.
Xenon Voltages:	24, 48V d.c. 110, 120, 240, 254V a.c. (see SM87 HXB data sheet for further information).
Filament Voltages:	12, 24, 48V d.c., 110, 220, 240, 254V a.c. (see SM87 LU3 data sheet for further information).
Fluorescent Voltages:	12, 24, 48V d.c., 220, 240, 254V a.c. (see SM87 LU1 data sheet for further information).
Lamp Colours:	Red, Amber, Yellow, Green, Blue or Clear.
Terminals:	2.5mm² max.
Wiring:	Standard configuration of internal wiring is to common the negative/neutral connections. If individually wired lamps are required, please state requirements.
Entries:	Up to 3 x M20 or M25 ISO.
Enclosure:	LM 25TF Marine Grade Alloy.
Lens:	Glass.
Finish:	Natural black or painted to customer's specification.
Ingress Protection:	IP66 & 67.
Ambient Temp.	–20ºC to +55ºC (LED & Fluorescent). –55ºC to +70ºC (Xenon Filament).
Gland Type:	Exd.

XB11SL

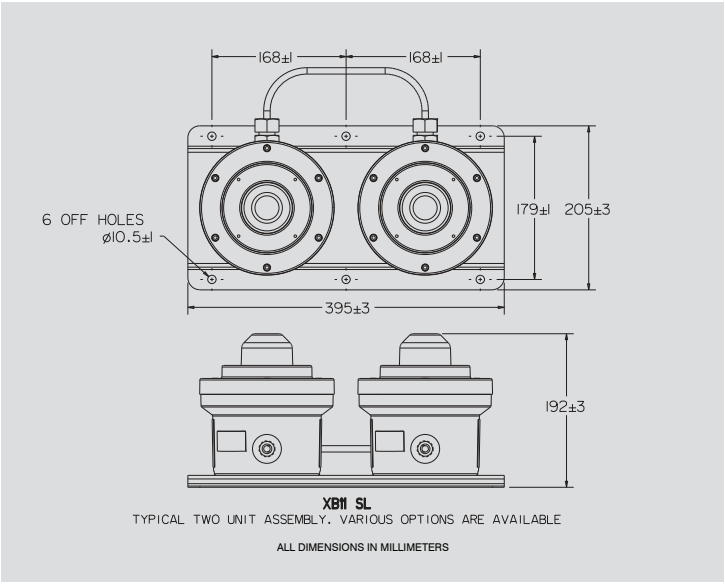
Lamp Types:	Xenon 5 joules. Fluorescent 10W or 5W. Filament 10W.
Certification:	Certified to IEC60079-0, IEC60079-1, IEC60079-31. Certified to EN60079-0, EN60079-1, EN60079-31. ATEX Cert. No. BAS99ATEX2195. Ex II 2 GD Ex d IIB T4/T5/T6 Gb, Ex tb IIIC 70ºC…110ºC. IECEx Cert. No. IECEx BAS 10.0101. Ex d IIB T4/T5/T6 Gb, Ex tb IIIC T70ºC…T110ºC Db. UL Listed for USA and Canada: Class I, Div 2, Groups C & D, Class I, Zones 1 & 2, AExd IIB T5/T6. Listing No. E187894 (XB11 only). CUTR Certified: 1Ex d IIC T5/T6 Gb, Ex tb IIIC T65ºC/ T80ºC/ T95ºC Db (HXB). 1Ex d IIC T6 Gb, Ex tb IIIC T55ºC/ T70ºC Db (LED). 1Ex d IIC T4 Gb, Ex tb IIIC T110ºC Db (XBT). Chinese Certified: Exd IIB T5/T6. Brazilian (Inmetro) Certified: BR-Ex d IIB T4/T5/T6.
Voltage Frequency:	50 Hz as standard. 60 Hz available if required.
Xenon Voltages:	24V d.c., 110V, 240V a.c. (see XB11 data sheet for further information).
Filament Voltages:	24, 48V d.c., 110, 220, 240, 254V a.c. (see FL11* data sheet for further information).
Fluorescent Voltages:	24V d.c., 240V a.c. (see FL11* data sheet for further details).
Lamp Colours:	Red, Amber, Yellow, Green, Blue or Clear.
Terminals:	2.5mm² max.
Wiring:	Standard configuration of internal wiring is to common the negative/neutral connections. If individually wired lamps are required, please state requirements.
Entries:	1 x M20.
Enclosure:	GRP.
Lens:	Glass.
Finish:	Natural black or painted to customer's specification.
Ingress Protection:	IP66 & 67.
Ambient Temp.	–55ºC to +70ºC.
Gland Type:	Exd.

*NOTE: FL11 currently not available UL listed.



SM87 SL
TYPICAL THREE WAY UNIT ASSEMBLY. VARIOUS OPTIONS ARE AVAILABLE

ALL DIMENSIONS IN MILLIMETERS



XB11 SL
TYPICAL TWO UNIT ASSEMBLY. VARIOUS OPTIONS ARE AVAILABLE

ALL DIMENSIONS IN MILLIMETERS

Ordering Requirements

Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Exe(m), Weatherproof

Features

- Zone 1 and Zone 2 use.
- Exe(m) II T3/T4.
- ATEX approved, Ex II 2G.
- IECEx certified Gb.
- Chinese (CQST) certified.
- IP66 and IP67.
- Certified temperature: –40°C to +55°C*.
- Corrosion resistant GRP.
- Up to 5 ways.
- Xenon, LED & Filament versions available.
- Various lamp colours.
- Lightweight.
- Retained stainless steel cover screws.

** Model Dependent.*

Introduction

Manufactured in GRP, with a high ingress protection and high light output, these status lamps have been designed for use in potentially explosive atmospheres and harsh environmental conditions such as those found offshore and onshore in the petrochemical industries.

A long life, high intensity, LED version is now available.

ATEX IECEx

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Certification and Specification

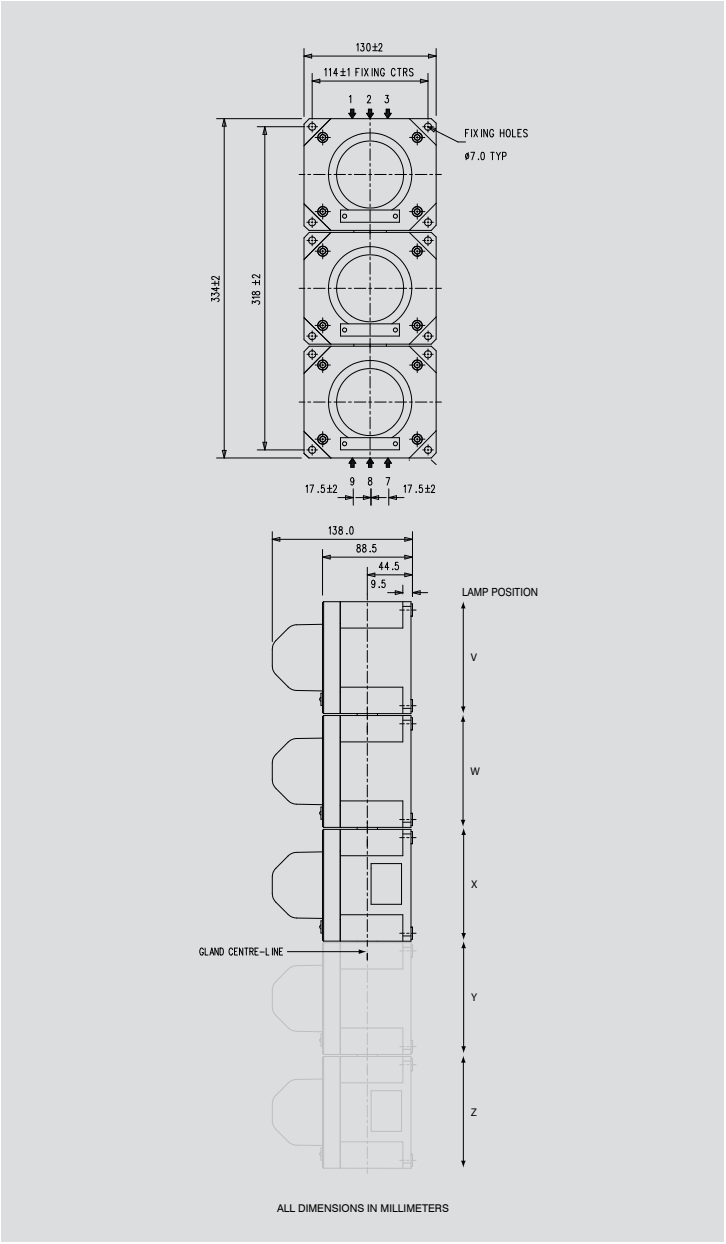
Certification:	Certified to: EN60079-0, EN60079-7, EN60079-18 Cert. No. BAS02ATEX2108X. Certified to: IEC 60079-0, IEC 60079-7, IEC 60079-18. IECEx Cert No. IECEx BAS 11.0105X. Ex e IIC T3 Gb. Filament. Ex e mb IIC T4 Gb. Xenon & LED. Chinese (CQST) – Exe II T3, Filament. – Exe mb II T4, Xenon & LED.
Material:	UV stable, glass reinforced polyester with polycarbonate wellglass. Captive stainless steel cover screws.
Finish:	Natural black or painted to customer specification.
Voltage:	d.c. – 12V, 24V, 48V.
Certified Temp:	–40ºC to +55ºC (Filament & Xenon). –40ºC to +45ºC (LED).
Light Module:	Up to 5 ways – Filament: 2 x 5W. Xenon: 1J (nominal). LED: Up to 400Cd.
Light Module Colours:	Red, Amber, Yellow,Green, Blue or Clear.
Weight:	1.2kg 1 way.
Ingress Protection:	IP66 and IP67.
Terminals:	Filament: Max 12 x 4mm^2. Xenon: Max 16 x 2.5mm^2. LED: Max 16 x 2.5mm^2 or 4mm^2.
Labels:	Optional stainless steel tag/duty label.

Current Consumption:

Model	Voltage	24V	48V
Xenon	Current	120mA	95mA
LED	Current	130-180mA	70-90mA

Entries:

Size	Maximum Number	Entry Position	
		Top	Bottom
M16	2	Any	Any
M20	2	Any	Any
M25/M32	1	2	8



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.

Model: SL5

Certification

Certification	Code
Uncertified	W
Exe(m)	E
IECEx	J
Chinese (CQST)	Q

Lamp Type / Positions — V W X Y Z

Indicate light module type

Filament	1	LED Steady	3
Xenon (60fpm)	2	LED Flashing (60fpm)	4

Suffixed by colour required:

Lamp colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y*
Clear	C

* LED not available.

Voltage

Voltage	Code
12V d.c.	012*
24V d.c.	024
48V d.c.	048†

† Note: Xenon and LED versions only.
* Filament version only.

Cable Entries

Entry Size	Code
M16	*A
M20	*B
M25	*C
M32	*D

* Prefix with cable entry position. (See diagram above) E.g. 7A, 9A.

Duty/Tag label

Label	Code
Duty label	D*
Tag label	T*
None	N

* Please specify.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Example: A two way Exe certified unit, with filament lamps coloured red top, blue bottom, rated 24V dc, with 2 x M20 bottom entries, finished in red would be our ref: **SL5E1R1B0247B79NR.**

Crouse-Hinds by EATON

Exd, Weatherproof

Introduction

These Status Lights have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The indicators are suitable for use offshore or onshore, where a high degree of corrosion resistance is required.

The housings are manufactured from a UV stable, glass reinforced polyester (GRP) fitted to a stainless steel mounting plate for ease of installation. Stainless steel fixings are also used, ensuring a corrosion free product.

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

Units can be supplied as 2, 3 or 4 way in any combination.

Features

- Zone 1 and Zone 2 use.
- ATEX certified.
- Ex II 2GD.
- IECEx certified Gb, Db.
- UL Listed (see US data sheet).
- IP66 and 67.
- Certified temperature: -55°C to +70°C*.
- Corrosion free GRP.
- Filament 60W or 100W*.
- High powered LED flashing or steady.
- Various flash rates available for xenon & LED units.
- Various lens colours.
- Optional cast or wire lens guard.
- High powered LED flashing or steady.

**Model dependent.*

ATEX IECEx

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MEDC

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Certification and Specification

Certification: Certified to EN60079-0, EN60079-1, EN60079-31.
Certified to IEC60079-0, IEC60079-1, IEC60079-31.
ATEX Cert. No. Baseefa04ATEX0009X.
Ex II 2 GD Exd IIC T6/T5/T4/T3* Gb.
Ex tb IIIC T85ºC/ T100ºC/ T135ºC/ T200ºC Db.
IECEx Cert. No. IECEx BAS 05.0048X.
Exd IIC T6/T5/T4/T3* Gb.
Ex tb IIIC T85ºC/ T100ºC/ T135ºC/ T200ºC Db.
UL listed versions, see separate data sheet.
*Model dependent.

Material: Body: Glass reinforced polyester.
Lens: Glass.
Back plate & fixings: stainless steel 316.
Wire Guard (optional): stainless steel wire.
Cast Guard (optional): aluminium LM25M.

Finish: Natural black or painted to customer specification.

Voltage: 24, 48V d.c.* - 110, 120, 230, 240, 254V a.c. * LED is d.c. only.

Xenon:
Tube Energy: 15 Joules.
Tube Life: >1x10^6 flashes
Flash rate: 60, 80 or 120 fpm
Certified Temp: -55ºC to +40ºC (T6)
-55ºC to +55ºC (T5)
-55ºC to +70ºC (T4)

LED:
Certified Temp: -55ºC to +55ºC (T6)
-55ºC to +70ºC (T5)
LED Life: 54,000 Hours

Filament:
Lamp Type: 60W or 100W GLS filament
Lamp Holder: E27 as standard
Certified Temp: 60W -55ºC to +55ºC (T4)
-55ºC to +70ºC (T3)
100W -55ºC to +40ºC (T3)

Weight: 2-Way: 6.5Kg, 3-Way: 9.8Kg, 4-Way: 13.1Kg.

Ingress Protection: IP66 & 67

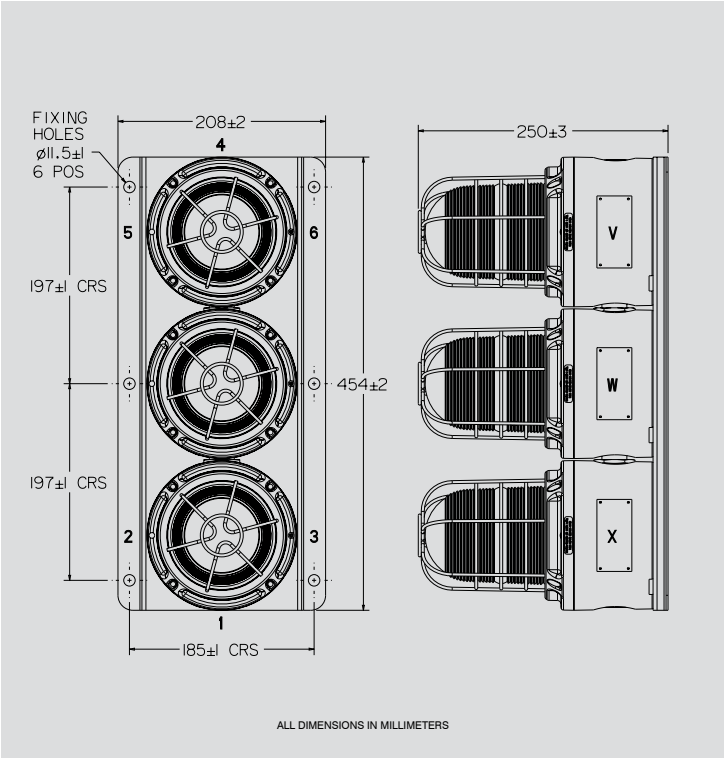
Entries: Available with up to 2 x M20 or 2 x M25 entries in either bottom or top of unit.
Entries in both bottom and top of unit by special order only.

Terminals: Suitable for up to 2.5mm^2 cable max.

Labels: Tag/Duty label option.

Current Consumption (per way):

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Xenon	0.99	0.73	0.4	0.4	0.2	0.2	0.17
Filament - 60W	2.5	1.25	0.55	0.5	0.26	0.25	0.24
Filament - 100W	4.2	2.1	0.91	0.83	0.43	0.42	0.39
LED - Steady	0.21	0.11	-	-	-	-	-
LED - Flashing	0.42	0.21	-	-	-	-	-



Light Output (effective cd):

Xenon 60fpm	Filament 100W	Filament 60W	LED 60fpm	LED 80fpm	LED 120fpm	LED Steady
330	135	64	128	117	100	86

Multiplying Factor for Coloured Lenses:

	Red	Blue	Green	Amber	Clear	Yellow
Xenon/Filament	0.15	0.12	0.49	0.51	1.00	0.86
LED	0.47	0.19	0.67	0.43	1.00	0.95

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.

Model SL15 | **Certification** [ ]

Certification	Code
ATEX	B
IECEx	J

Lamp Type / Positions (see diagram) V [ ] W [ ] X [ ] Y [ ]

Indicate light module type

Filament	Xenon	LED - 6*
60W - 1	60fpm - 3	
100W - 2	80fpm - 4	
	120fpm - 5	

Suffixed by colour required

Lens colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

* User selectable function preset at 60fpm.

Voltage [ ] **Cable Entries** [ ] **Lens Guard** [ ] **Duty/Tag** [ ] **Finish** [ ]

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110*
120V a.c.	120*
230V a.c.	230*
240V a.c.	240*
254V a.c.	254*

* LED not available.

Guard	Code
None	N
Cast	C
Wire	W

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Entry Size	Code
M20	*C
M25	*D

* Prefix with cable entry position (see diagram)
Note: maximum 2 entries bottom OR top. Bottom AND top entry(s) by special order only.

Label	Code
Duty label	D*
Tag label	T*
None	N

* Please specify.

Example: A two way ATEX approved unit with one 100W filament lamp with green lens for the top unit and one 60fpm xenon lamp with red lens for the bottom unit, rated 24V with 2 x M20 bottom entries, no guard, no labels, finished in red would be:

SL15B2G3R0242C3CNNR

CCTV Camera Stations

MEDC's range of CCTV Cameras Stations offers both explosion proof and safe area monitoring equipment for use in harsh and demanding environments. The hazardous area camera stations are certified ATEX and IECEx and have been tested and applied in explosive and flammable atmospheres.

All of the Pan Tilt Zoom (PTZ), Pendant, Dome and Fixed Camera Stations are available in 316L or 304 Stainless Steel with a variety of cameras offering different zoom ranges. Continuous 360° pan rotation gives an unrestricted view of the surrounding area and is available on all of our PTZ models.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
CCTV Camera Stations												
MCS1	■	■									66 / 68	122
MCS2	■	■									67	124
MCS3											68	126
MCS4											68	128
MCS7	■	■									66	130
MCS8											66	132

MCS1

MCS2

MSC3

MSC4

MSC7

MCS7W

MSC8

MSC8W

MCS1W Range – Explosion Proof PTZ Camera Station

Crouse-Hinds by EATON

Exd

Shown with optional light source

Features

- ATEX Certified.
- IECEx Certified.
- Ex II 2GD.
- Exd IIC T6 Gb.
- Ext IIIC T80°C Db.
- IP66 & IP68.
- -40°C to +60°C.
- 316L or 304 Stainless Steel.
- 360° continuous pan rotation.
- +90° to -90° tilt rotation.
- Multiple scanning mode.
- Advanced OSD menu.
- Multiple control protocols supported.
- 128 positional presets.
- Automatic Heater and Demister.

ATEX IECEx

Introduction

This Pan, Tilt and Zoom Camera Station has been designed specifically for hazardous areas requiring Atex or IECEx certification. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

The continuous 360° pan rotation and tilt from -90° to +90° gives an unrestricted view of the surrounding area. The optional light source further enhances the imaging in either the visible or infrared ranges.

With Pelco D/P protocol as standard, a variety of mounting brackets and wiper/washer tank options the MCS1W has the operational capability for most demanding CCTV applications.

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MEDC

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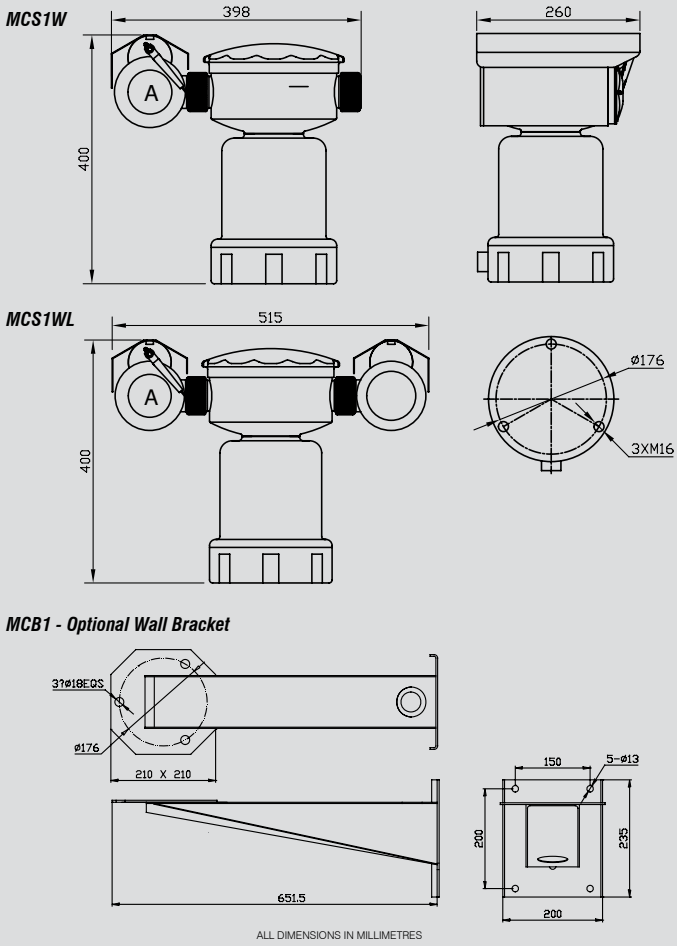
Specification

Certification:	ATEX Cert No. Baseefa 13ATEX0083. IECEx Cert No. IECEx BAS 13.0105. Ex II 2GD Exd IIC T6 Gb, Ext IIIC T80ºC Db.
Material:	304 or 316L Stainless Steel.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	110Vac to 240Vac (±10%), 50/60Hz.
Current:	<1A.
Power:	100W.
Certified Temp:	-40ºC to +60ºC.
Weight:	30Kg (+2Kg with light source) (+7Kg with wall bracket)
Ship Weight:	32Kg (+3Kg with light source) (+7Kg with wall bracket)
Wall Bracket Load:	50Kg
Ingress Protection:	IP66 & IP68.
Humidity:	95%RH (+25ºC).
Pan:	360° continuous.
Pan Speed:	0.1º/S to 40º/S.
Tilt:	+90º to -90º.
Tilt Speed:	0.1º/S to 40º/S.
Presets:	128.
Preset Accuracy:	≤0.1º.
Protocol:	Pelco D/P.
Communication:	RS-485
Communication Rate:	1200/2400/4800/9600 bps.
Cable Connection:	Power: 3-core. Control: 2-core (non shielded). Video Output: Coaxial cable.
Cable Tail Length:	2.5m as standard, other lengths on request.
Automatic Heater & Demister:	Activates at -5ºC.

Typical Camera Options

Camera:	Sony.
Video Mode:	PAL, NTSC.
Video Output:	1.0± 0.2Vp-p/ 75Ω.
CCD:	1/4" Exview HAD.
Line/ Frame Scanning:	15.625kHz / 50Hz.
Zoom:	18x optical zoom with auto focus. F1.4 - 3.0, F= 4.1 - 73.8mm. 12x Digital Zoom.
Pixel Resolution:	752(H) x 582(V) PAL; 768(H) x 494(V) NTSC.
Horizontal resolution:	480TV Lines.
Minimal Focus:	0.29m (Wide) / 0.8m (Tele).
View Angle:	48º (Wide) / 2.8º (Tele).
S/N Ratio:	> 50dB.
Minimum Illumination:	0.7Lux (Colour) / 0.01Lux(B/W).



Illuminator Specification:	**IR**	**Visible**
View distance:	100m	80m
View angle:	8°	15°
Wavelength:	850nm	N/A
Colour Temperature:	N/A	6500K
Control:	Auto/Manual	

Standard Configurations:

MCS1WNB316L18PWE	ATEX	316L Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Electro-Polished
MCS1WNB316L18NWE	ATEX	316L Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Electro-Polished
MCS1WNB30418PWG	ATEX	304 Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Painted Grey
MCS1WNB30418NWG	ATEX	304 Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Painted Grey
MCS1WNJ316L18PWE	IECEx	316L Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Electro-Polished
MCS1WNJ316L18NWE	IECEx	316L Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Electro-Polished
MCS1WNJ30418PWG	IECEx	304 Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Painted Grey
MCS1WNJ30418NWG	IECEx	304 Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Painted Grey

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.

Model

MCS1W

Light Source

Light Source	Code
None	N
Infra Red	LR
Visible	LV

Certification

Certification	Code
ATEX	B
IECEx	J

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Lens

Lens	Code
18x Optical Zoom	18
23x Optical Zoom	23
26x Optical Zoom	26
30x Optical Zoom	30
35x Optical Zoom	35
36x Optical Zoom	36

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
None	N
Wall	W

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

Crouse-Hinds by EATON

Exd

Features

- ATEX Certified.
- IECEx Certified.
- Ex II 2GD.
- Exd IIC T6 Gb.
- Ext IIIC T80°C Db.
- IP67.
- -15°C to +60°C.
- 304 or 316L Stainless Steel.
- 360° continuous pan rotation.
- 120° tilt rotation.
- Multiple scanning mode.
- Advanced OSD menu.
- Ceiling mounted.
- Multiple control protocols supported.
- Auto Image Reverse.

Introduction

This Pan, Tilt and Zoom Pendant Camera Station has been designed specifically for hazardous areas requiring ATEX or IECEx certification. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

The continuous 360° pan rotation and 120° tilt gives an unrestricted view of the surrounding area. The Pendant design combines the features of a dome camera with a traditional PTZ providing scope for wider operational functions.

With Pelco D/P protocol as standard and a variety of mounting brackets the MCS2 has the operational capability for most demanding CCTV applications.

ATEX IECEx

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MEDC

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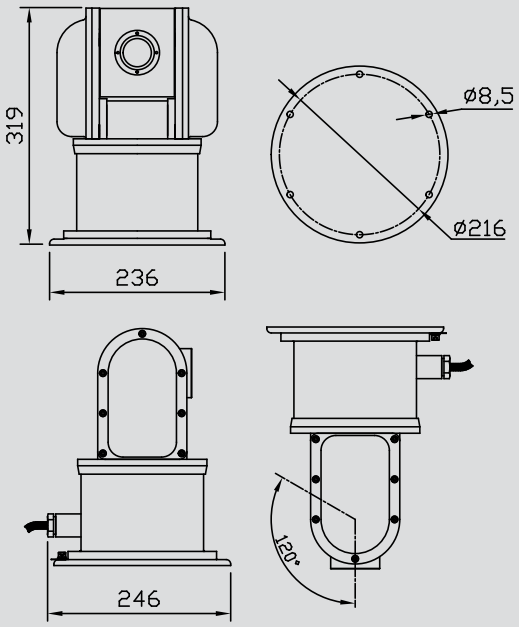
Specification

Certification:	ATEX Cert No. Baseefa 13ATEX0084. IECEx Cert No. IECEx BAS 13.0106. Ex II 2GD Exd IIC T6 Gb, Ext IIIC T80°C Db.
Material:	304 or 316L Stainless Steel.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	110Vac to 240Vac (±10%), 50/60Hz.
Current:	≤500mA.
Power:	<50W.
Certified Temp:	-15ºC to +60ºC.
Weight:	22Kg (+6.25Kg with wall bracket)
Ship Weight:	26Kg (+6.25Kg with wall bracket)
Wall Bracket Load:	100Kg
Ingress Protection:	IP67.
Humidity:	95%RH (+25ºC).
Pan:	360° continuous.
Pan Speed:	0.1º/S to 60º/S.
Tilt:	-90º to +30º.
Tilt Speed:	0.1º/S to 60º/S.
Presets:	128.
Preset Accuracy:	±0.1º
Protocol:	Multiple including Pelco D/P.
Communication:	RS-485.
Communication Rate:	2400/ 4800/ 9600/ 19200 bps.
Cable Connection:	3-core for power. 2-core non-shielded for control. Coaxial cable for video output.
Cable Tail Length:	2.5M as standard other lengths on request.

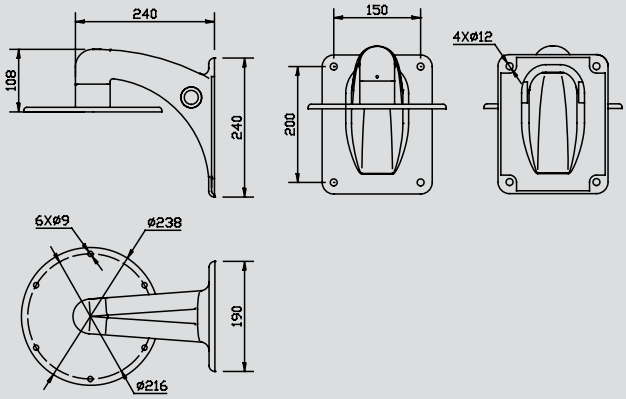
Typical Camera Options

Camera:	Sony.
Video Mode:	PAL, NTSC.
Video Output:	1.0± 0.2Vp-p/ 75Ω.
CCD:	1/4" Exview HAD.
Line/ Frame Scanning:	15.625kHz / 50Hz.
Zoom:	18x optical zoom with auto focus. F1.4 - 3.0, F= 4.1 - 73.8mm. 12x Digital Zoom.
Pixel Resolution:	752(H) x 582(V) PAL; 768(H) x 494(V) NTSC.
Horizontal resolution:	480TV Lines.
Minimal Focus:	0.29m (Wide) / 0.8m (Tele).
View Angle:	48º (Wide) / 2.8º (Tele).
S/N Ratio:	> 50dB.
Minimum Illumination:	0.7Lux (Colour) / 0.01Lux (B/W).

MCS2



MCB2 - Optional Wall Bracket



ALL DIMENSIONS IN MILLIMETRES

Standard Configurations:

MCS2B316L18PWE	ATEX	316L Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Electro-Polished
MCS2B316L18NWE	ATEX	316L Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Electro-Polished
MCS2B30418PWG	ATEX	304 Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Painted Grey
MCS2B30418NWG	ATEX	304 Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Painted Grey
MCS2J316L18PWE	IECEx	316L Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Electro-Polished
MCS2J316L18NWE	IECEx	316L Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Electro-Polished
MCS2J30418PWG	IECEx	304 Stainless Steel	18x Optical Zoom	PAL	Wall Bracket	Painted Grey
MCS2J30418NWG	IECEx	304 Stainless Steel	18x Optical Zoom	NTSC	Wall Bracket	Painted Grey

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.

Model

MCS2

Certification

Certification	Code
ATEX	B
IECEx	J

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Lens

Lens	Code
18x Optical Zoom	18
23x Optical Zoom	23
26x Optical Zoom	26

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
None	N
Wall	W

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

MCS3W Range – Safe Area PTZ Camera Station

Crouse-Hinds by EATON

Weatherproof

Features

- IP68.
- -40°C to +60°C.
- 304 or 316L Stainless Steel.
- 360° continuous pan rotation.
- +90° to -90° tilt rotation.
- Multiple scanning mode.
- Advanced OSD menu.
- Multiple control protocols supported.
- Automatic Heater.

Introduction

This weatherproof Pan, Tilt and Zoom Camera Station has been designed specifically for use within harsh & demanding environmental conditions. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

The continuous 360° pan rotation and tilt from -90° to +90° gives an unrestricted view of the surrounding area. With Pelco D/P protocol as standard, a variety of mounting brackets and wiper/washer tank options the MCS3W has the operational capability for most demanding CCTV applications.

IP68
Weatherproof

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Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

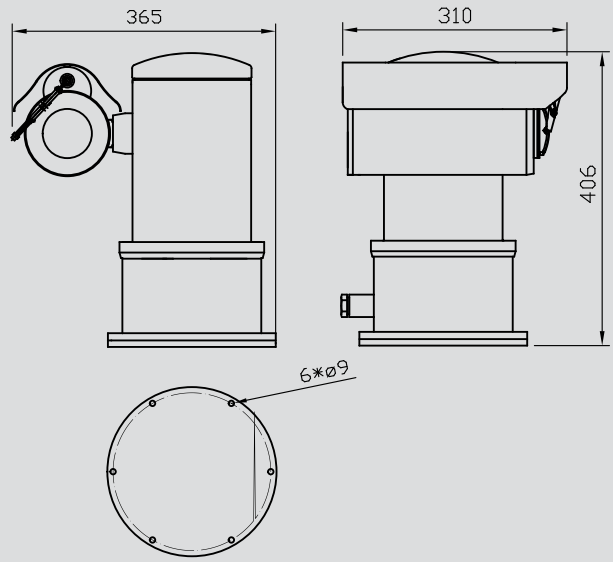
Specification

Material:	304 or 316L Stainless Steel.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	110Vac to 240Vac (±10%), 50/60Hz.
Current:	<1A.
Power:	100W.
Operating Temp	-40ºC to +60ºC.
Weight:	28Kg (+7.5Kg with wall bracket)
Ship Weight:	31Kg (+7.5Kg with wall bracket)
Wall Bracket Load:	100Kg
Ingress Protection:	IP68.
Humidity:	≤95%RH (+25ºC).
Pan:	360º continuous.
Pan Speed:	0.1º/S to 40º/S.
Tilt:	+90º to -90º.
Tilt Speed:	0.1°/S to 40°/S.
Presets:	128.
Preset Accuracy:	≤0.1º.
Protocol:	Multiple including Pelco D/P.
Communication:	RS-485.
Communication Rate:	2400 / 4800 / 9600 / 19200bps.
Cable Connection:	Power: 3-core. Control: 2-core (non shielded). Video Output: Coaxial cable.
Cable Tail Length:	2.5M as standard other lengths on request.
Automatic Heater:	Activates at -10ºC.

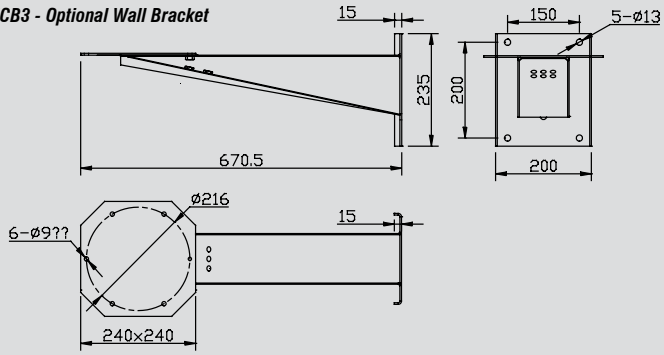
Typical Camera Options

Camera:	Sony.
Video Mode:	PAL, NTSC.
Video Output:	1.0± 0.2Vp-p/ 75Ω.
CCD:	1/4" Exview HAD.
Line/ Frame Scanning:	15.625kHz / 50Hz.
Zoom:	18x optical zoom with auto focus. F1.4 - 3.0, F= 4.1 - 73.8mm. 12x Digital Zoom.
Pixel Resolution:	752(H) x 582(V) PAL; 768(H) x 494(V) NTSC.
Horizontal resolution:	480TV Lines.
Minimal Focus:	0.29m (Wide) / 0.8m (Tele).
View Angle:	48º (Wide) / 2.8º (Tele).
S/N Ratio:	> 50dB.
Minimum Illumination:	0.7Lux (Colour) / 0.01Lux (B/W).

MCS3W



MCB3 - Optional Wall Bracket



ALL DIMENSIONS IN MILLIMETRES

Standard Configurations:

MCS3W316L18PWE	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS3W316L18NWE	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS3W30418PWG	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS3W30418NWG	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey

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.

Model

MCS3W

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Lens

Lens	Code
18x Optical Zoom	18
23x Optical Zoom	23
26x Optical Zoom	26
30x Optical Zoom	30
35x Optical Zoom	35
36x Optical Zoom	36

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
None	N
Wall	W

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

Crouse-Hinds by EATON

Weatherproof

Features

- IP68.
- -40°C to +60°C.
- 304 or 316L Electro Polished Stainless Steel.
- 360° continuous pan rotation.
- 0° to 90° unobstructed tilt rotation.
- Multiple Language Support Menu
- 3 different mounting options
  - Wall Mounting (included as standard)
  - Pendant Mounting
  - Ceiling Mounting.
- Image freeze available.
- Function memory after power off.
- Ten different alarm functions:
  - 8 groups alarm in.
  - 2 groups alarm out.
- Automatic Heater.

IP68
Weatherproof

Introduction

This Weatherproof Pan, Tilt and Zoom Dome Camera Station has been designed specifically for use within harsh & demanding environmental conditions. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

The continuous 360° pan rotation and tilt from 0° to +90° gives an unrestricted view of the surrounding area. The Dome design allows the camera to move efficiently in all directions.

With built in automatic heater, Pelco D/P protocol and a mounting bracket as standard the MCS4 has the operational capability for most demanding CCTV applications.

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MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

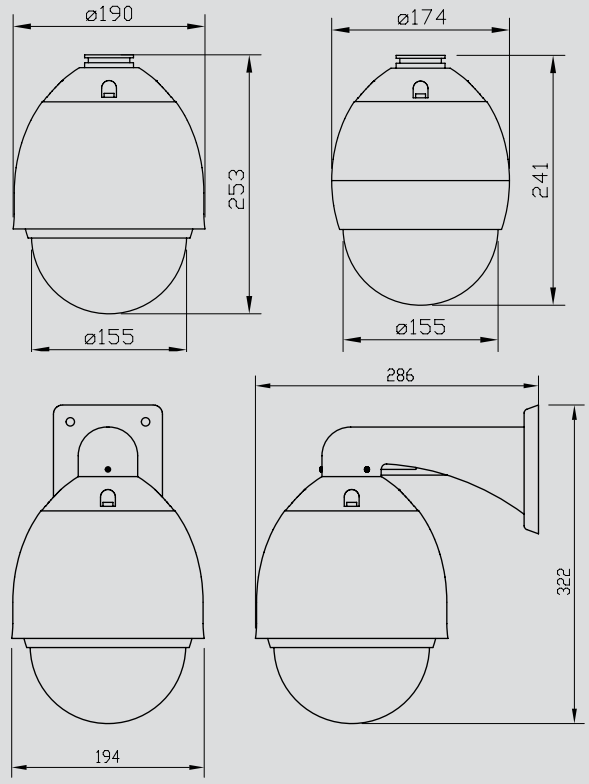
Specification

Material:	304 or 316L Stainless Steel.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	24V a.c. 50/60Hz (note a 220V a.c. power adaptor is supplied with the unit)
Current:	≤2A.
Power:	20W.
Operating Temp	-40ºC to +60ºC.
Weight:	3.1Kg.
Ship Weight:	4.5Kg.
Ingress Protection:	IP68.
Humidity:	≤95%RH (+25ºC).
Pan:	360º continuous.
Pan Speed:	300º/Second.
Tilt:	0º to 90º unobstructed.
Tilt Speed:	120º/Second.
Rotation Speed:	Dependent on joystick operation. Preset at 400º/Second.
Presets:	128.
Preset Accuracy:	±0.1º.
Protocol:	Multiple including Pelco D/P.
Communication:	RS-485.
Communication Rate:	2400/ 4800/ 9600/ 19200 bps.
Cable Connection:	Multiple-core composite cable for power, video, control and alarm signal.
Cable Tail Length:	0.8m.
Mounting:	Ceiling, wall and pendant mounting, Wall mounting bracket is included in packaging.
Automatic Heater:	Activates at -5ºC.

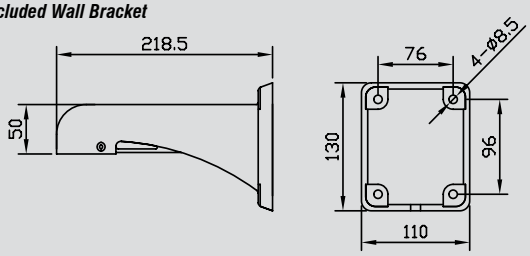
Typical Camera Options

Camera:	Sony FCB-CX490CP. PAL.
Video Mode:	PAL, NTSC.
Video Output:	1.0± 0.2Vp-p/ 75Ω.
CCD:	1/4" Exview HAD.
Line/ Frame Scanning:	15.625kHz / 50Hz.
Zoom:	18x optical zoom with auto focus. F1.4 to 3.0, f=4.1 to 73.8mm. 12x Digital Zoom.
Pixel Resolution:	752(H) x 582(V) PAL; 768(H) x 494(V) NTSC.
Minimal Focus:	0.29m (Wide) / 0.8m (Tele).
View Angle:	48º (Wide) / 2.8º (Tele).
Horizontal Resolution:	480TVL.
S/N Ratio:	> 50Db.
Minimum Illumination:	0.7Lux (Colour) / 0.01Lux (B/W).

MCS4



MCB4 - Included Wall Bracket



ALL DIMENSIONS IN MILLIMETRES

Standard Configurations:

MCS4316L18PWE	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS4316L18NWE	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS430418PWG	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS430418NWG	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey

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.

Model

MCS4

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Lens

Lens	Code
18x Optical Zoom	18
23x Optical Zoom	23
26x Optical Zoom	26

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
Wall	W

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

Crouse-Hinds by EATON

Exd

MCS7W

MCS7

Features

- ATEX Certified.
- IECEx Certified.
- Ex II 2GD.
- Exd IIC T6 Gb.
- Ext IIIC T80°C Db.
- IP66.
- -40°C to +60°C.
- 316L or 304 Stainless Steel.
- Varifocal Zoom.
- 2x digital zoom.
- Automatic Heater.

ATEX IECEx

Introduction

This Fixed Camera Station has been designed specifically for hazardous areas requiring ATEX or IECEx certification. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

With varifocal lens as standard, a variety of mounting brackets and wiper/ washer tank options the MCS7 has the operational capability for most demanding CCTV applications.

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MEDC

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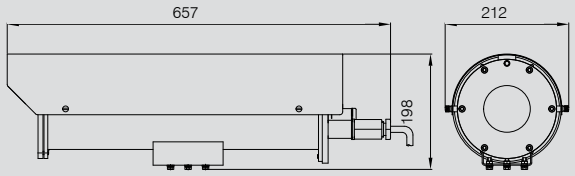
Specification

Certification:	ATEX Cert No. Baseefa13ATEX0124. IECEx Cert No. IECEx BAS 13.0100. Ex II 2GD Ex d IIC T6 Gb Ext IIIC T80°C Db.
Material:	Stainless Steel 304 or 316L.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	220Vac/24Vac, 50/60Hz.
Current:	≤0.5A.
Power:	30W (45W with heating).
Certified Temp:	-40ºC to +60ºC.
Weight:	13.5Kg (+2.5 with wiper) (+3Kg with wall bracket)
Ship Weight:	14.5Kg (+2.5 with wiper) (+3Kg with wall bracket)
Wall Bracket Load:	50Kg
Ingress Protection:	IP66.
Humidity:	≤95% RH (+25ºC).
Cable Entries:	3 x M25
Automatic Heater:	Activates at -10ºC.

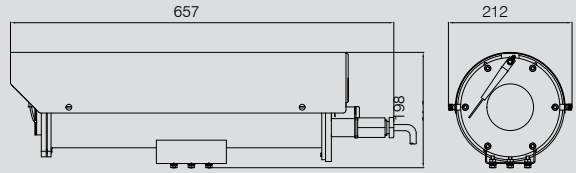
Typical Camera Options

Camera:	JVC (TK-C9200E/ TK-C9201EG).
Video Mode:	PAL/NTSC.
Video Output:	1.0V (p-p), 75Ω.
CCD:	1/3".
Zoom:	varifocal. f=2.9-8.2mm 2x Digital Zoom.
Pixel Resolution:	752(H) x 582(V).
Horizontal resolution:	580TV Lines.
Minimal Focus:	7.8mm(Wide) x 14.0mm (Tele).
TVL:	540TVL (Colour) / 600TVL (B/W).
S/N Ratio:	52dB.
Minimum Illumination:	0.05Lux (Colour) / 0.03Lux (B/W).

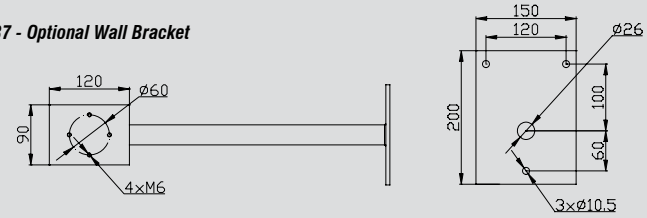
MCS7

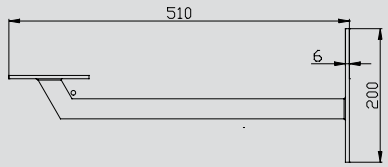


MCS7W



MCB7 - Optional Wall Bracket





ALL DIMENSIONS IN MILLIMETRES

Standard Configurations:

MCS7B220316LPWNE	ATEX	220Vac	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS7B220316LNWNE	ATEX	220Vac	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS7B220304PWNG	ATEX	220Vac	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS7B220304NWNG	ATEX	220Vac	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey
MCS7J220316LPWNE	IECEx	220Vac	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS7J220316LNWNE	IECEx	220Vac	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS7J220304PWNG	IECEx	220Vac	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS7J220304NWNG	IECEx	220Vac	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey

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.

Model

Model	Code
Standard	MCS7
Wiper	MCS7W

Certification

Certification	Code
ATEX	B
IECEx	J

Voltage

Voltage	Code
24Vac	24A
220Vac	220

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
None	N
Wall	W

Options

Options	Code
None	N
Heater	H*

* For wiper version please select as standard.

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

MCS8 Range - Weather Proof Fixed Camera Station.

Crouse-Hinds by EATON

Weatherproof

MCS8W

MCS8

Introduction

This Fixed Weatherproof Camera Station has been designed specifically for use within harsh & demanding environmental conditions. It is suitable for use across a wide range of applications; with the option of 304 Stainless Steel (electro-polished or painted) or 316L stainless steel.

With varifocal lens as standard, a variety of mounting brackets and wiper/ washer tank options the MCS8 has the operational capability for most demanding CCTV applications.

Features

- IP66.
- -40°C to +60°C.
- 316L or 304 Stainless Steel.
- Varifocal zoom.
- 2x digital zoom.
- Automatic Heater.

IP66
Weatherproof

Head Office.
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Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

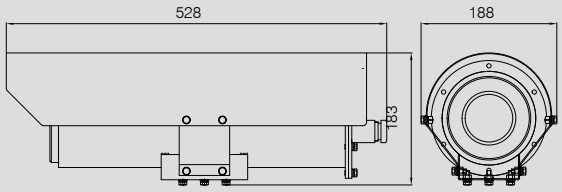
Specification

Material:	Stainless Steel 304 or 316L.
Finish:	Electro-polished (316L and 304) or Painted to customer specification (304 only).
Voltage:	220Vac/24Vac, 50/60Hz.
Current:	≤0.5A.
Power:	30W (45W with heating).
Certified Temp:	-40ºC to +60ºC.
Weight:	6Kg (+3 with wiper) (+3Kg with wall bracket)
Ship Weight:	8Kg (+3 with wiper) (+3Kg with wall bracket)
Wall Bracket Load:	50Kg
Ingress Protection:	IP66.
Humidity:	≤95% RH (+25ºC).
Cable Entries:	MCS8 - 2 x M25 MCS8W - 3 x M25
Automatic Heater:	Activates at -10ºC.

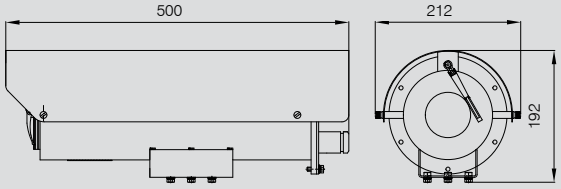
Typical Camera Options

Camera:	JVC (TK-C9200E/ TK-C9201EG).
Video Mode:	PAL/NTSC.
Video Output:	1.0V (p-p), 75Ω.
CCD:	1/3".
Zoom:	Varifocal. f=2.9-8.2mm 2x Digital Zoom.
Pixel Resolution:	752(H) x 582(V).
Horizontal resolution:	580TV Lines.
Minimal Focus:	7.8mm(Wide) x 14.0mm (Tele).
TVL:	540TVL (Colour) / 600TVL (B/W).
S/N Ratio:	52dB.
Minimum Illumination:	0.05Lux (Colour) / 0.03Lux (B/W).

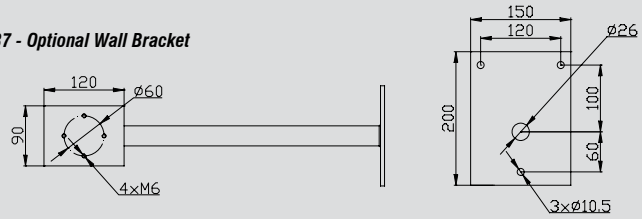
MCS8

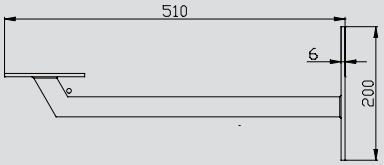


MCS8W



MCB7 - Optional Wall Bracket





ALL DIMENSIONS IN MILLIMETRES

Standard Configurations:

MCS8220316LPWNE	Standard	220Vac	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS8220316LNWNE	Standard	220Vac	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS8220304PWNG	Standard	220Vac	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS8220304NWNG	Standard	220Vac	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey
MCS8W220316LPWNE	Wiper Fitted	220Vac	316L Stainless Steel	PAL	Wall Bracket	Electro-Polished
MCS8W220316LNWNE	Wiper Fitted	220Vac	316L Stainless Steel	NTSC	Wall Bracket	Electro-Polished
MCS8W220304PWNG	Wiper Fitted	220Vac	304 Stainless Steel	PAL	Wall Bracket	Painted Grey
MCS8W220304NWNG	Wiper Fitted	220Vac	304 Stainless Steel	NTSC	Wall Bracket	Painted Grey

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.

Model

Model	Code
Standard	MCS8
Wiper	MCS8W

Voltage

Voltage	Code
24Vac	24A
220Vac	220

Material

Material	Code
316L Stainless Steel	316L
304 Stainless Steel	304

Video Mode

Video Mode	Code
PAL	P
NTSC	N

Bracket

Bracket	Code
None	N
Wall	W

Options

Options	Code
None	N
Heater	H*

* For wiper version please select as standard.

Finish

Finish	Code
Electro Polished	E
White	W†
Grey	G†
Special	S*†

* Please Specify.
† 304SS only

FHF Telephones

MEDC now offers a range of analogue and VOIP telephones from Funke+ Huster Fernsig.

FHF provides a wide range of Hazardous Area and Industrial Telephones tested in harsh environments such as chemical plants, off-shore platforms and remote gas generating stations.

The hazardous area phones are offered with global ATEX, IECEx, UL and GOST approvals.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Telephones												
ExII ResistTel	■	■	■			■	GOST				66	136
Ex ResistTel MB	■	■									66	138
ExResistTel IP2	■	■									66	140
Ex FernTel 3	■	■				■					65	142
Ex FernTel IP	■	■	■								65	144
ResistTel WP											66	146
ResistTel MB WP											66	148
ResistTel IP2 WP											66	150
FernTel 3 WP											65	152
FernTel IP WP											65	154


ExII ResistTel


Ex ResistTel MB


Ex ResistTel IP2


Ex FernTel 3


Ex FernTel IP


ResistTel WP


ResistTel MB WP


ResistTel IP2 WP


FernTel 3 WP


FernTel IP WP

Crouse-Hinds by EATON

Explosion-proof, weatherproof Industrial telephone

Features

- Handsfree
- Temperature range -25°C to +60°C
- Certified for dust and gas atmospheres
- Display
- IP 66 EN 60529
- different housing colours

Introduction

Communication devices for use in hazardous areas in the industry have to be especially well adapted to the extreme operating conditions they will be exposed to.

Our Ex-telephone has been developed for operation in the petro-chemical industry, off-shore plants, and mills and harbours, meaning it is resistant to extreme temperatures, air humidity, sea water, dust and strong mechanical wear and tear. It is certified for use in hazardous dust and gas atmospheres.

The ExResistTel is completely programmable, and has been equipped with a 21-piece stainless (V4A) steel keypad designed for use with gloves.

Letters and figures are presented clearly on the alphanumerical display.

The ExResistTel also boasts all the convenient features that have become standard in the field of office communication. A string of optional extras and components – especially certified for hazardous areas – makes our telephone even more functional.

Our ExResistTel is the correct decision for a safe connection – convenient and reliable in hazardous areas.

Application Example:

Offshore communication

The ExResistTel is completely programmable, and has been equipped with a 21-piece stainless (V4A) steel keypad designed for use with gloves.

ATEX IECEx cULus INMETRO

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Certification and Specification

Certification

Types of protection:	II 2 G EEx em[ib] IIC T5 Gb.	II 2 G EEx em[ib] IIC T6 Gb.
	II 2 D Ex tb [ib] IIIC T100°C Db -25°C Ta 60°C.	II 2 D Ex tb [ib] IIIC T80°C Db. -25°C Ta 40°C.
Approval:	DMT 02 ATEX E 183.	
Line voltage:	24 VDC to 66 VDC.	
Line current:	15 mADC to 100 mADC.	
Ringing alternating current:	24 VAC to 90 VAC (at 21...54 Hz ringing frequency). 30 VAC to 90 VAC (at 16,6...54 Hz ringing frequency)	
Ringing impedance:	Greater than 6,0 KΩ at 25 Hz and 24...90 VAC. Greater than 4,0 KΩ at 50 Hz and 24...90 VAC.	
Inquiry key:	Flash function adjustable from 40ms to 399ms.	
Dialling procedure:	PD-DTMF operation to be set in the menu. PD operation where the pulse/pause ratio can be set to 1.5:1 or 2:1 in the menu.	
W-conductor:	Connection for external secondary sounder.	
Screw terminals:	Up to 4 mm^2 rigid. Up to 2.5 mm^2 flexible.	

Environmental conditions

Degree of protection:	IP 66 according to EN60529.
Impact protection:	IK 09 according to EN50102.
Operation temperature:	-25°C to +60°C for temperature class T5. -25°C to +40°C for temperature class T6.
Storage temperature:	-25°C to +70°C.

Housing

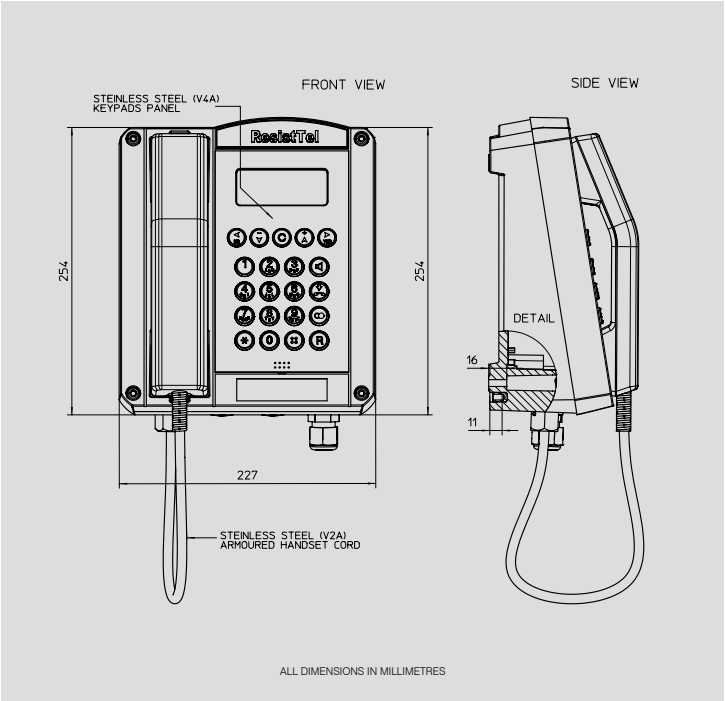
Material:	Glass-fibre-reinforced polyester.
Height x Width x Depth:	Approx. 266 mm x 227 mm x 135 mm.
Weight:	Approx. 5.5 kg.
Display:	2-line alphanumerical display with pictograms. Visible area approx. 78 mm x 26 mm.
Keypad:	Metal keypad with ice protection. 21 keys with ABC lettering for name entries.

Receiver

Stabilizer bracket:	Integrated, adjustable stabilizer bracket.
Handset cord:	Stainless steel (V4A) armoured handset cord.
Receiver inset:	Dynamic receiver inset with leakage field spool for inductive coupling of hearing aids.
Mouthpiece:	Electret-foil microphone.
Noise suppression:	Greater than 3dB due to integrated mouthpiece horn mouth.

Further characteristics

Optical call signalling:	Display shows (((🔔))).
Ringing sound pressure level:	Approx. 90 dB(A) at 1m distance.
Ringing melodies:	10 melodies selectable.
Listening by loudspeaker:	Maximum sound pressure level approx. 68 dB (A) at 1m distance.
Handsfree operation:	Maximum sound pressure level approx. 68 dB (A) at 1m distance.
Amplified listening in receiver:	Receiver volume can be boosted in 7 steps from 0 –12 dB(A).
Menus:	In several language.
Telephone directory:	Max. 50 entries (names and numbers).



Accessories


Additional headset


Additional earpiece


Loudspeaker set


TWIN Sounder/Beacon


Protection hood


Secondary sounder

Ordering Information

For ATEX and IECEx units, the full article number is made up by appending the colour code for the coloured housing to the article number given here (--). Transparent 11 | Red 12 | Amber 13 | Green 14 | Blue 15 | For Inmetro and UL certified units please add the following to the article number; (45) = Inmetro | (110) = UL

Type	Name	Version		Article no.
ExResistTel	ExII-Telephone	black		F112 861 01 (45) (110)
ExResistTel	ExII-Telephone	red		F112 861 0102
ExResistTel	ExII-Telephone	blue		F112 861 0105
ExResistTel	ExII-Telephone ZB	black	- without keypad and display	F112 861 02 (45)
ExResistTel	ExII-Telephone ZB	red	- without keypad and display	F112 861 0202
ExResistTel	ExII-Telephone ZB	blue	- without keypad and display	F112 861 0205
ExResistTel	ExII-Telephone	black	- Protection class I	F112 862 01
Accessories	ExII-Additional earpiece			F112 861 03
Accessories	ExII-Additional headset			F112 861 04
Accessories	ExII-Loudspeaker set			F112 861 05
Accessories	ExII-Secondary sounder			F211 842 06
Accessories	Protection hood	hot galvanized,	- yellow	F118 901 01
Accessories	Protection hood	stainless steel		F118 901 11
Accessories	ExII-TWIN			F118 833 (--)

Crouse-Hinds by EATON

Explosion-proof, weatherproof Industrial telephone

Features

- 3 Memory Buttons (free programmable)
- Handsfree operation
- Temperature range
  -25 °C to +60 °C
- Certified for dust and gas atmospheres
- IP 66 EN 60529
- Stainless steel VA4 keypad
- GRP housing

Introduction

Communication devices for use in the hazardous areas industry have to be especially well adapted to the extreme operating conditions they will be exposed to.

Our Ex-telephone has been developed for operation in the petro-chemical industry, off-shore plants, and mills and harbours, meaning it is resistant to extreme temperatures, air humidity, sea water, dust and strong mechanical wear and tear. It is certified for use in hazardous dust and gas atmospheres.

The ExResistTel MB has been equipped with a 21-piece stainless (V4A) steel
keypad designed for use with gloves.

A string of optional extras and components – especially certified for hazard-ous
areas – makes our telephone even more functional.

Our ExResistTel MB is the correct decision for a safe connection – conven-ient and reliable in hazardous areas.

Three memory buttons allow a quick selection of emergency call numbers. These keys can be programmed by the user.

Application Example:

Offshore communication

The ExResistTel MB is completely programmable, and has been equipped with a 21-piece stainless (V4A) steel keypad designed for use with gloves.

ATEX IECEx

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Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCsales@eaton.com** **Web: www.medc.com**

Certification and Specification

Certification

Types of protection:	II 2 G EEx em[ib] IIC T5 Gb. II 2 D Ex tb [ib] IIIC T100ºC Db -25ºC Ta 60ºC.	II 2 G EEx em[ib] IIC T6 Gb. II 2 D Ex tb [ib] IIIC T80ºC Db. -25ºC Ta 40ºC.
Approval:	DMT 02 ATEX E 183.	
Degree of protection:	IP 66 according to EN60529.	
Impact protection:	IK 09 according to EN50102.	
Operation temperature:	-25ºC to +60ºC for temperature class T5. -25ºC to +40ºC for temperature class T6.	
Storage temperature:	-25ºC to +70ºC.	

Connections

Line voltage:	24 VDC to 66 VDC.
Line current:	15 mADC to 100 mADC.
Ringing alternating current:	24 VAC to 90 VAC (at 21...54 Hz ringing frequency). 30 VAC to 90 VAC (at 16.6...54 Hz ringing frequency).
Ringing impedance:	Greater than 6.0 KΩ at 25 Hz and 24...90 VAC. Greater than 4.0 KΩ at 50 Hz and 24...90 VAC.
Inquiry key:	Flash function adjustable 80 ms, 120 ms, 600 ms.
Dialling procedure:	PD-DTMF operation to be set in the menu. PD operation where the pulse/pause ratio can be set to 1.5:1 or 2:1 in the menu.
W-conductor:	Connection for external secondary sounder.
Screw terminals:	Up to 4 mm² rigid. Up to 2.5 mm² flexible.

Housing

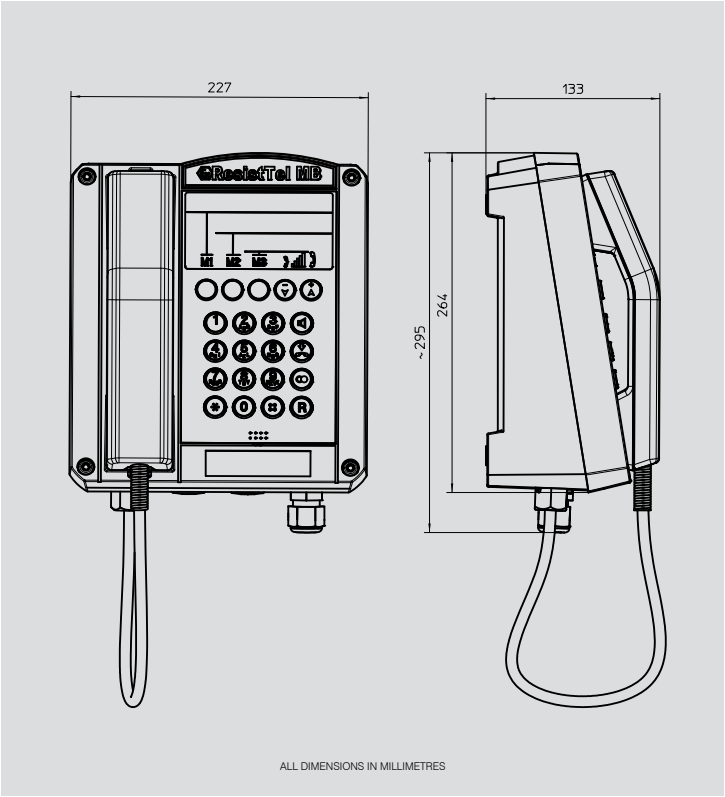
Material:	Glass-fibre-reinforced polyester
Height x Width x Depth:	Approx. 266 mm x 228 mm x 135 mm
Weight: Approx.	5.5 kg
Keypad:	Metal keypad with ice protection. 21 keys with ABC lettering for name entries incl. 3 memory buttons (free programmable)

Receiver

Stabilizer bracket:	Integrated, adjustable stabilizer bracket.
Handset cord:	Stainless steel (V4A) armoured handset cord.
Receiver inset:	Dynamic receiver inset with leakage field spool for inductive coupling of hearing aids.
Mouthpiece:	Electret-foil microphone
Noise suppression:	Greater than 3dB due to integrated mouthpiece horn mouth.

Further characteristics

Ringing sound pressure level:	Approx. 90 dB(A) at 1m distance.
Ringing melodies:	10 melodies selectable.
Listening by loudspeaker:	Maximum sound pressure level approx. 68dB (A) at 1m distance.
Handsfree operation:	Maximum sound pressure level approx. 68dB (A) at 1m distance.
Amplified listening in receiver:	Receiver volume can be boosted in 7 steps from 0 -12 dB(A).



Accessories


Additional headset


Additional earpiece


Loudspeaker set


TWIN Sounder/Beacon


Protection hood


Secondary sounder

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (--).
Transparent 11 | Red 12 | Amber 13 | Green 14 | Blue 15

Type	Name	Version	Article no.
ExResistTel MB	ExII-Telephone	black	F112 861 21
Accessories	ExII-Additional earpiece		F112 861 03
Accessories	ExII-Additional headset		F112 861 04
Accessories	ExII-Loudspeaker set		F112 861 05
Accessories	ExII-Secondary sounder		F211 842 06
Accessories	Protection hood	hot galvanized, yellow	F118 901 01
Accessories	Protection hood	stainless steel	F118 901 11
Accessories	ExII-TWIN		F118 833 (--)

ExResistTel IP2 Explosion-proof VoIP Telephone

Crouse-Hinds by EATON

IP Telephone for indoor and outdoor use in zone 1

Features

- IP 66 protection class as per IEC60529
- Ambient temperature range -40°C to +60°C (heated display)
- Ring signal ≥ 95 dB(A) at a distance of 1 m
- Pixel-based illuminated heated LCD display
- 4V4A alphanumerical keypad
- Intelligent, user friendly menu structure
- Standard H.323, SIP, TSIP, SIPS protocols
- Power supply: Power over Ethernet or external supply
- Simply connected to a single 10/100 BASE T Ethernet LAN, RJ45
- Handsfree communication

Introduction

Proven technology from FHF makes the ExResistTel IP2 suitable for all indoor and outdoor applications in hazardous areas.

The new ExResistTel IP2 is the ideal unit for all kinds of adverse weather conditions at a wide variety of diverse facilities.

The housing is made of impact and shock resistant fiberglass-reinforced polyester. Its robust design is perfect to meet the latest requirements demanded of VoIP telephones for use in hazardous areas.

The ExResistTel IP2 makes work more effective by providing especially convenient telephone services. An illuminated, heated display rounds out the convenience features of the ExResistTel IP2.

It also supports all features of the H.450 standard.

The ExResistTel IP2 offers high-quality features based on industry standards.

A headset, available as accessory equipment, can be easily connected to the telephone. A handsfree function is also integrated into the unit.

Application Example:

Ex-Telephone for outdoor facilities

Proven technology from FHF makes the ExResistTel IP2 suitable for all outdoor applications.

ATEX IECEx

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MEDC

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Certification and Specification

Certification

Protection class:	IP66 as per IEC 60529.
Impact resistance:	IK09 as per EN IEC 62262:2002.
Types of protection:	II 2G Ex e ib [ib] mb IIC T4 Gb. III 2D Ex ib [ib] tb IIIC T 135°C Db.

Connections

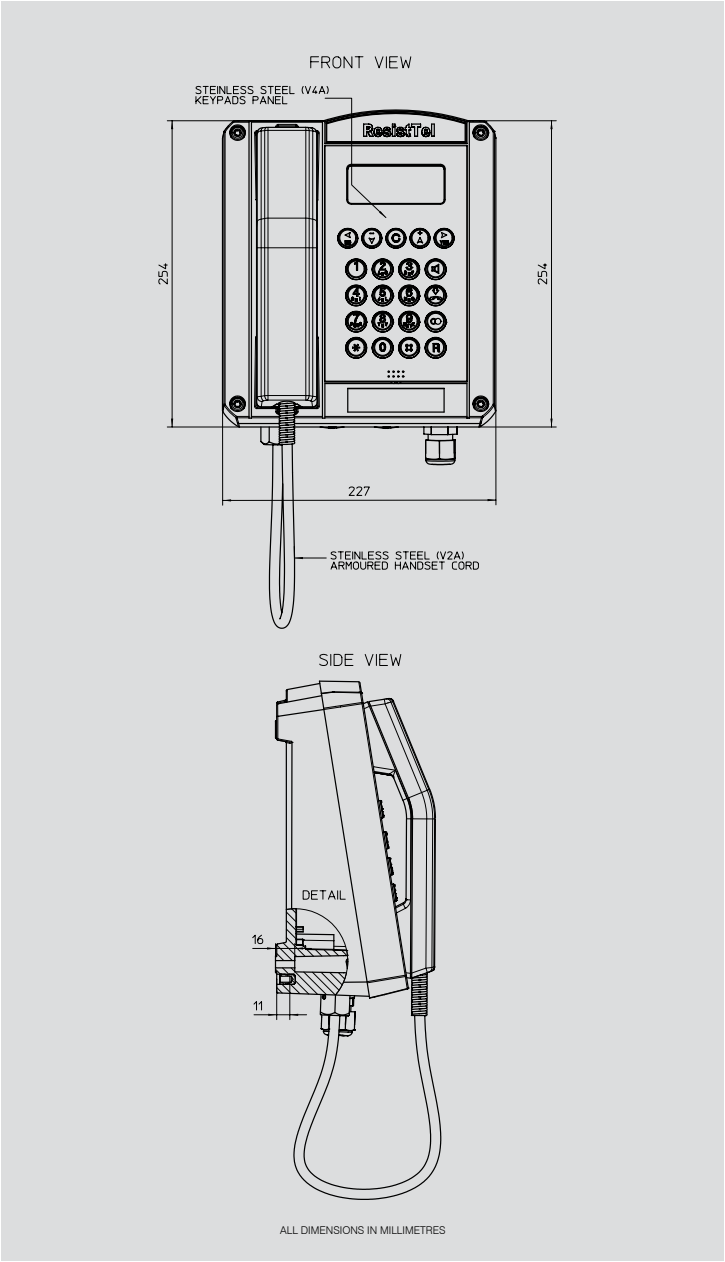
Powered via:	Power over Ethernet as per IEEE 802.3af, (only unused wires) or via external power supply.
Voltage of external power supply:	19.2 V - 52.8 V DC.
Power consumption PoE (class 0):	12.95 W.
Connection:	Screw terminals (10/100 Mbit/s).
Ring signal volume:	approx. 95 dB(A) maximum at a distance of 1 m.
Housing:	(height x width x depth) 293 x 227 x 135 mm.
Weight (standard model):	approx. 5,000 g.
Display:	182 x 64 pixels.
Mounting position:	Vertical wall mounting.
Switching capacity of relay:	250 V AC, 5 A. 30 V DC, 5 A. 50 V DC, 1 A. 230 V DC, 0,5 A.

Handset

Voice capsule:	Electret microphone.
Earpiece capsule:	Dynamic capsule with magnetic field generator.
Handset securing mechanism in cradle:	Standard equipment.

Environmental Conditions

Ambient operating: temperature:	-40°C...+60°C.



Features

Display:	182 x 64 pixels.
Protocols:	H.323, SIP TSIP SIPS.
General:	H.323 Version 4 including H.225, H.235, H.245 and RAS. Gatekeeper routed signalling, H.450, Session Initiation Protocol (SIP) RTP, SRTP real time protocol – for voice data transmission.
RTCP:	Real Time Control Protocol – first level of "Quality of Service".
RAS protocol:	Support for an external gatekeeper.
DTMF:	H.245 "Alphanumeric" or "Signal Type".
Additional VoIP features:	H.245 fast connect en-bloc dialling overlapped sending.
Security:	Encrypted password authentication as per H.235.
Quality of Service:	IP packet prioritization via TOS and DiffServ. VLAN priority as per IEEE 802.1p / 802.1q.
Audio codecs:	G.711 A-law / µ-law (64 kbps), G.729A (16 kbps).
Echo compensation:	G.168.
Access:	HTML via web browser. Password protected with secure authentication.
Troubleshooting:	Log and trace files and status display of interfaces and connections. Ping connection test for Internet Protocol, sending of SNMP traps.
Updates:	Configuration save and restore, Boot code and firmware updates via HTML upload. Automatic updating via update server.
DSL access:	PPPoE protocol.
VPN:	Tunneling with PPTP encryption with MPPE.
NAT:	Network Address Translation – translates public IP addresses into private local address space addresses and vice versa.
DHCP:	Dynamic Host Configuration Protocol – sets up the IP interfaces.
ICMP:	Internet Control Message Protocol – for ping tests.
Call signal generation:	Automatic call signal generation as per European and US standards.
Call transfer:	Call Transfer in all common variants: with/without asking, before/after answering, etc.
Call diversion	Call Diversion / Redirection.
Call hold	Call Hold / Retrieve.
Call waiting	Call Waiting with corresponding signalling to calling party.
Message	Telephone displays that a message is waiting.
Pickup	Telephone displays that a call can be picked up.
Pickup list	Telephone displays a list of calls that can be picked up.
Name display	For signalling which name should be displayed.
Call back	Call Completion with all common variants such as call back when busy and call back when free.
3-way conference	With 3 parties, also external parties.
Caller ID	For special signalling of individual phone numbers or phone number groups.
Multiple registration	Maximum of 6 registrations.
Telephone book	All registrations available automatically from central telephone book, External databases integrated via Ö.
Time	Precisely accurate time data via time server access.

Ordering Information

Type	Name	Housing Colour	Options	Article no.
ExResistTel IP2	VoIP Telephone	Black	with relay contact	F112 861 80

Ex-Telephone FernTel 3 / Zone 2

Crouse-Hinds by EATON

Analogue desk/wall telephone for areas with explosive atmospheres Zone 2, 22

Introduction

The new telephone for use in areas with explosive atmospheres in Zone 2 and 22. Its housing is made of impact resistant and shockproof Polycarbonate and approved for Zone 2 and 22 according ATEX.

Its striking signal colour ensures the FernTel 3 / Zone 2 cannot be missed whenever a telephone is urgently needed.

The resistance of housing and use of screws of stainless steel are especially advantageous for use in areas with high air humidity and explosive atmospheres.

This telephone can be mounted to a wall or desk.

Features

- Protection degree IP 65
- Stabiliser bracket (optional)
- Ambient temperature -20°C to +55°C
- Call tone ≥ 95 dB(A), 1 m
- Explosion protection class

  II 3 G Ex nA L IIC T5

  II 3 D Ex tD A22 IP65 80°C

Application Example:

Telephones for Ex Zone 2, 22

The new FernTel 3 / Zone 2 is the ideal telephone for many different work areas in Zone 2 and 22.

ATEX IECEx INMETRO

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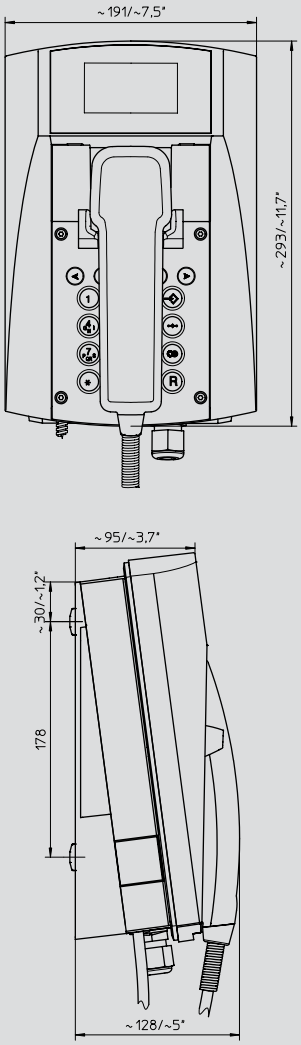
MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Certification	
Expl. protection class:	II 3 G Ex nA L IIC T5. II 3 D Ex tD A22 IP65 80ºC.
Net access, Acoustics:	TBR 21, TBR 38.
Electrical Safety:	EN60950.
Call tone:	≥95 dB(A), 1 m.
Ambient conditions	
Display:	-10ºC to +55ºC.
Operating temperature:	-20ºC to +55ºC.
Transport and storage temperature:	-25ºC to +70ºC.
Protection degree:	IP 65.
Connection data	
Call frequency programmable:	16…68 Hz.
Pulse-break ratio programmable:	1,5 : 1 60/40 ms. 2 : 1 66.7/33.3 ms.
MFV:	According to CCITT Q23.
Flash time Approx:	80 ms, 1 ms…999 ms programmable.
Line voltage:	24 to 66 VDC.
Housing	
Height x width x depth Approx:	293 x 191 x 128 mm.
Weight Approx:	2.3 kg.
Operating position:	Desktop or vertical wall mounting.
Handset	
Transmitter capsule:	Electret microphone.
Connections	
Wire:	Up to 0.25 mm^2, wire to 2.5 mm^2.
Incoming telephone line:	TCP/La, TCP/Lb.
Secondary bell:	w1, w.
Cable glands	1 cable gland handset. 1 cable gland M 20 x 1.5. 1 blind plug M20 x 1.5. 2 blind plugs M12 x 1.5.



ALL DIMENSIONS IN MILLIMETRES

Ordering Information

For ATEX and IECEx units, the full article number is made up by appending the colour code for the coloured housing to the article number given here (-). Yellow 1 | Red 2 | Grey 7 | Black 0 | For Inmetro certified units please add (45) to the article no.

Type	Name	Version	Article no.
FernTel 3 / Zone 2	Desk/Wall Telephone	without Display spiral cord	F112 400 2 (45)(-)
FernTel 3 / Zone 2	Desk/Wall Telephone	with Display spiral cord	F112 410 2 (45)(-)
FernTel 3 / Zone 2	Desk/Wall Telephone	without Display armoured cord	F112 420 2 (45)(-)
FernTel 3 / Zone 2	Desk/Wall Telephone	with Display armoured cord	F112 430 2 (45)(-)
FernTel 3 / Zone 2	Stabiliser bracket		F112 390 00

Ex-Telephone FernTel IP Zone 2/22

Crouse-Hinds by EATON

VoIP desk/wall telephone for areas with explosive atmospheres Zone 2 & 22

Introduction

This impact-resistant and shockproof polycarbonate telephone is approved for zone 2 / 22 according to ATEX.

Due to its striking signal colour the FernTel IP cannot be missed; useful for whenever a telephone is urgently needed.

The FernTel IP's impact-proof thermoplastic housing and stainless steel screws offer further advantages when installing the phone in explosive or humid atmospheres.

The device is easily converted from a wall telephone to a desk telephone.

The FernTel IP / zone 2 / 22 allows efficient working with high comfort completed by the illuminated keypad and display. The standardized features according to H.450 are supported.

The FernTel IP / zone 2 / 22 offers features of high quality based on industrial standards instead of proprietary solutions.

Features

- Protection degree IP 65 EN 60529
- Ambient temperature -20°C to +55°C
- Call tone ≥ 95 dB(A), 1 m
- Explosion protection class II 3G Ex nA nL IIC T5 II 3D Ex tD A22 IP66 T80°C
- Pixel-based, illuminated LCD Display
- Illuminated keypad
- Intelligent and user-friendly menu structure
- Standard H.323, SIP, TSIP, SIPS protocols
- Power supply Power over Ethernet
- 1x Ethernet: RJ-45, 10/100-BASE-TX

Application Example:

Telephones for Ex Zone 2 / 22

The new FernTel IP / Zone 2 / 22 is the ideal telephone for many different work areas in Zone 2 or 22.

ATEX IECEx cULus INMETRO

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MEDC

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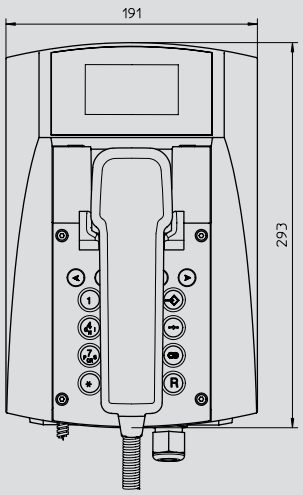
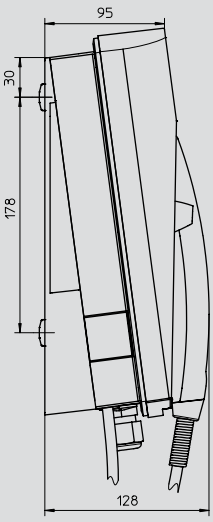
Certification and Specification

Certification

Explosion protection class:	II 3G Ex nA nL II C T5, II 3D Ex tD A22 IP66 T80ºC.
Protection Degree:	acc. to IEC60529 IP 65.
Temperature Range:	-20ºC to +60ºC.
Housing:	Polycarbonate.
Keypad:	With stainless steel plate.
Housing Dimensions:	Height x Width x Depth 293 x 191 x 128 mm.
Weight approx:	2.4 kg.
Power Supply:	Power over Ethernet (IEEE 802.3af).
Connection Plugs:	1x Ethernet: RJ-45, 10/100-BASE-TX auto negotiation.
Ringing Volume:	Approx. 95 dB(A) at 1 m distance.
Display:	128 x 64 Pixel.
Protocol:	H.323, SIP, TSIP, SIPS.
Total:	H.323 version 4 incl. H.225, H.235, H.245 and RAS Gatekeeper routed Signalling, H.450 Session Initiation Protocol (SIP) RTP, SRTP Real Time Protocol.
RTCP:	Real Time Control Protocol – first level of Quality of Service.
RAS Protocol:	Support for External Gatekeeper.
DTMF:	H.245 Alphanumeric or Signal Type.
Additional VoIP-Features:	H.245 Fast Connect En-block dialling Overlapped Sending.
Security:	Password Protected Administration. Encoded Password Authorization acc. to H.235.
Quality of Service:	Priority of IP-Packages acc. to TOS and DiffServ, VLAN Priority acc. to IEEE 802.1p / 802.1q.
Voice Encoding:	G.711 A-law / µ-law (64 kbps), G.723.1 (5.3 kbps), G.729A (16kbps).
Echo Compensation:	G.168.
Access:	Via HTML Web-Browser. Password protected authentication.
Troubleshooting:	Log- and Trace-Files, State Display of Interfaces and Connections, Ping Connection Test sending of SNMP Traps over Internet Protocol.
Update:	Configuration recording/reading, Boot code and firmware update via HTML upload, Automatic update via Update-Server.
DSL-Access:	PPPoE Protocol.
VPN:	Tunnelling with PPTP Encoding via MPPE.
NAT:	Network Address Translation – for Transformation of official IP Addresses into private IP Addresses and vice versa.
DHCP:	Dynamic Host Configuration Protocol – IP interfaces settings.
ICMP:	Internet Control Message Protocol – for Ping tests.
Dial Tone Generation:	Automatic Dial tone Generation European and US Standard.
Call Transfer:	Call Transfer with/without consultation call.
Call Diversion:	Call Diversion Unconditional, Busy, No Reply.
Call Hold / Retrieve:	Call Hold / Retrieve.
Call Waiting:	Call Waiting inclusive Signalling of second Call Information.
Calling Name Identification:	Name Display.
3 Party Conference:	3 Party Conference of internal and/or external Subscriber.
Calling Number Identification:	Display of Calling Number.
Multiple Registrations:	up to 6 Registrations.
Telephone Book:	Local, Integration of an External Database.
Time/Date:	Exact Time and Date Information via Time Server.





ALL DIMENSIONS IN MILLIMETRES

Ordering Information

For ATEX and IECEx certified units the full article number is made up by appending the colour code for the coloured housing to the article number given here (-). Yellow 1 | Red 2 | Grey 7* | Black 0 | For Inmetro certified units, please add (45) to the article no.

Type	Name	Version	Language	Article no.
FernTel IP / Zone 2/22	Desk/Wall Telephone	with spiral cord	Multi	F112 411 2 (45)(-)
FernTel IP / Zone 2/22	Desk/Wall Telephone	with armoured cord	Multi	F112 431 2 (45)(-)
FernTel IP / Zone 2/22	Stabiliser bracket			F112 390 00
UL Versions				
FernTel IP/Zone 2/22	Desk/Wall Telephone	with spiral cord	Multi	F112 411 4(-)
FernTel IP/Zone 2/22	Desk/Wall Telephone	with armoured cord	Multi	F112 431 4(-)

*Not available with UL certified units.

Weatherproof Telephone ResistTel

Crouse-Hinds by EATON

Telephone for use in rugged conditions

Introduction

ResistTel means: making telephone calls in rugged ambient conditions with the best functional security in industrial areas.

Our telephone is resistant to seawater, acid, lye and lubricants.

The compression-moulded housing made of GRP (Glass-fibre-reinforced polyester) is impact resistant.

The stainless steel keypad (V4A) withstands high loads and at the same time protects the inner parts of the telephone.

The steel armoured handset cord is manufactured to withstand high tensile forces.

With its interesting additional features and options our ResistTel opens many possibilities with regard to your special applications.

The ResistTel user interface is simple, user friendly and menu driven, and is designed to be used wearing industrial gloves.

Features

- Robust glass fibre reinforced polymer housing
- Completely programmable
- Fully encapsulated electronics
- Handsfree / Speakerphone function
- 316 Stainless Steel keypad, faceplate and trim
- Hermetically sealed
- Adjustable handset holding clips
- Captive cover screws
- Ventilation / Pressure balancing plug

Application Example:

Refinery plant

The ResistTel user interface is simple, user friendly and menu driven, and is designed to be used wearing industrial gloves.

IP66 Weatherproof

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Certification and Specification

Environmental conditions

Degree of protection:	IP 66 according to EN60529.
Impact protection:	IK 09 according to EN50102.
Operation temperature:	-25°C to +60°C.
Storage temperature:	-25°C to +70°C.

Connections

Line voltage:	24 VDC to 66 VDC.
Line current:	15 mADC to 100 mADC.
Ringing alternating current:	24 VAC to 90 VAC (at 21...54 Hz ringing frequency). 30 VAC to 90 VAC (at 16.6...54 Hz ringing frequency).
Ringing impedance:	Greater than 6.0 KΩ at 25 Hz and 24...90 VAC. Greater than 4.0 KΩ at 50 Hz and 24...90 VAC.
Recall function:	Flash function adjustable from 40ms to 399ms.
Dialling frequency:	PD-DTMF operation to be set in the menu. PD operation where the pulse/pause ratio can be set to 1.5:1 or 2:1 in the menu.
W-conductor:	Connection for external secondary sounder.
Screw terminals:	Up to 4 mm² rigid. Up to 2.5 mm² flexible.

Housing

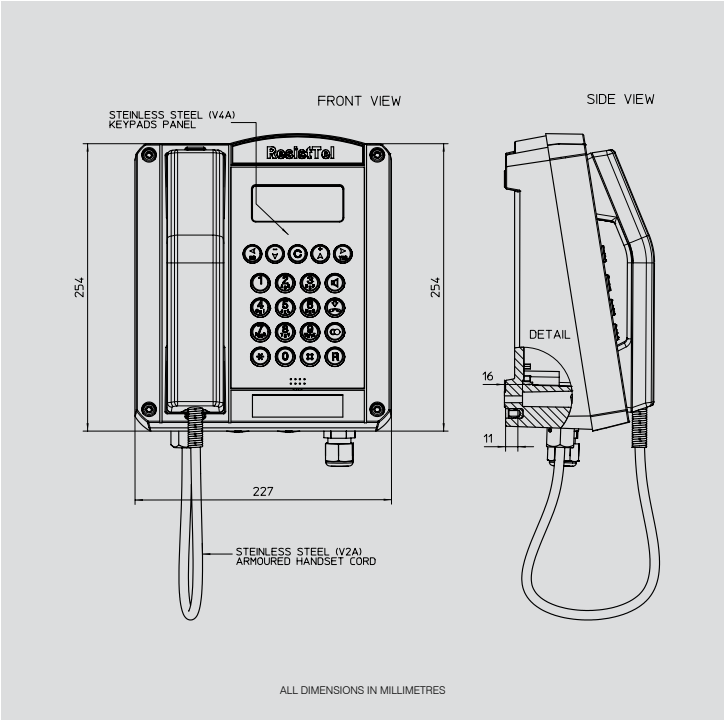
Material:	Glass-fibre-reinforced polyester
Height x Width x Depth:	Approx. 266 x 227 x 135 mm
Weight:	Approx. 5.5 kg
Display:	2 line alphanumerical display with pictograms Visible area approx. 78 mm x 26 mm.
Keypad: for	Metal keypad with ice protection. 21 keys with ABC lettering name entries.

Receiver

Stabilizer bracket:	Integrated, adjustable stabilizer bracket.
Handset cord:	Stainless steel (V4A) armoured handset cord.
Receiver inset:	Dynamic receiver inset with leakage field spool for inductive coupling of hearing aids.
Mouthpiece:	Electret-foil microphone.
Noise suppression:	Greater than 3 dB due to integrated mouthpiece horn mouth.

Further characteristics

Optical call signalling:	Display shows (((🔔))).
Ringing sound pressure level:	Approx. 95 dB(A) at 1m distance.
Ringing melodies:	10 melodies selectable.
Listen by Loudspeaker:	Maximum sound pressure level approx. 70 dB(A) at 1m distance.
Handsfree:	Maximum sound pressure level approx. 70 dB(A) at 1m distance.
Amplified listening in receiver:	Receiver volume can be boosted in 7 steps from 0 –12 dB(A).
Menus:	In several languages.
Telephone book:	Max. 50 entries (names and numbers).



Accessories


Additional headset


Additional earpiece


Loudspeaker set


TWIN Sounder/Beacon


Protection hood


Secondary sounder

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (--).
Transparent 11 | Red 12 | Amber 13 | Green 14

Type	Name	Version		Article no.
ResistTel	Weatherproof Telephone	Black		F112 643 01
ResistTel	Weatherproof Telephone	Red		F112 643 0102
ResistTel	Weatherproof Telephone ZB	Black	- without keypad and display	F112 643 02
ResistTel	Weatherproof Telephone ZB	Red	- without keypad and display	F112 643 0202
Accessories	Additional earpiece			F112 643 03
Accessories	Additional headset			F112 643 04
Accessories	Loudspeaker set			F112 643 05
Accessories	Secondary sounder			F211 101 05
Accessories	Protection hood hot galvanized,	Yellow		F118 901 01
Accessories	Protection hood	Stainless steel		F118 901 11
Accessories	TWIN			F118 832 (--)

Weatherproof Telephone ResistTel MB

Crouse-Hinds by EATON

Telephone for use in rugged conditions

Introduction

ResistTel MB means: making telephone calls in rugged ambient conditions with the best functional security in industrial areas.

Our telephone is resistant to seawater, acid, lye and lubricants.

The compression-molded housing made of GRP (Glass-fibre-reinforced polyester) is impact protected. The stainless steel keypad (V4A) withstands high loads and at the same time protects the inner parts of the telephone.

The steel armoured handset cord is manufactured to withstand high tensile forces.

With its interesting additional features and options our ResistTel MB opens many possibilities with regard to your special applications.

From the beginning our ResistTel MB user interface is simple and user friendly. Underall circumstances and in all situations, even when using working gloves.

Three memory buttons allow a quick selection of e.g. emergency call numbers. These keys are freely programmable by the user.

Features

- 3 Memory Buttons (free programmable)
- 3 Handsfree operation
- 3 Receiver volume can be boosted in 7 steps from 0-12 dB(A)
- Telephone book
- IP 66 EN 60529
- Stainless steel V4A keypad
- GRP housing

Application Example:

Telephones in a filling plant

The housing is made of impact-resistant and shockproof glass-fibrereinforced polyester and is resistant to acids, sea water, alkalis, moisture and grease.

IP66
Weatherproof

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCsales@eaton.com** **Web: www.medc.com**

Certification and Specification

Environmental conditions

Degree of protection:	IP 66 according to EN60529.
Impact protection:	IK 09 according to EN50102.
Operation temperature:	-25°C to +60°C.
Storage temperature:	-25°C to +70°C.

Connections

Line voltage:	24 VDC to 66 VDC.
Line current:	15 mADC to 100 mADC.
Ringing alternating current:	24 VAC to 90 VAC (at 21...54 Hz ringing frequency). 30 VAC to 90 VAC (at 16.6...54 Hz ringing frequency).
Ringing impedance:	Greater than 6.0 KΩ at 25 Hz and 24...90 VAC. Greater than 4.0 KΩ at 50 Hz and 24...90 VAC.
Recall function:	Flash function adjustable 80 ms, 120 ms, 600 ms.
Dialing frequency:	PD-DTMF operation to be set in the menu. PD operation where the pulse/pause ratio can be set to 1.5:1 or 2:1 in the menu.
W-conductor:	Connection for external secondary sounder.
Screw terminals:	Up to 4 mm^2 rigid. Up to 2.5 mm^2 flexible.

Housing

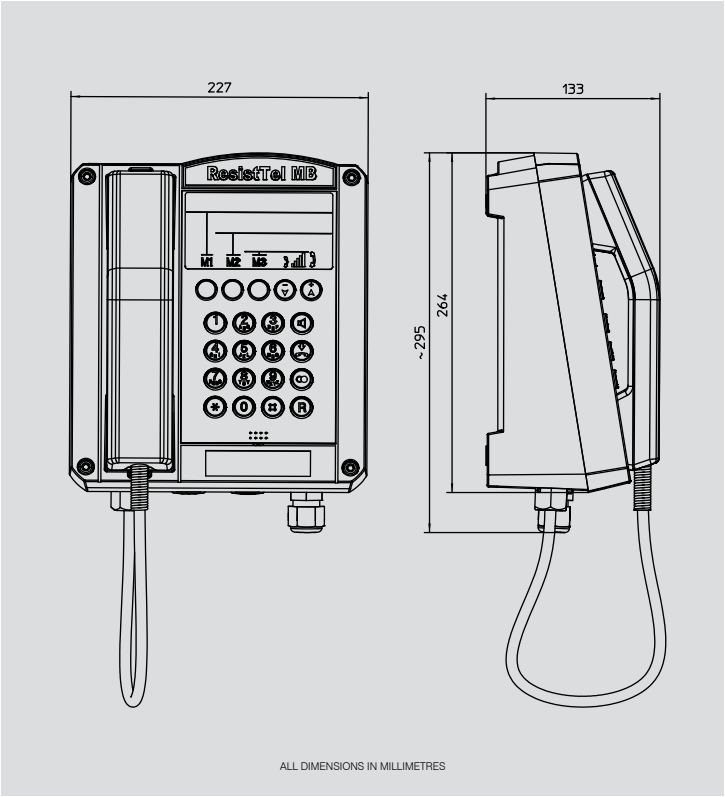
Material:	Glass-fibre-reinforced polyester.
Height x Width x Depth:	approx. 266 x 228 x 135 mm.
Weight:	approx. 5.5 kg.
Keypad:	Metal keypad with ice protection. 21 keys with ABC lettering for name entries incl. 3 memory buttons (free programmable).

Receiver

Stabilizer bracket:	Integrated, adjustable stabilizer bracket.
Handset cord:	Stainless steel (V4A) armoured handset cord.
Receiver inset:	Dynamic receiver inset with leakage field spool for inductive coupling of hearing aids.
Mouthpiece:	Electret-foil microphone.
Noise suppression:	Greater than 3 dB due to integrated mouthpiece horn mouth.

Further characteristics

Ringing sound pressure level:	approx. 95 dB(A) at 1m distance.
Ringing melodies:	10 melodies selectable.
Listen by Loudspeaker:	Maximum sound pressure level approx 70 dB(A) at 1m distance.
Handsfree:	Maximum sound pressure level approx 70 dB(A) at 1m distance.
Amplified listening in receiver:	Receiver volume can be boosted in 7 steps from 0 -12 dB(A).



Accessories


Additional headset


Additional earpiece


Loudspeaker set


TWIN Sounder/Beacon


Protection hood


Secondary sounder

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (--).
Transparent 11 | Red 12 | Amber 13 | Green 14 | Blue 15

Type	Name	Version	Article no.
ResistTel MB	Weatherproof Telephone	black	F112 643 21
Accessories	Additional earpiece		F112 643 03
Accessories	Additional headset		F112 643 04
Accessories	Loudspeaker set		F112 643 05
Accessories	Secondary sounder		F211 101 05
Accessories	Protection hood	hot galvanized, yellow	F118 901 01
Accessories	Protection hood	stainless steel	F118 901 11
Accessories	TWIN		F118 832 (--)

ResistTel IP2 Weatherproof VoIP Telephone

Crouse-Hinds by EATON

IP Telephone for Indoor and Outdoor Use

Introduction

Proven technology from FHF makes the ResistTel IP2 suitable for all outdoor applications.

The new ResistTel IP2 is the ideal unit for all kinds of adverse weather conditions at a wide variety of very diverse facilities.

The housing is made of impact and shock resistant fibreglass-reinforced polyester. Its robust design is perfect to meet the latest requirements demanded of VoIP telephones for outdoor use.

The ResistTel IP2 makes work more effective by providing especially convenient telephone services.

An illuminated, heated display rounds out the convenience features of the ResistTel IP2. It also supports all features of the H.450 standard.

The ResistTel IP2 offers high-quality features based on industry standards.

A headset, available as accessory equipment, can be easily connected to the telephone. A handsfree function is also integrated into the unit.

Features

- IP 66 protection class as per IEC60529
- Ambient temperature range -40°C to +70°C (heated display)
- Ring signal ≥ 98 dB(A) at a distance of 1 m
- Pixel-based illuminated LCD display
- V4A keypad
- Intelligent, user friendly menu structure
- Standard H.323, SIP, TSIP, SIPS protocols
- Power supply: Power over Ethernet or external supply
- Simply connected to a single 10/100 BASE T Ethernet LAN, RJ45

Application Example:

Telephone for outdoor facilities

Proven technology from FHF makes the ResistTel IP2 suitable for all outdoor applications.

IP66 Weatherproof

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

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3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

Environmental Conditions

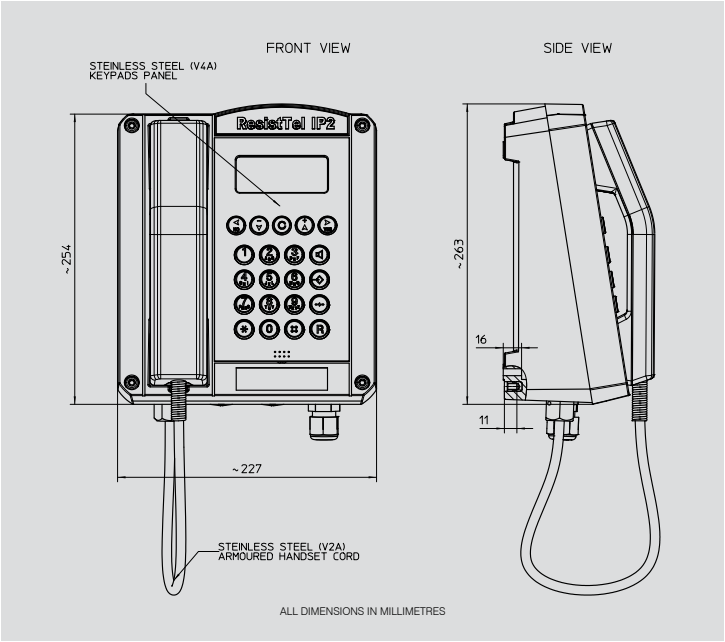
Protection class:	IP66 as per IEC 60529.
Impact resistance:	IK09 as per EN IEC 62262:2002.
Ambient operating temp:	-40°C...+70°C.
Transport and storage temp:	-40°C...+80°C.

Connections

Powered via Power over Ethernet as per IEEE 802.3af, or via external 48-V DC PoE power supply (44 V min., 57 V max.)	
Voltage of external power supply when not using the optional electrically isolated inputs:	15 V - 57 V DC.
Voltage of external power supply when using the optional electrically isolated inputs:	21.5 V - 57 V DC.
Power consumption:	13 W.
Connection:	RJ45 port (10/100 Mbit/s).
Ring signal volume:	Approx. 98 dB(A) maximum at a distance of 1 m.
Housing:	(height x width x depth) 293 x 227 x 135 mm.
Weight:	(standard model) approx. 5,000 g.
Display:	182 x 64 pixels.
Mounting position:	Vertical wall mounting.
Switching capacity of optional relay:	240 V AC, 6A. 24 V DC, 6A. 32 V DC, 5A. 48 V DC, 1A.

Handset

Voice capsule:	Electret microphone.
Earpiece capsule:	Dynamic capsule with magnetic field generator.
Handset securing mechanism in cradle:	Standard equipment.



Features

Display:	182 x 64 pixels
Protocols:	H.323, SIP TSIP SIPS
General:	H.323 Version 4 including H.225, H.235, H.245 and RAS Gatekeeper routed signalling, H.450, Session Initiation Protocol (SIP) RTP, SRTP real time protocol – for voice data transmission
RTCP:	Real Time Control Protocol – first level of "Quality of Service"
RAS protocol:	Support for an external gatekeeper
DTMF:	H.245 "Alphanumeric" or "Signal Type"
Additional VoIP features:	H.245 fast connect en-bloc dialing overlapped sending
Security:	Encrypted password authentication as per H.235
Quality of Service:	IP packet prioritization via TOS and DiffServ VLAN priority as per IEEE 802.1p / 802.1q
Audio codecs:	G.711 A-law / µ-law (64 kbps), G.729A (16 kbps)
Echo compensation:	G.168
Access:	HTML via web browser Password protected with secure authentication
Troubleshooting:	Log and trace files and status display of interfaces and connections Ping connection test for Internet Protocol, sending of SNMP traps
Updates:	Configuration save and restore, Boot code and firmware updates via HTML upload Automatic updating via update server
DSL access:	PPPoE protocol
VPN:	Tunneling with PPTP encryption with MPPE
NAT:	Network Address Translation – translates public IP addresses into private local address space addresses and vice versa
DHCP:	Dynamic Host Configuration Protocol – sets up the IP interfaces
ICMP:	Internet Control Message Protocol – for ping tests
Call signal generation:	Automatic call signal generation as per European and US standards
Call transfer:	Call Transfer in all common variants: with/without asking, before/after answering, etc.
Call diversion:	Call Diversion / Redirection
Call hold:	Call Hold / Retrieve
Call waiting:	Call Waiting with corresponding signaling to calling party
Message:	Telephone displays that a message is waiting
Pickup:	Telephone displays that a call can be picked up
Pickup list:	Telephone displays a list of calls that can be picked up
Name display:	For signaling which name should be displayed
Call back:	Call Completion with all common variants such as call back when busy and call back when free
3-way conference:	With 3 parties, also external parties
Caller ID:	For special signaling of individual phone numbers or phone number groups
Multiple registration:	Maximum of 6 registrations
Telephone book:	All registrations available automatically from central telephone book, External databases integrated via LDAP
Time:	Precisely accurate time data via time server access

Ordering Information

Type	Name	Housing Colour	Options	Article no.
ResistTel IP2	VoIP Telephone	Black		F112 643 80
ResistTel IP2	VoIP Telephone	Black	with optional 2nd LAN connection	F112 643 81
ResistTel IP2	VoIP Telephone	Black	with optional relay contact	F112 643 82
ResistTel IP2	VoIP Telephone	Black	with optional 2nd LAN connection and relay contact	F112 643 83
ResistTel IP2	VoIP Telephone	Red		F112 643 80 02
ResistTel IP2	VoIP Telephone	Red	with optional 2nd LAN connection	F112 643 81 02
ResistTel IP2	VoIP Telephone	Red	with optional relay contact	F112 643 82 02
ResistTel IP2	VoIP Telephone	Red	with optional 2nd LAN connection and relay contact	F112 643 83 02

Weatherproof Telephone FernTel 3

Crouse-Hinds by EATON

Analogue desk/wall telephone for indoor and outdoor use

Introduction

The FernTel 3 telephone from FHF is as stylish for indoor use as it is resistant for outdoor use in safe areas.

Its striking signal colours ensure the FernTel 3 cannot be missed in a situation where a telephone is urgently needed, even in poor weather and light conditions.

The FernTel 3 is suitable for almost universal use thanks to its amazing transformability and can be mounted to either a wall or desk.

The FernTel 3 is offered in different variations. With 16 buttons without Display or with 21 buttons with Display. Both variations are offered with spiral cord or steel armoured cord. Additionally, some models of the FernTel 3 come with additional features such as telephone directory (display version) and hotline phone (ZB version).

Features

- Shock-resistant housing (Polycarbonate)
- Protection degree IP 65 acc. to IEC60529
- Option Handset can be fixed (stabiliser bracket)
- Ambient temperature -25°C to +55°C
- Call tone ≥ 95 dB(A), 1 m
- Receiver volume can be boosted
- Telephone directory*
- PIN code
- ZB-Version with call tone unit
- Assembly-friendly
- Menu 4 languages

**Model dependent.*

Application Example:

Use as workshop telephone

The FernTel 3 is the ideal telephone for many different work areas.

IP65
Weatherproof

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

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3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Environmental conditions

Ambient operating temp:	Phone -25ºC...+55ºC. LCD Unit -10ºC...+50ºC.
Degree of protection acc. to IEC60529:	IP 65.

Connections

Supply voltage:	24…66 Vdc.
Supply current:	19… 100 mA.
Ringing alternating current:	30…90 Vac.
Ringing frequency:	16.. 68 Hz.
Enquiry key (flash):	only for DTMF 80 ms, 120 ms, 600 ms.

Dialling procedure

DTMF:	Frequencies according to ITU-T Q.23. Tone duration unlimited or 90 ms.
PD:	Pulse/Pause ratio. 1.5:1 (60/40 ms) or 2:1 (66.7/33.3 ms).
Ringing volume:	Approx. 95 dB(A) at 1 m distance.

Housing

Housing material:	Polycarbonate.
Height x Width x Depth:	293 x 191 x 128 mm.
Weight:	Approx. 2.3 kg.
Display:	2 lines, 16 positions per row, 7x 5 matrix . Pictograms. Menu 4 languages.
Operating utilization position:	Table or vertical wall mounting.

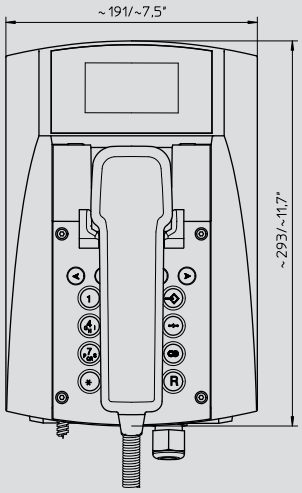
Receiver

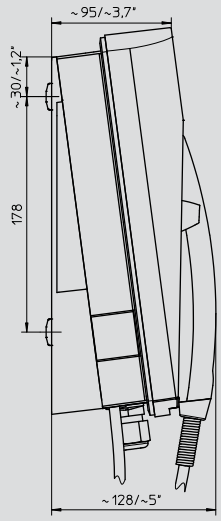
Mouthpiece:	Electret-foil microphone.
Receiver inset:	Dynamic receiver inset with magnetic field generator.
Connections:	Single- or multiwired up to 2.5 mm^2.

Labelling

Power cable:	TCP/La, TCP/Lb.
Secondary sounder:	W / W1.

Cable glands:	1x M20 cable gland. 1x M20 blind plug. 2x M12 blind plug.





ALL DIMENSIONS IN MILLIMETRES

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (-).
Yellow 1 | Red 2 | Grey 7 | Black 0

Type	Name	Version		Article no.
FernTel 3	Desk/Wall Telephone	without display	- with spiral cord	F112 300 2 (-)
FernTel 3	Desk/Wall Telephone	with display	- with spiral cord	F112 310 2 (-)
FernTel 3	Desk/Wall Telephone	without display	- with flexible steel armoured cord	F112 320 2 (-)
FernTel 3	Desk/Wall Telephone	with display	- with flexible steel armoured cord	F112 330 2 (-)
FernTel 3	ZB Desk/Wall Telephone	without keypad	- with flexible steel armoured cord	F112 350 2 (-)
Accessories	Stabiliser bracket			F112 390 00

Crouse-Hinds by EATON

VoIP-Telephone for indoor and outdoor use

Features

- Protection degree IP 65 acc. to IEC60529
- Ambient temperature -20°C to +60°C
- Call tone ≥ 95 dB(A), 1 m
- Pixel-based, illuminated LCD Display
- Illuminated keypad
- Intelligent and user-friendly menu structure
- Standard H.323, SIP, TSIP, SIPS protocols
- Power supply Power over Ethernet
- 2x Ethernet: RJ-45, 10/100-BASE-TX

Introduction

The stylish housing of the FernTel IP is made of impact resistant and shock-proof plastic moulding. Even acids, alkalis or lubricants cannot damage the high quality components of our versatile desk / wall telephone FernTel IP.

Its striking signal colours ensure the FernTel IP cannot be missed whenever a telephone is urgently needed, e.g. in emergencies in poor weather and light conditions. The FernTel IP is suitable for almost universal use thanks to its amazing transformability. A deft hand movement and the desk telephone for indoor use is converted into a wall telephone for outside use.

The FernTel IP makes possible effective working with high comfort. The illuminated keypad and display finish the comfort. The standardized features according to H.450 are supported. The Ethernet connectivity supports with the internal 2 port switch connecting a laptop in an outdoor area. The laptop gets a network access through the telephone. The FernTel IP offers qualitative high-grade features according to industrial standards instead of proprietary solutions.

Application Example:

The FernTel IP

The ideal telephone for many different work areas.

Head Office.
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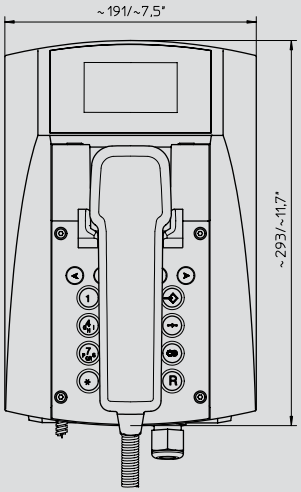
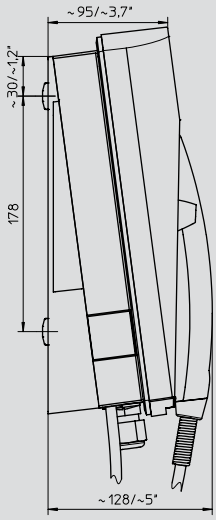
MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

Housing:	Polycarbonate.
Housing Dimensions:	Height x Width x Depth 293 x 191 x 128 mm.
Weight:	Approx. 2.3 kg.
Protection Degree:	Acc. to IEC60529 IP 65.
Power Supply:	Power over LAN (IEEE 802.3af).
Connection Plugs:	2x Ethernet: RJ-45, 10/100-BASE-TX auto negotiation.
Ringing Volume:	Approx. 95 dB(A) at 1 m distance.
Display:	128 x 64 Pixel.
Temperature Range:	-20°C...+60°C.
Protocol:	H.323, SIP, TSIP, SIPS.
Total:	H.323 version 4 incl. H.225, H.235, H.245 and. RAS Gatekeeper routed Signalling, H.450 Session Initiation Protocol (SIP) RTP, SRTP Real Time Protocol.
RTCP:	Real Time Control Protocol – first level of Quality of Service.
RAS:	Protocol Support for External Gatekeeper.
DTMF:	H.245 Alphanumeric or Signal Type.
Additional VoIP-Features:	H.245 Fast Connect En-block dialling Overlapped Sending.
Security:	Password Protected Administration.
Encoded:	Password Authorization acc. to H.235.
Quality of Service:	Priority of IP-Packages acc. to TOS and DiffServ, VLAN Priority acc. to IEEE 802.1p / 802.1q.
Voice Encoding:	G.711 A-law / µ-law (64 kbps), G.723.1 (5.3 kbps), G.729A (16kbps).
Echo Compensation:	G.168.
Access:	Via HTML Web-Browser. Password protected authentication.
Troubleshooting:	Log- and Trace-Files, State Display of Interfaces and Connections, Ping Connection Test sending of SNMP Traps over Internet Protocol.
Update:	Configuration recording/reading, Boot code and firmware update via HTML upload, Automatic update via Update-Server.
DSL-Access:	PPPoE Protocol.
VPN:	Tunnelling with PPTP Encoding via MPPE.
NAT:	Network Address Translation – for Transformation of official IP Addresses into private IP Addresses and vice versa.
DHCP:	Dynamic Host Configuration Protocol – IP interfaces settings.
ICMP:	Internet Control Message Protocol – for Ping tests.
Dial Tone Generation:	Automatic Dial tone Generation European and US Standard.
Call Transfer:	Call Transfer with/without consultation call.
Call Diversion:	Call Diversion Unconditional, Busy, No Reply.
Call Hold / Retrieve:	Call Hold / Retrieve.
Call Waiting:	Call Waiting inclusive Signalling of second Call Information.
Message Waiting:	Message Waiting Indication.
Calling Name Identification:	Name Display.
3 Party Conference:	3 Party Conference of internal and/or external Subscriber.
Calling Number Identification:	Display of Calling Number.
Multiple Registrations:	Up to 6 Registrations.
Telephone Book:	Local, Integration of an External Database.
Time/Date:	Exact Time and Date Information via Time Server.





ALL DIMENSIONS IN MILLIMETRES

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (-).
Yellow 1 | Red 2 | Grey 7 | Black 0

Type	Name	Version	Language	Article no.
FernTel IP	Desk/Wall Telephone	with spiral cord	German	F112 311 2 (-)
FernTel IP	Desk/Wall Telephone	with flexible steel armoured cord	German	F112 331 2 (-)
Accessories				
Accessories	Stabiliser bracket			F112 390 00
Accessories	Weatherproof RJ45 LAN plug			F112 390 01

Control and Distribution

Here at MEDC we offer standard and bespoke control and distribution units for harsh and hazardous areas.

The control units are designed with convenient operation, safety and reliability in mind. As a leading manufacturer of hazardous area and explosion proof equipment, MEDC can provide hazardous and safe area control units in a range of dimensions to suit your required specification.

Range Certifications

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Control & Distribution												
HD1	■	■	■			■	■	■	■	■	66 / 67	158
SM87JB	■	■									66 / 67	160
JB10 & 11	■		■								66 / 67	162
GP & JL	■										65 / 66	164
GHG RANGE	■				■						65 / 66	166
GHG 74	■				■						66	168
GHG 44 RANGE	■				■						65 / 66	170

HD1

SM87 JB

JB10 &11

GP & JL

GHG Range

GHG 74

GHG 44 Range

Crouse-Hinds by EATON

EExd, EExem & Intrinsically Safe (Ex ia)

Introduction

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 (Exd version) or JB10 corrosion-free GRP enclosure (Exia, Exem/UL versions). The contact in the detector CLOSES at alarm temperature.

To select appropriate temperature setting see specification on reverse.

Features

- Zone 0, Zone 1 and Zone 2 use.
- ATEX certified.
  - EExd IIB T3/T6.
  - Exd IIC T6.
  - EExem II T4/T6.
  - Ex ia IIC T4/T6.
- IECEx certified.
  - Ex ia IIC T4/T6 Ga.
- UL listed for USA and Canada:
  - Class I, Div 2, Groups A-D.
- CUTR certified.
- Brazilian (Inmetro) certified.
- SIL 2 certified.
- IP66 & IP67.
- Certified temperature: –20°C to +125°C (Exd)*.
  –20°C to +55°C (Exem/UL).
  –55°C to +55°C (Exia).
- Stainless steel probe.
- Detector temperature settings: 60°C to 385°C, (140°F to 725°F).
- Marine grade alloy or GRP enclosure.
- Optional Stainless Steel guard.

**Model dependent.*

ATEX IECEx cULus CUTR INMETRO

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

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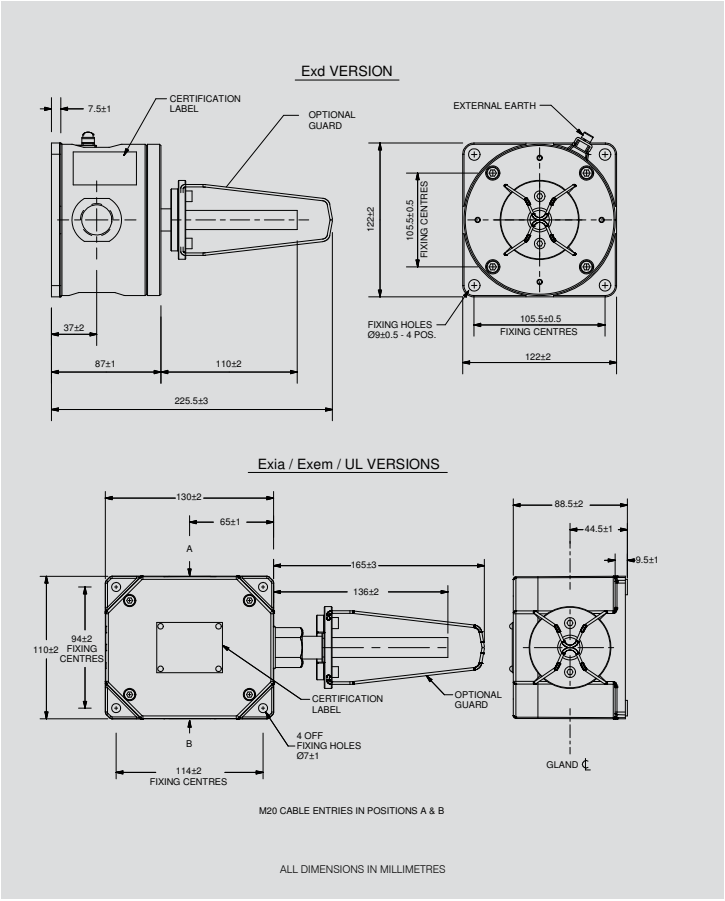
Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

ATEX EEx d IIB:	Cert. no. Baseefa03ATEX0447. Certified to: EN50014, EN50018, EN50281-1-1. Ex II 2 GD, EEx d IIB T6 (T3 @ 125ºC).
ATEX Ex d IIC:	Cert. no. Baseefa08ATEX0320. Certified to: EN60079-0, EN60079-1, EN61241-0, EN61241-1. Ex II 2 GD, Ex d IIC T6, Ex tD A21 T85ºC (-20ºC to + 55ºC).
ATEX EEx em:	Cert. no. Baseefa03ATEX0428. Certified to: EN50014, EN50019, EN50028. Ex II 2G, EEx em II T6 (-20ºC to + 55ºC).
ATEX Ex ia:	Cert. no. Baseefa03ATEX0427. Certified to: EN60079-0, EN60079-11. Ex II 1G, Ex ia IIC T6 Ga (-55ºC to + 55ºC). (T4 with diodes/resistors).
IECEx Ex ia:	Cert. no. BAS 13.0010. Certified to: IEC60079-0, IEC60079-11. Ex ia IIC T6 Ga (-55ºC to + 55ºC). (T4 with diodes/resistors).
UL:	Listing no. E252920 – versions up to 450ºF. Listing no. E254077 – versions from 600ºF to 725ºF. UL for USA and Canada, listed to Class 1, Div 2. Groups A – D.
CUTR:	1Ex d IIB T3/T6. 2Ex de IIC T4/T6. 0Ex ia IIC T4/T6. Russian Fire Approved.
Inmetro:	Certified EEx d, EEx ia & EEx em.
ABS:	American Bureau of Shipping type approval for HD1BBD & HD1B1 only.
SIL:	SIL2 certified. Cert no. Sira FSP 12007/02.
Material:	Detector: stainless steel. Enclosures: Exd – LM25 marine grade alloy. Exia/Exem/UL – GRP (anti-static). Stainless steel cover screws. Optional Guard: 316 stainless steel.
Finish:	Detector: Sand blasted. Enclosures: Exia/Exem/UL - Natural black or painted to customer's specification. Exd painted to customers specification.
Certified Temp:	-20ºC to 55ºC (T6) Exem, UL, Exd IIC, CQST Exd IIB. -20ºC to 55ºC (T6) -20ºC to 125ºC (T3) Exd IIB (Not CQST). -55ºC to 55ºC (T6) Exia.
Weight:	Exd, 2kg. Exia/Exem/UL, 1.1kg.
Ingress Protection:	IP66 & IP67.
Operation:	The detector contact is normally open and CLOSES at alarm temperature.
Contact Rating:	Ex d, EEx em, UL: 125V a.c.-5A, 125V d.c.-0.5A, 48V d.c.-1A, 24V d.c.-2A. Ex ia: 30V - 300mA
Entries:	2 x M20 ISO (ATEX/Exd/Exe/Exi versions). 2 x ½" NPT via adaptors (UL version).
Terminals:	6 x 4mm² (BK6).
Resistor:	Series & EOL resistor (maximum total 2) minimum value (each) 470Ω.
Diodes:	Up to 2 off available in Exd IIB and Exia versions - contact sales office.
Labels:	Optional stainless steel tag and duty labels.



Listed Temperature Settings:
To select appropriate temperature settings, choose detector at 100ºF (38ºC) above maximum ambient temperature.

Temperature Setting (ºF)	Temperature Setting (ºC)	Tolerance (ºF)	Tolerance (ºC)	Colour Code of Text on Probe
140	60	+7/-8	±4	Black
160	71	+7/-8	±4	Black
190	88	+7/-8	±4	White
210	99	+7/-8	±4	White
225	107	+7/-8	±4	White
275	135	±10	±6	Blue
325	163	±10	±6	Red
360	182	±10	±6	Red
450	232	±15	±8	Green
500	260	±15	±8	Orange
600	316	±20	±11	Orange
725	385	±25	±14	Orange

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.

Model
HD1

Certification

Certification	Code
ATEX	B
IECEx	J
ATEX/IECEx dual listed	AJ
UL listed	UL
ATEX/UL dual listed	AU
CUTR	G*
Inmetro	M

* Russian Fire Approved as standard.

Type

Type	Code
Exd IIB	BD
Exd IIC	CD*
Exe	E†
Exia	I▯
UL	U

* Exd IIC only available in ATEX.
† ATEX/UL dual listed Exe version only.
▯ IECEx and ATEX/IECEx dual listed only available Exia.

Temp Settings

Temp ºF	Code
140	140
160	160
190	190
210	210
225	225
275	275
325	325
360	360
450	450
500	500
600	600
725	725

Options

Option	Code
Duty Label	D*
Tag Label	T*
Guard	G
Resistor EOL	E*
Resistor series	S*
Diode(s)	I*†
Blanking Plug	P
None	N

* Please specify
† Only available in ATEX Exd IIB or Exia versions (specify value).

Finish

Finish	Code
Natural Black (Exe/Exia/UL only)	N
Grey	G
Red	R
Blue	B
Yellow	Y
Special	S*

* Please specify.

Crouse-Hinds by EATON

Ex d

Introduction

A metallic junction box for Zone 1 or Zone 2 use.

Available in stainless steel or marine grade alloy.

Various terminals and entries can be accommodated.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use.
- Ex d IIC T5/T6.
- ATEX approved Ex II 2GD.
- IECEx certified Gb, Db.
- IP66 & 67.
- Optional Telephone or Relay Initiate.
- Optional Resistors or Diodes.

ATEX IECEx

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

Head Office (USA)
3413 North Sam Houston Parkway West,
Suite 212, Houston, TX 77086, USA

MEDC

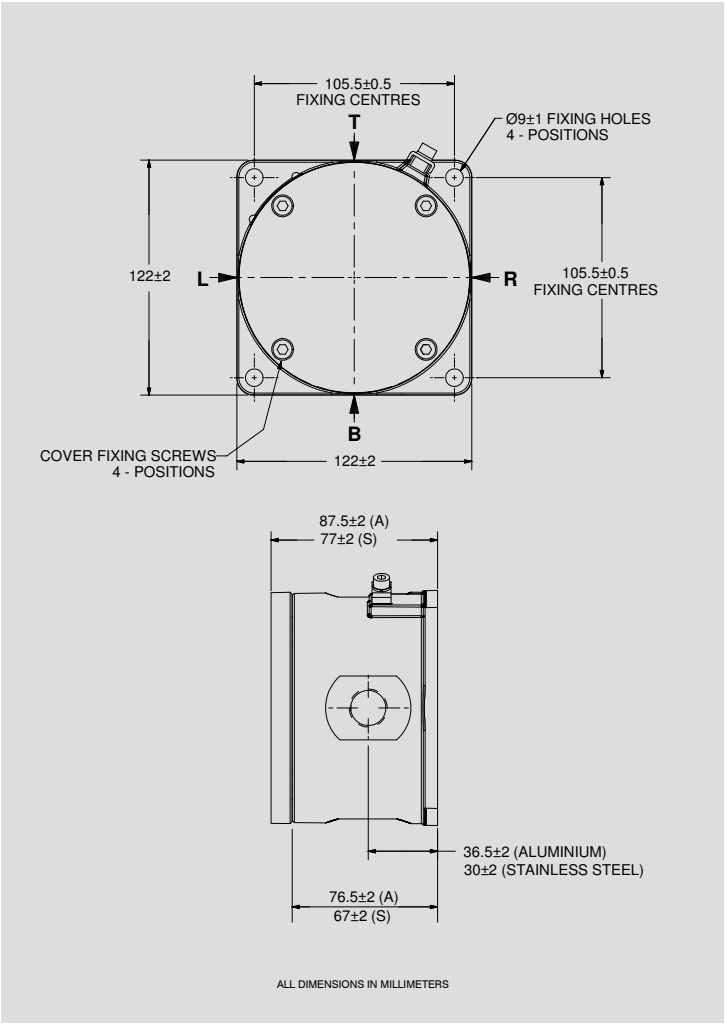
Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification & Specification

Certification:	Cert. no. Bas03ATEX0463. Certified to: EN60079-0, EN60079-1, EN60079-31. Ex II 2GD, Ex d IIC T4/5/6 Gb, Ex tb IIIC T135/100/85°C Db, IP66/67
IECEx Ex d:	Cert. no. IECEx BAS 13.0048 Certified to: IEC60079-0, IEC60079-1, IEC60079-31. Ex d IIC T4/5/6 Gb, Ex tb IIIC T135/100/85°C Db, IP66/67
Material:	Stainless steel grade 316 ANC4B, marine grade alloy LM25.
Finish:	Painted to customer specification.
Certified Temp:	-55°C to +85°C (T4). -55°C to +70°C (T5). -55°C to +55°C (T6). *T ratings are for units with terminals only.*
Weight:	3.1kg.
Ingress Protection:	IP66 & IP67.
Entries:	Max. one per face in 20mm or 25mm ISO.
Resistor or Diode:	Contact sales office for information. Maximum of two components.

Terminal KLIPPON	No. off	Max Volts	Max Amps	Max Conductor size mm²
BK6	6	440V	25A	4
MK3/10	10	440V	25A	2.5
AKZ4	12	440V	25A	4
SAKD2.5N	12	440V	25A	2.5
SAK2.5	8	440V	25A	2.5
SAK4	6	440V	25A	4

Terminal PHOENIX	No. off	Max Volts	Max Amps	Max Conductor size mm²
MBK	12	440V	25A	1.5
MBK5	12	440V	25A	4
MBK6	10	440V	25A	6
BK4	10	440V	25A	4



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.

Model

SM87JBA (alloy)
SM87JBS (stainless steel)

Certification

Certification	Code
ATEX	B
IECEx	J

Entries

Entries	Code
20mm	1
25mm	2
Please specify	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code.
e.g. 1T1B=20mm Top and Bottom entries.

Terminals

Terminal	Code
BK6	11
MK3/10	12
AKZ 4	13
SAKD2.5N	14
SAK2.5	15
SAK4	16
	21
MBK5	22
MBK6	23
BK4	24

Tag/Duty

Labels	Code
None	N
Yes	Y*

* Please specify in text.

Options

Option	Code
None	N
Telephone initiate	T
Relay initiate	R*
Resistors	S†
Diodes	D†

* Please specify voltage
† Please specify values and wiring arrangement.
Max of two components

Finish

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/Black Stripes	X
Grey	G
Special	S*

* Special finish please specify.

Crouse-Hinds by EATON

Exe – Increased Safety & Weatherproof

Introduction

These GRP terminal boxes have been designed for use in hazardous and hostile environments.

The robust design, coupled with corrosion-free GRP and high ingress protection, ensure a long life, low maintenance product.

Features

- Zone 1 & 2 use.
- Exe II T4/T5/T6.
- ATEX approved Ex II 2G.
- BASEEFA certified.
- UL listed for USA and Canada:
  - Class I, Div 2, Groups A-D.
  - Class I, Zone 1, AExe IIC T4 & T5.
- IP66 & IP67.
- *Certified temperature: –55°C to +55°C.
- GRP.
- Lightweight.
- Robust.
- Corrosion free.
- Retained cover screws.
- Optional gland continuity plate.
- Optional internal conductive coating.
- Variety of colours available.
- Mixed rail mounted terminals.

**Depending on version.*

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
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Head Office (USA)
3413 North Sam Houston Parkway West,
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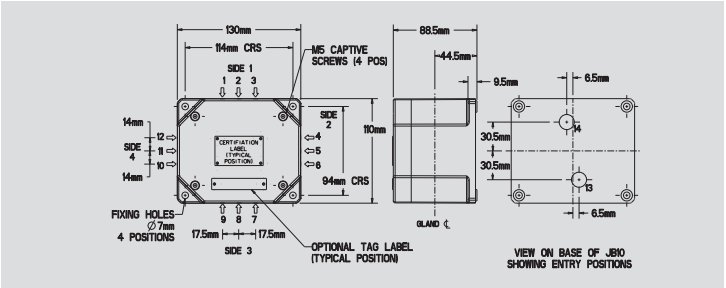
Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

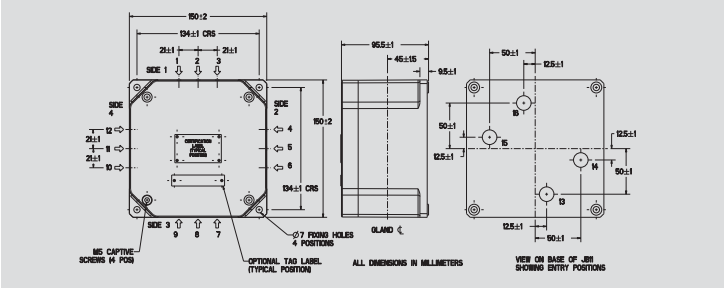
Certification and Specification

Certification:	Cenelec EN50014, EN50019 & EN50028. Exe II T4, 5 & 6. Exem II T4, 5 & 6 (LED version). Certificate No. Baseefa 03ATEX0171X. UL Listed for USA and Canada: Class I, Div 2, Groups A-D and Class I, Zone 1, AExe IIC T4 & T5. UL Listing No. E237592.
Material:	Glass reinforced polyester (anti-static) stainless steel cover screws.
Finish:	Natural black or painted to customer's specification.
Certified Temp:	Standard –20ºC to + 55ºC. Optional –55ºC to +55ºC (MK6/6 only).
Weight:	JB10, 1.1 Kg. average. JB11,1.8 Kg. average.
Ingress Protection:	IP66 & IP67.
Gland Continuity:	Via an internal BZP (bright zinc plated) steel plate.

Terminal Type / Size	Max No. of Terminal JB10	JB11	Max Voltage	Max Current	T Rating
SAK 2.5	12	15	550	15	T4
SAK 4	10	14	550	21	T4
SAK 6N	8	12	550	26	T4
SAK 10	5	8	550	37	T4
SAK 16	–	7	550	47	T4
HTB4/HTB6	1	1	550	37	T6
BTB4/BTB6	1	1	JB10 = 500 JB11 = 600	37	T6
MK6/6	1	1	418	26	T5
BK6	1	–	275	21	T5
UK 2.5 B-Ex	11	14	418	15	T4
UK 5-Ex	9	13	418	21	T4
UK 10-Ex	7	11	418	37	T4
UK 16-Ex	5	7	418	47	T4
AKZ 2.5	12	18	60	15	T4

All Junction Boxes will be supplied with an internal earth terminal appropriate to the terminals fitted.
If more than one internal earth terminal is required the maximum number of feed-through terminals must be reduced.
Increased quantities of terminals are available, depending upon the number of cable entries.
Please contact MEDC with your requirements.





JB10 Gland Details

Gland Entries	Maximum No. of Gland Entries Sides 1 & 3 With or Without Earth Continuity	Maximum No. of Gland Entries Sides 2 & 4 With Earth Continuity	Maximum No. of Gland Entries Sides 2 & 4 Without Earth Continuity	Maximum No. Gland Entries (Base) With or Without Earth Continuity
M16	2	2	2	2
M20 'O'	2	1	2	2
M20 'A'	2	1	1	2
M25	1	1	1	N/A
M32	1	1	1	N/A

JB11 Gland Details

Gland Entries	Maximum No. of Gland Entries per Side With or Without Earth Continuity	Maximum No. of Gland Entries (Base) With or Without Earth Continuity
M16	2	4
M20 'O'	2	4
M20 'A'	2	4
M25	2	N/A
M32	1	N/A

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.

Terminal Box

JB10
JB11

Certification

Certification	Code
ATEX	B
UL	UL

* Suffix with number of terminals, e.g: B6 = 6 x SAK4.
Please note: Mixed combinations of SAK or UK terminals can be supplied, e.g: 3 x SAK 2.5 & 4 x SAK 4.
† Not available UL.

Terminals

Type	Code
SAK 2.5	A*
SAK 4	B*
SAK 6N	C*
SAK 10	D*
SAK 16	E*
HTB 4†	F*
HTB 6†	G*
BTB 4†	H*
BTB 6†	I*
MK6/6	J*
BK6	K*
UK 2.5 B-Ex	L*
UK 4 -Ex	M*
UK 10 -Ex	N*
UK 16 -EX	O*
AKZ 2.5†	P*
SAKK 4†	Q*

Earth Continuity

Type	Code
None	N
ES0001 (6mm² cable max)	R*
ES0003 (16mm² cable max)	S*

* Suffix with side, e.g: R1 ES0001 x side 1.

Gland Continuity

Continuity	Code
None	N
Yes	E*

* Gland Continuity 'E' must be selected when Ext Earth 'R' or 'S' is required.

Side Cable Entries

Size	Code
None	N
M16	*A
M20	*B
M25	*C
M32	*D
1/2" NPT	†M
3/4" NPT	†O

* Prefix with cable entry position (see diagram above) e.g. 1M, 2M.
† UL version supplied with adaptor.

Tag Label

Label	Code
None	N
Yes	T*

* Please Specify.

Option

Option	Code
None	N
Extra Internal Earth	W*
Cover Entry	X*
Base Entry	Y*
Counterbored Side Entries	Z*
Stainless Steel internal fittings	S
Internal conductive coating	C

* Please discuss your requirements with MEDC Application Engineers prior to ordering.

Finish

Finish	Code
Natural (Black)	N
Red	R
Blue	B
Special	S*

* Please Specify.

Crouse-Hinds by EATON

Exd, Weatherproof

Introduction

This range of custom built control units can be used individually or combined to provide hazardous area systems for indoor or outdoor use.

The enclosures can be fitted with a comprehensive range of components.

Features

- Zone 1 & Zone 2 use.
- Isolators.
- Relays.
- Contactors.
- Transformers.
- MCBs.
- Fuses.
- Rotary Switches.
- Printed Circuit Boards.
- Invertors (fan cooled).
- PLCs.
- Meters.
- Indicators.
- Pushbuttons.
- Potentiometers.
- RCDs (ELCBs).
- Timers.
- IS Components.
- Clients' Products.
- 19" Racks.
- Fire & Gas Panels.
- Exd.
- ATEX approved Ex II 2GD*.
- IP65 & 66*.
- Variety of Enclosures.
- Variety of Covers.
- Cast Iron, Stainless Steel & Marine Grade Alloy*.
- Component Certified.

**Model dependent*

ATEX

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
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3413 North Sam Houston Parkway West,
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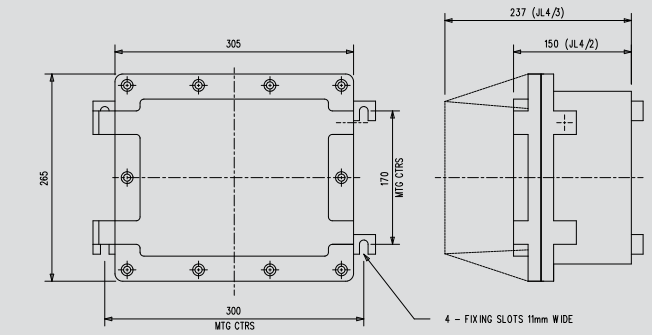
MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

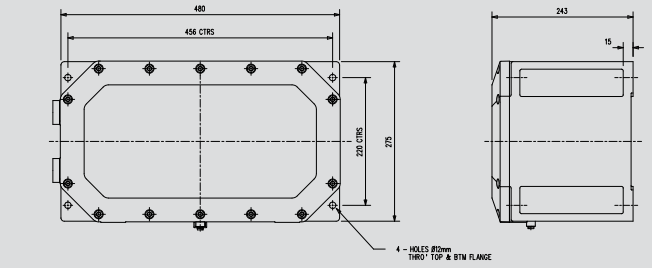
Certification:	JL, GP1& GP3: Exd IIB T4/T6. GP2 & GP4: Exd IIB Gb, Ex tb IIIC Db, IP6X. ATEX approved. Certified to EN50014, EN50018/EN60079-0, EN60079-1, EN60079-31. Component approved enclosures simplify certification where clients wish to fit their own components into the enclosures.
Material:	Cast iron (GP1, 2 & 3, & JL). S/S 316 (JL4/2, JL4/3 & GP2). Marine grade alloy LM25TE (GP2 & GP4).
Finish:	Corrosion resistant epoxy paint.
Certified Temp:	GP1 & 3 = –40ºC to +40ºC/55ºC. GP4 = –55ºC to +60ºC. GP2 = –40ºC to +40ºC/55ºC. JL4 = –55ºC to +40ºC/55ºC.
Weight:	GP1 149Kg, GP3 182Kg, GP4 146Kg, GP2 70Kg, JL 40Kg. Weight is for unpopulated enclosure and is material dependent.
Ingress Protection:	IP65 (note GP2, GP3 & GP4 IP66).
Entries:	16, 20, 25, 32, 40, 50, 63 or M75. Contact MEDC for further options.
Isolators:	Up to 800 amp (AC1).
Rotary Switches:	Up to 24. Model dependent.
Pushbutton:	Up to 36. Model dependent.
Potentiometers:	Contact MEDC.
Circuit Breakers:	MCB up to 63A. MCCB up to 800A. Base plated and door mounted options.
Meters:	Mounted behind 70 or 100mm diameter windows or 80mm square windows. Ammeters up to 60A direct connected or via CT. Voltmeters up to 660V. Hours run and counters.
Indicators:	Mounted behind Ø25mm windows. Multiple mounted behind Ø70mm, Ø100mm windows & 80mm^2 windows.
Fuses:	Up to 660V, 200A.
Contactors:	Up to 200kw (AC 3).
Earth Leakage:	Up to 200A.
Transformers:	Up to 5KVA.
Relays:	Up to 600V.
Timers:	Electrical, mechanical or electro-mechanical.
I.S. Equipment:	Please consult MEDC with your requirements.
Support Frames:	Units can be supplied on free standing frames if required.
Printed circuit boards.	19" rack equipment – Mounted behind 300mm x 50mm window.
Additional Options.	PLC's motor soft starts, contactors, invertors (VSD) up to 37KW.

JL4/2 & JL4/3



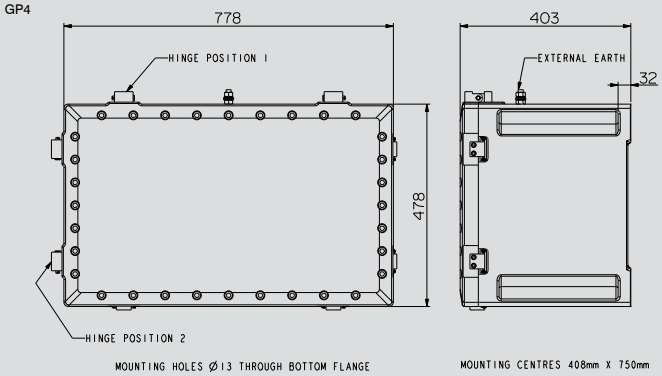
ALL DIMENSIONS IN MILLIMETERS.

GP2



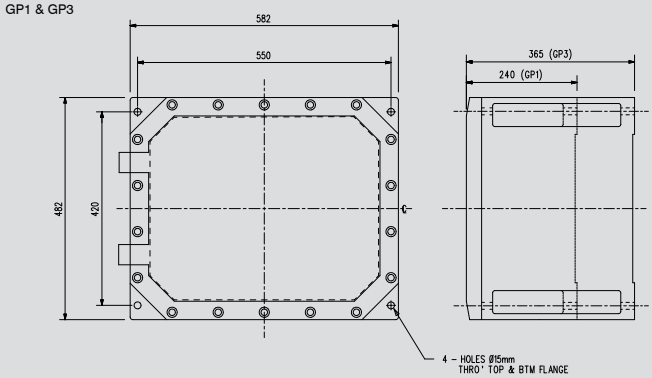
ALL DIMENSIONS IN MILLIMETERS.

GP4



ALL DIMENSIONS IN MILLIMETERS.

GP1 & GP3



ALL DIMENSIONS IN MILLIMETERS.

Ordering Requirements

Please consult MEDC technical sales department to discuss your particular requirements.

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2,21 and safe area.
- Exe IIC T6.
- ATEX approved Ex II 2GD.
- CSA Listed for USA & Canada:†
  - Class I, Div 2, Groups A, B, C,D.
  - Class I, Zone 1 AEx e II T6.
  - Class II, Div.1, Groups E,F,G.
  - AExe IIC T6.
- PTB Certified.
- IP66.
- Certified Temperature: –55°C to +55°C.
- Impact resistant GRP or 316 stainless steel.
- Retained stainless steel cover screws.
- Variety of terminals.
- Variety of enclosures.

† Please Contact MEDC Technical Sales.

Introduction

This range of Exe enclosures offers a range of enclosure sizes, terminals and cable entries.

Available in 316 sheet stainless steel and in GRP, these enclosures offer a variety of sizes which will suit most applications.

Enclosures may also be coupled together to form large control panels.

The enclosures are suitable for use onshore or offshore where lightweight combined with a high level of corrosion resistance is required.

Head Office.
Unit B, Sutton Parkway, Oddicroft Lane, Sutton in Ashfield
NG17 5FB, UK.

Head Office (USA)
3413 North Sam Houston Parkway West,
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Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

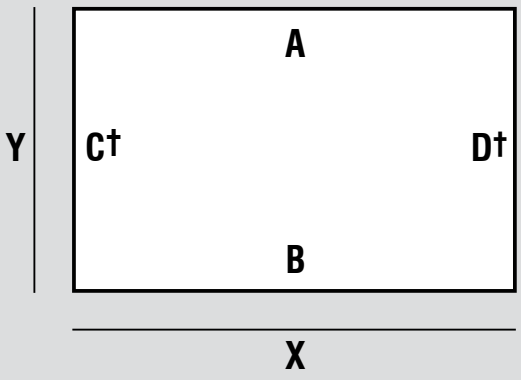
Certification and Specification

Certification:	CENELEC EN60079. Exed IIC T6. Certificate No. PTB 99 ATEX 1044. The GHG 74 ranges are certified for gas and dust atmospheres (ATEX Ex II 2GD). CSA Listed. Class I, Div 2, Groups A, B, C, D. Class I, Zone 1 AEx e II T6. Class II, Div.1, Groups E,F,G.
Material:	GRP (74…01/02/03 Range) or 316 Stainless Steel (74…21/22/23/24 Range).
Finish:	Natural finish.
Certified Temp:	-55ºC to +55ºC.
Ingress Protection:	IP66.
Earth Continuity:	Earth continuity via earth terminal. Gland continuity via brass plate (for GRP enclosures).

Enclosure Sizes (mm) & Weights (kg):

Box Type	Dimensions (mm)			Weight	Fixing	Fixing
	X	Y	Depth*	(kg) empty	Cent.X	Cent.Y
744 01	271	134	136	1.5	110	247
745 02	271	271	136	2.5	247	247
746 03	544	271	136	4.2	247	520
749 04	817	271	136	5.8	247	793
744 21	175	312.5	151	3.5	225	247
745 22	312.5	312.5	151	7.5	362.5	247
746 23	627	312.5	151	11.5	362.5	561.5
749 24	941.5	312.5	151	16.5	362.5	876

Note: *Depth of box only. Excludes depth of actuators or other fittings.
Fixing screw dim. Ø 7 x 11mm.



Maximum number of terminals per enclosure:

Terminal Cross Section (mm^2)	Enclosure Type			
	744	745	746	749
2.5mm^2	40	41 x 2	94 x 2	148 x 2
4.0mm^2	33	34 x 2	78 x 2	124 x 2
6.0mm^2	25	26 x 2	59 x 2	94 x 2
10mm^2	20	20 x 2	47 x 2	75 x 2
16mm^2	17	17	40	63
25mm^2	17	17	40	63
35mm^2	–	14	32	51
Terminal Rail	1 x 230mm	2 x 235mm	2 x 510mm	2 x 795mm

Maximum number of cable entries per enclosure. Note: Enclosures supplied with clearance holes suitable for required cable glands.

Cable Entry	Enclosure Type							
	744 01 A&B	745 02 A&B	746 03 A&B	749 04 A&B	744 21 A&B	745 22 A&B	746 23 A&B	749 24 A&B
M20	26	26	52	78	23	23	46	69
M25	18	18	36	54	15	15	30	45
M32	10	10	20	30	9	9	18	27
M40	7	7	14	21	5	5	10	15
M50	4	4	8	12	3	3	6	9
M63	3	3	6	9	2	2	4	6

Ordering Requirements

Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2 and safe area.
- Exed IIC T4/T6.
- ATEX approved Ex II 2GD.
- PTB Certified.
- CSA listed for USA & Canada:†
  Class I, Div 2, Groups A, B, C, D.
- CSA Certified.†
- IP65/66*.
- Certified Temperature: –55°C to +50°C.
- Impact resistant GRP or 316 stainless steel.
- Retained stainless steel cover screws.
- Variety of components.
- Variety of enclosures.

**Depending on version.*

† Please contact MEDC Technical Sales.

Introduction

This range of Exe enclosures offers a range of enclosure sizes, Exde components and cable entries.

Available in 316 sheet stainless steel and in GRP, these enclosures offer a variety of sizes which will suit most applications.

Pushbuttons, control switches, indicating lamps, meters, potentiometers and terminals can be fitted into the enclosures.

Enclosures may be coupled together to form large control panels. The enclosures are suitable for use onshore or offshore where lightweight combined with a high level of corrosion resistance is required.

Variations of above please refer to specification sheet

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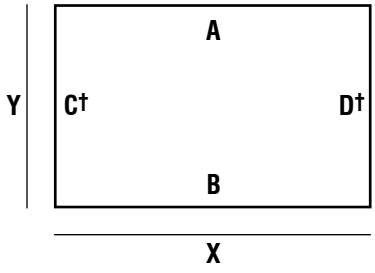
Certification and Specification

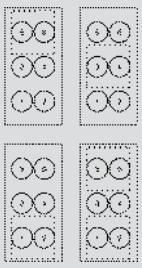
Certification:	CENELEC EN60079, EN 60 529, EN 60 947-1-5, EN 60 999, EN 61 058-1. Exed IIC T4/T6, Certificate Nos PTB 99 ATEX 1044. GRP and Stainless Steel Range Ex II GD. CSA Listed.† Class I, Div 2, groups A, B, C, D.
Material:	GRP (44…23 Range) or Stainless Steel (44…33 Range).
Finish:	Natural finish.
Potentiometer:	100Ω -10kΩ, 1 watt, max. voltage 250V.
Meters:	72 x 72 voltmeter or ammeter direct connected up to 30A, 4-20mA or 1A CT operated.
Certified Temp:	-55ºC to +50ºC. Versions with switch -55ºC to +45ºC (ATEX Version). See separate US data sheet for CSA operating temperatures.
Ingress Protection:	IP66 (IP65 for double push button and measuring instrument).
Entries:	To customer specification or manufacturers standard – contact sales office for details. Entries are provided as clearance hole suitable for standard certified glands unless glands are requested by customer. †Top or bottom entries as standard – for other entries contact MEDC for further information.
Earth Continuity:	Earth continuity via earth terminal. Gland continuity via brass plate (for plastic enclosures).
Pushbuttons:	Standard pushbutton, double pushbutton, mushroom head latching and momentary. Key operated actuators also available. Two sets of terminals per contact block. 2NO, 2NC or 1NO+1NC per actuator.
Switches:	Two or three position, 2 pole or 4 pole.
Indicators:	White, yellow, red, blue and green, 20-254V AC/DC,12-24V DC or 18-30V DC for Ex-i. Note clear led with coloured lens.
Terminals:	Refer to GHG 74 Range Terminal Boxes data sheet for more information.
Connection:	Direct to components or via terminal block if requested.

Enclosure Sizes (mm) & Weights (kg):

Box Type	Dimensions (mm)			Weight	Fixing	Fixing
	X	Y	Depth*	(kg) empty	Cent.X	Cent.Y
444 23	271	134	136	1.5	110	247
448 23	271	271	136	2.5	247	247
449 23	544	271	136	4.5	247	520
447 23	817	271	136	6.5	247	793
444 33	312.5	175	151	1.5	225	247
448 33	312.5	312.5	151	2.5	362.5	247
449 33	627	312.5	151	4.5	362.5	561.5
447 33	941.5	312.5	151	6.5	362.5	876

Note: *Depth of box only. Excludes depth of actuators or other fittings.
Fixing screw dim. Ø 7 x 11mm.





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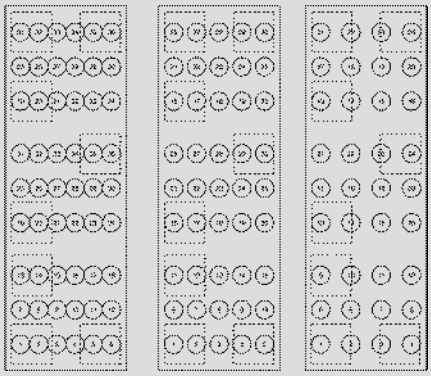

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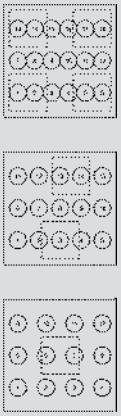

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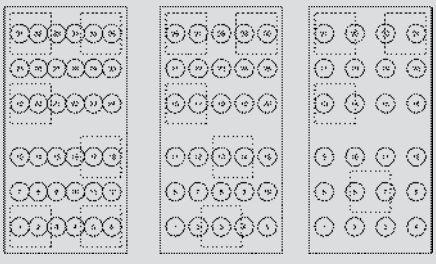


449

Ordering Requirements

Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2,21 and safe area.
- Exed IIC T6.
- ATEX approved Ex II 2GD.
- PTB Certified.
- CSA Listed for UL and Canada:†
  Class I, Div 2, Groups A-D.
- IP65/66*.
- Certified temperature: –55°C to +50°C*.
- Impact resistant thermoplastic.
- Retained stainless steel cover screws.
- Variety of components.
- Variety of enclosures.

**Depending on version.*

†Please contact MEDC Technical Sales.

Introduction

This range of control stations, intended for use in potentially explosive atmospheres, is suitable for use in all gas groups.

These rugged enclosures are manufactured from a UV stable, impact resistant polyamide; cover fixing screws are stainless steel thus ensuring a corrosion-free product.

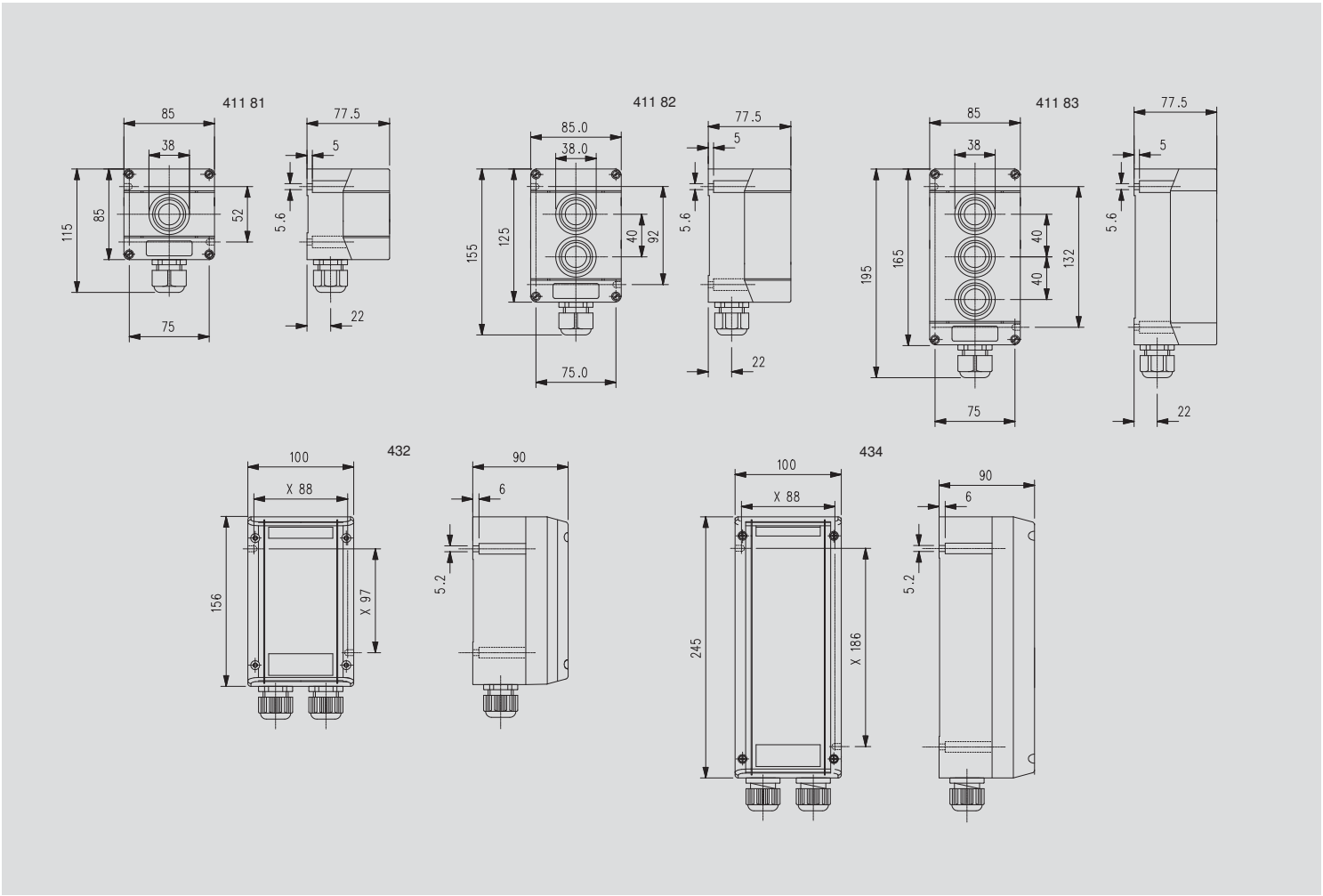
The GHG 411 range comprises a 1,2 and 3 way unit offering a compact footprint. The GHG 432 and 434 ranges are 2 and 4 way units with larger termination area for heavy duty offshore cable.

The high ingress protection rating makes this range of control stations suitable for use in harsh environmental conditions.

Certification and Specification

Certification:	CENELEC EN60079 Exed IIC T6. (Tamb 48ºC). Zones 1 & 2. CSA Listed for USA and Canada.†
Material:	Impact resistant thermoplastic, anti-static enclosure with stainless steel cover screws.
Finish:	Self coloured black.
Signal Lamps:	Available in two voltage ranges: Universal Voltage 20-254V AC/DC (current consumption 4-15mA). Low Voltage 12-24V DC (maximum current consumption 24mA). Lamp colours available: white, yellow, red, blue, green.
Certified Temp:	-55ºC to +50ºC. Versions with switch -55ºC to +45ºC (ATEX version). See separate US data sheet for CSA operating temperatures.
Weight:	From 0.5kg to 1.3kg (411 Range). From 0.8kg to 1.6kg (432 & 434 Range).
Ingress Protection:	IP66 (IP65 for double pushbutton).
Entries:	411 Range. 1 x M20 entry bottom as standard. 2 x M20 entries on bottom face available via brass gland continuity plate. 432 & 434 Range. 2 x M20 entries in bottom as standard (one blanking plug as standard).

Multi-way units:	Enclosures can be coupled together. Please contact sales office.
Actuator Types:	Spring return pushbutton, mushroom head emergency stop, mush room head momentary, double pushbutton, key operated switches, mini control switch and rotary switches.
Termination:	2.5mm² max. direct to components. Alternatively pre-wired to a 6 way terminal block accepting up to 4mm² conductors. Max voltage rating 400V.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Function Labelling:	Each cover component can have a function label as extra.
Labels:	Duty or tag labels are self adhesive.
Options/accessories:	Lift flap, function label, terminal block, potentiometer, duty/tag labels. Contact sales office to order.



Typical configurations: 411 81 range

Built-in components	Weight Approx	Order No.*
1 x pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.40kg	GHG 411 8195 R0001
1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.45kg	GHG 411 8195 R0002
1 x mushroom head latching, with key release, 1NO + 1NC, "Emergency stop"	0.50kg	GHG 411 8195 R0012
1 x double pushbutton, 1NO + 1 NC, label: O, I, START, STOP	0.45kg	GHG 411 8195 R0009
1 x key operated switch, 2NO I - O - II	0.52kg	GHG 411 8195 R0018
1 x control switch, 1 x change-over, label: HAND-AUTO label: O - I label: I - II	0.45kg 0.45kg 0.45kg	GHG 411 8195 R0003 GHG 411 8195 R0004 GHG 411 8195 R0005
1 x control switch, 2 NO, label: HAND - O - AUTO label: I - O - II label: Local Remote Auto	0.45kg 0.45kg 0.45kg	GHG 411 8195 R0006 GHG 411 8195 R0007 GHG 411 8195 R0008

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 81...01

411 81...18

411 81...12

411 81...04

Typical configurations: 411 82 range

Built-in components	Weight Approx	Order No.*
2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.54kg	GHG 411 8295 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.65kg	GHG 411 8295 R0003
1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.57kg	GHG 411 8295 R0016
1 x control switch, 1 x change-over, label: O - I 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.57kg	GHG 411 8295 R0017
1 x signal lamp, 20-254V AC/DC, lens cover: white, red, green, yellow, 1 x key operated switch, 2 NO, label: I - O - II	0.65kg	GHG 411 8295 R0008

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 82...01

411 82...03

411 82...17

411 82...08

Typical configurations: 411 83 range

Built-in components	Weight Approx	Order No.*
1 x signal lamp, 20-254V AC/DC, lens cover: white, red, green, yellow 2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.76kg	GHG 411 8395 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.80kg	GHG 411 8395 R0003

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 83...01

411 83...03

Typical configurations: 432 range

Built-in components	Weight Approx	Order No.*
2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.85kg	GHG 432 0095 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.90kg	GHG 432 0095 R0002
1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.85kg	GHG 432 0095 R0003

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

432…01

432…02

432…03

Typical configurations: 434 range

Built-in components	Weight Approx	Order No.*
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	1.45kg	GHG 434 1195 R0004
1 x mushroom head latching, 1NO + 1NC, "Emergency stop" 2 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 2 x double pushbutton, 1NO + 1NC each, label: O, I, START, STOP	1.45kg	GHG 434 1195 R0005
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop" 1 x key operated switch, 2NO, label: I - O - II	1.55kg	GHG 434 1195 R0009

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

434…04

434…05

434…09

Ordering Requirements

Please consult MEDC technical sales department to discuss your particular requirements.

North American Products

MEDC offers a range of products specifically designed and certified for use in the US and Canada.

This range of call points, signalling devices, telephones and control panels is certified to UL and CSA standards and is suitable for use in hazardous locations such as zone I and zone II.

Call Points - Pages 176 - 183


SM87 PB


SM87 BG


PH1


PB


BG

Strobes - Pages 184 - 205


Expert Line LED


SM87 Range


XB11


XB15


XB4


XB12


XB16


SM87 LU1/3


FL4 / FB4


FB11 / FB12


FB15

Horns and Loudspeakers - Pages 206 - 217


DB1


DB3


DB5


dGW21


DB4


DB16

Status Lights & Combination Units - Pages 218 - 223

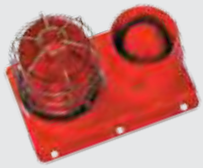

SL15


SM87SL / XB12SL


DB3/XB11


DB1/SM87HXB


DB3/SM87HXB


DB12/XB13

Telephones - Pages 224 - 227


FernTel IP


Ex ResistTel UL

Control and Distribution - Pages 228 - 239


HD1 UL


JB10 / 11


GHG 74


GHG 44


GHG 411

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Features

- UL listed for USA and Canada (PB only), Class I, Div 1, Groups C & D.
- ULC certified for Class I, Zone 1 Groups C & D.
- CSA certified.
- NEMA 4x and 6, IP66 & 67.
- *Certified temperature: –58°F to +158°F. –50°C to +70°C.
- Marine grade alloy or stainless steel.
- Robust yet lightweight.
- Easy to maintain.

**Depending on version.*

Introduction

These fire alarm call points have been designed for the most arduous environmental conditions.

The units are both easy to install and maintain.

Versions of this model are available with various options including an addressable module. A choice of either marine grade alloy or stainless steel*.

** Version dependent.*

European, Russian, Chinese and other worldwide approvals are available, refer to main section of catalogue.

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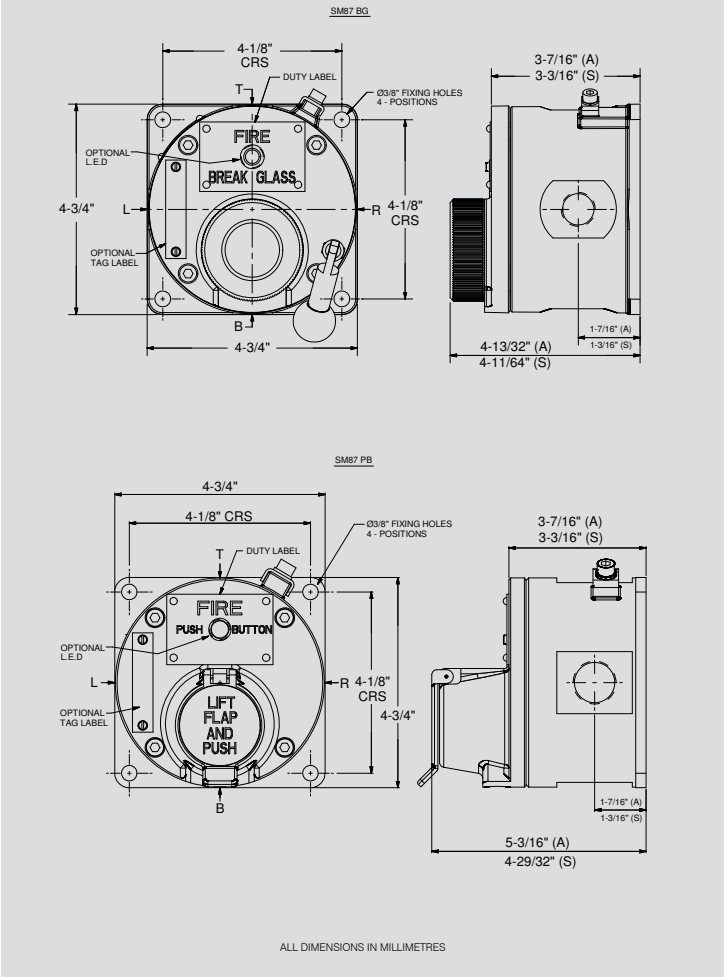
Certification and Specification

Certification:	UL listed for USA and Canada. ULC listed for Canada. Class 1 Div 1 Groups C & D and Class 1, Zone 1. UL Listing No. E186629. ULC Listing No. E320282. CSA Certification: I.S. Version – Class 1, Groups A-D. Exd Class I, Div 2 1/2 Group D. Enclosure type 4, Cert. No. 79120. American Bureau of Shipping Type Approval SM87PBLAUL only.
Material:	Grade 316 ANC 4B stainless steel or LM 25 TF Marine Grade Alloy.
Finish:	Paint finish as standard or to customer specification.
Voltage:	24V a.c./d.c. Exia 28V.
Rating:	2 amp. (30mA max. with LED).
Switches:	2 pole c/o, wired to terminals. Optional: up to 4 pole (UL version 2 pole only).
Optional Indicator:	A red high intensity LED can be fitted for alarm indication.
Certified Temp:	UL/ULC: –40ºF to +158ºF (–40ºC to +70ºC). – 4ºF to +131ºF (–20ºC to +55ºC) LED version only. CSA: –58ºF to +131ºF (–50ºC to +55ºC) (Exd). –58ºF to +104ºF (–50ºC to +40ºC) (Exi).
Weight:	8.4 lb/3.8kg (approx.) Stainless Steel or 5.5 lb/2.5kg (approx.) Alloy.
Ingress Protection:	NEMA 4x and 6, IP66 & 67. SM87 PB IP68 (35m for 40 hours).
Entries:	Up to 4 x 1/2" or 3/4" NPT.
Terminals:	Will accept up to 14AWG cable.
Addressable:	Consult MEDC for specification.
Resistor Values:	470R minimum (d.c. & I.S. units only).



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: SM87

Model

Model	Code
Breakglass Latching	BGL
Lift Flap Breakglass Latching	LBGL
Push Button Latching key reset	PBL*
Push Button Only Momentary Action	PBM

* UL and ULC version only available in PBL model.

Material

Material	Code
Stainless Steel	S
Alloy	A*

* UL & ULC version only available in alloy model.

Certification

Certification	Code
UL Listed	UL
ULC Listed	UC
CSA-Exd	DC
CSA-Exi	IC

Entries

Entries	Code
1/2" NPT	3
3/4" NPT	4
Please specify	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with size code i.e. 3T 3B = 1/2" NPT Top and Bottom.
† Max. 3 entries on ULC versions.

Duty Label

Duty Label	Code
Push Button	2
Fire-Push Button	3
ESDO-Abandon	4
FIRE/FEU	5**
Other	O*

* Please specify
** This option must be used when ordering a red callpoint for ULC Fire Alarm applications.

Tag Label

Tag Label	Code
Required	Y*
Not Required	N

* Please specify wording.

Options

Options	Code
Not required	N
LED	A
Series Resistor	G*†
EOL Resistor	H*†
Diode	D*
Addressable Module	M††
3 pole c/o switch	T**
4 pole c/o switch	F**

* Specify values.
† d.c. and I.S. units only.
†† Not available on ULC version.
** Not available on UL/UCL version.

Finish

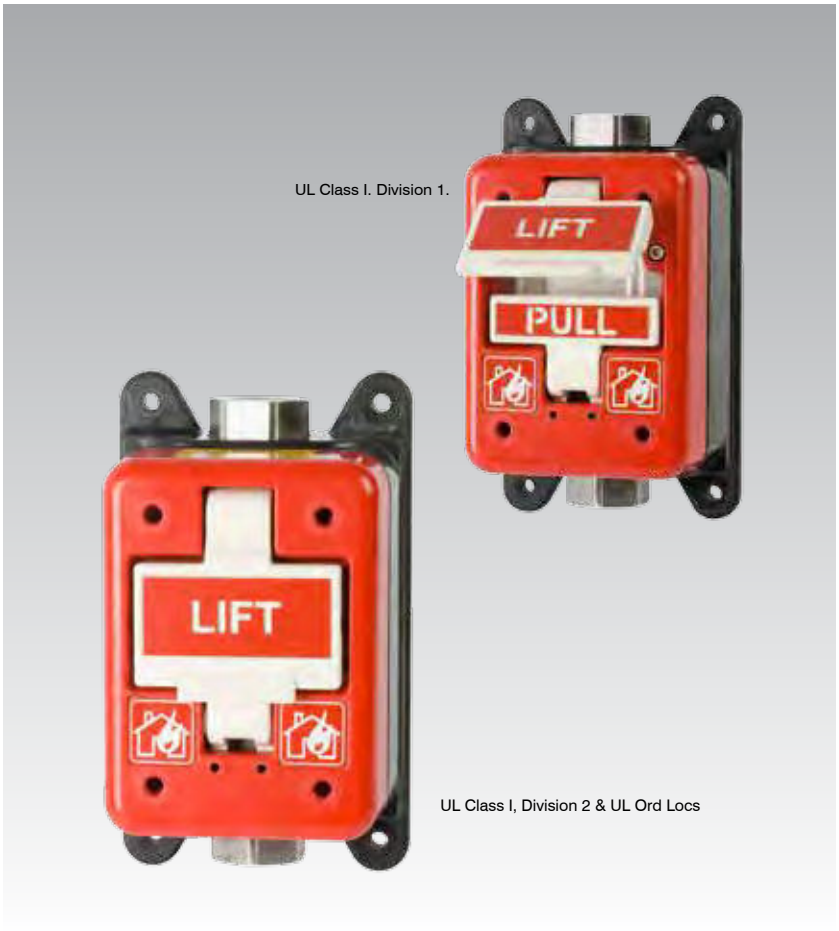
Finish	Code
Red	R
Blue	B
Yellow	Y
Yellow/ Black Stripes	X
Special	S*

* Please specify.

NOTE: The units can be internally wired to suit customer specifications.
Please discuss your requirements with us.

Crouse-Hinds by EATON

UL Hazardous & Ordinary Locations



UL Class I. Division 1.

UL Class I, Division 2 & UL Ord Locs

Introduction

The PH1 double action pull handle call point has been designed for use in flammable atmospheres and harsh environmental conditions. The GRP enclosure is suitable for use offshore or onshore where light weight combined with a high level of corrosion resistance is required.

The large “Lift” and “Pull” GRP handles can be operated effortlessly whilst wearing industrial gloves and require double action to raise the alarm, preventing accidental activation.

Features

- UL Listed for:
  - Hazardous Locations.
  - Class I, Division 1. Groups B, C & D.
  - Class I, Division 2. Groups A-D.
  - Zone 1.
  - Ordinary Locations: Fire alarm boxes.
- IECEx certified.
- ATEX certified.
- NEMA 4X & 6. IP66 & IP67.
- Certified temperature: -58°F to + 158°F.
  -50°C to + 70°C
- Corrosion free GRP construction.*
- Optional in line, end of line resistors and diodes.
- Retained stainless steel cover screws.

**Model dependent.*

c UL us IECEx ATEX

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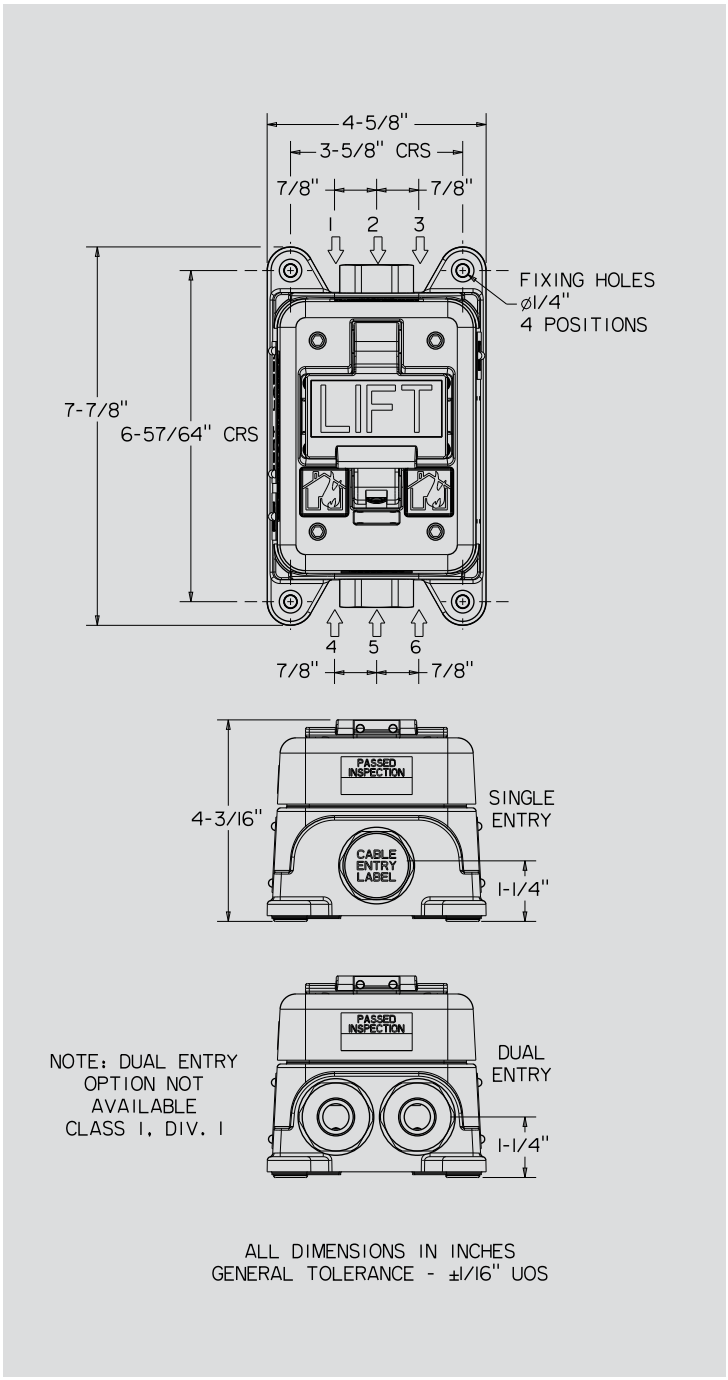
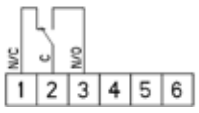
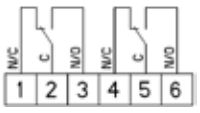
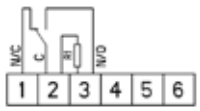
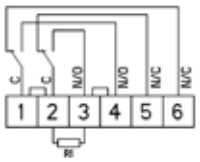
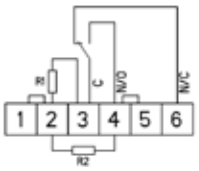
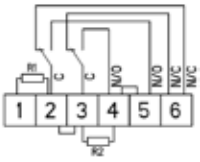
Certification and Specification

UL Haz Locs:	UL listed for USA and Canada. Listing no. E186629. Class I, Div. 1. Groups B, C & D. Class I, Div. 2. Groups A- D. Class I, Zone 1, AEx d IIC, Ex d IIC. Class II, Div.2, Groups F & G. Class III.
UL Ord Locs:	UL Listing no. S8117. Fire alarm boxes. UL for USA and Canada.
Material:	Body/covers/handles:- GRP (glass reinforced polyester). UL Class I. Div. 1 Inner Cover: 316 (ANC4B) Stainless Steel. Fixings:- Stainless steel grade 316.
Finish:	Cover:- natural red, Body:- natural black. Handles:- natural white. Cover may be painted to customer's requirements.
Voltage:	0-50Vdc, 0-254Vac.
Switch Rating:	1 or 2 c/o switches, 254V, 3A max.
Weight:	UL Class I, Div. 1: Gross weight 4.4 Kg. Net weight 3.8Kg. UL Class I, Div 2, UW: Gross weight 3.2kg. Net weight 2.6kg.
Certified Temp:	-58ºF to + 158ºF (-50ºC to + 70ºC).
Ingress Protection:	NEMA 4X & 6. IP66 & IP67.
Entries:	UL Class I, Div. 1 - Max 1 per face. Up to 2 x 1/2" NPT or 3/4" NPT. Positions 2 & 5 only. UL Class I, Div. 2, UW: Up to 2 x 1/2" or 3/4" NPT. 3/4" NPT, Max. 1 per face & positions 2 & 5 only. Please note that certified blanking plugs cannot be fitted to this product.
Terminals:	6 x 14AWG as standard. Contact MEDC for options.
Earth Continuity:	Earth continuity is provided by internal plate.
Duty Labels:	'Burning house' label fitted as standard on red units. Red blank duty label fitted as standard on all other colour units, unless text is supplied by customer. Tag Label: worded to customers requirements.
Addr. module:	Consult MEDC for options.
Resistors:	Various configurations available, 470 Ohms minimum.
Diodes:	Various configurations available.



	SINGLE SWITCH	DOUBLE SWITCH
Standard wiring - switch only.		
Standard wiring - c/w EOL resistor. R1 - EOL Resistor.		
Standard wiring - c/w series resistor or series & EOL resistor. R1 - Series Resistor. R2 - EOL Resistor (if fitted).		

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.

Model

PH1

Certification

Certification	Code
UL Class I, Div. 1	UL1
UL Class I, Div. 2	UL2
UL Ord. Loc.	UW

Entries

Entries	Code
1/2" NPT	*†M
3/4" NPT	*†N

* Prefix entry size with entry position (see diagram above).
E.g. 2M5M. Maximum 2 Entries.

† UL C1D1 - Max 1 per face. Up to 2x 1/2" NPT or 3/4" NPT.
Positions 2 & 5 only.
UW: Up to 2 x 1/2" or 3/4" NPT.
3/4" NPT, Max. 1 per face & positions 2 & 5 only.

Switches

Switches	Code
Single changeover	S
Double changeover	D

Features

Features	Code
None	N
Series resistor	G*
EOL resistor	H*
Diode	E*
Tag label	T*
Custom duty label	D*†

* Please specify.

† Only select if non standard option is required.
Please note that certified blanking plugs cannot be fitted to this product.

Finish

Finish	Code
Natural Red	R
Special	S*

* Please specify.

NOTE: the units can be internally wired to suit customers specifications.
Please discuss your requirements with us.

Crouse-Hinds by EATON

Hazardous areas, Weatherproof

Features

- UL listed for USA and Canada:
  - Hazardous Locations.
  - Class I, Div 2. Groups A-D.
  - Class II, Div 2. Groups F&G.
  - Class I, Zone 1.
- ATEX certified.
- Operating temperature: -58°F to +131°F*
  -50°C to +55°C*
- NEMA 4X & 6.
- Corrosion Resistant GRP.
- In line and end of line resistors.
- Optional Red LED to indicate operation.
- Retained stainless steel cover screws.

**Model dependent.*

c UL us ATEX IECEx

Introduction

These manual alarm push buttons have been designed for use in hazardous environments and harsh environmental conditions. The GRP enclosures are suitable for use onshore or offshore where light weight combined with a high level of corrosion resistance is required.

A high intensity red LED can be fitted to indicate to the operator that the units functionality with activated. The unit is now supplied with a lift flap that latches firmly in place.

European, Russian, Chinese and other worldwide approvals are available, please refer to the main section of the catalogue.

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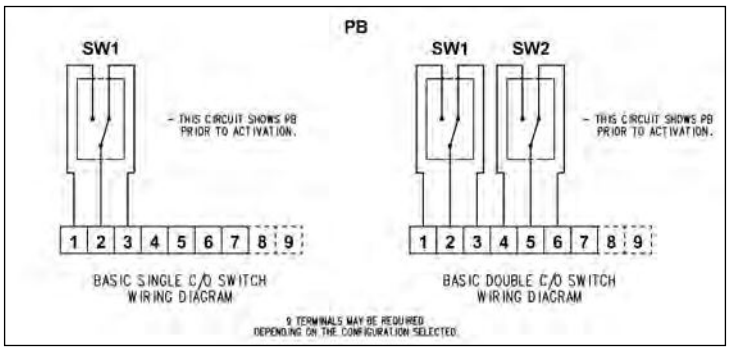
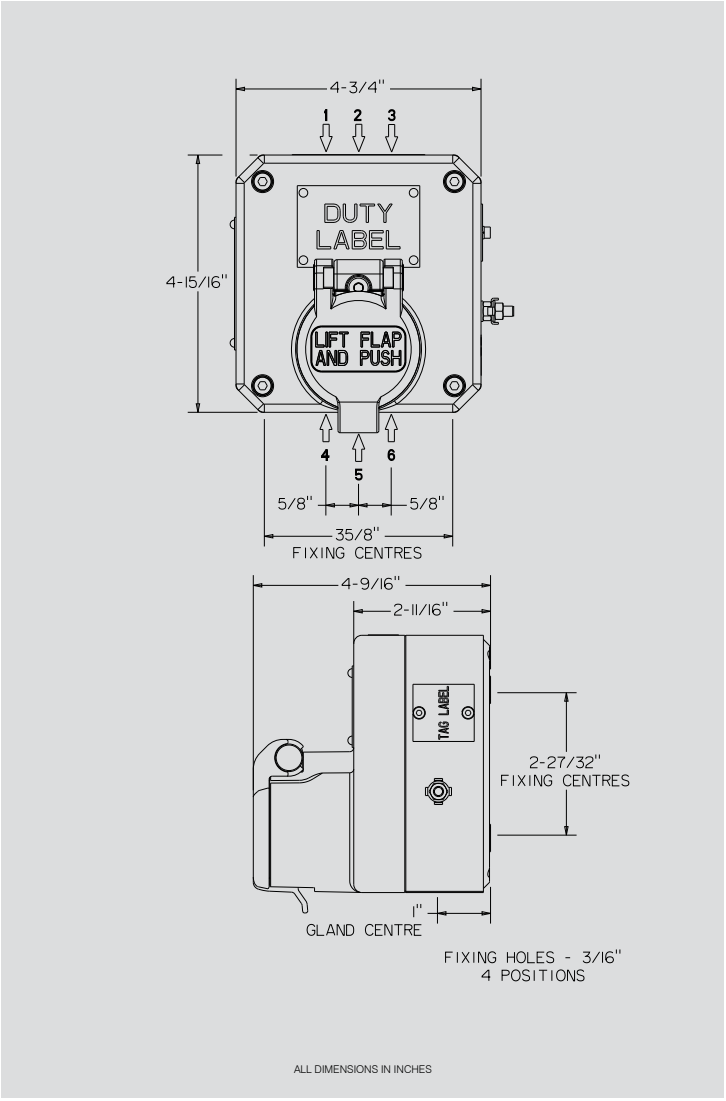
MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

Certification and Specification

UL Haz Locs:	Listing no. E186629 Class 1, Div. 2. Groups A – D and Class 1, Zone 1. Class 2, Div. 2. Groups F & G.
UL Ord Locs:	Listing no. S8117. Fire alarm boxes.
CSA:	Cert. no. 79120. Class 1 groups A, B, C & D.
Material:	Glass Reinforced Polyester
Finish:	Red painted finish as standard or to customers specification.
Certified Temp:	-13ºF to +131ºF (-25ºC to +55ºC) -13ºF to +122ºF (-25ºC to +50ºC) With resistors or LED fitted. -58ºF to +104ºF (-50ºC to +40ºC) CSA Certified
Weight:	2.6lbs / 1.2Kg - model dependent
Ingress Protection:	NEMA 4X & 6. IP66
Input Voltage:	Up to 240V a.c.
Current:	3A
Terminals:	7 or 9 AWG as standard.
Resistor Values:	Various Configurations available on versions up to 24V, 470R minimum.
LED Indication:	A Red LED can be fitted as an optional extra to indicate operation on versions up to 24V.
Labels:	Duty Label - worded to customers specification. Riveted on. Tag Label - worded to customers specification. Screwed on.





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.

Model **PB**

Certification

Certification	Code
UL Listed	UL
UL (ordinary locations)	UW
CSA Certified	IC

Entries

Entries	Code
1/2" NPT	*C

* Prefix entry size (see diagram above) with entry position code. e.g. 4C6C

Labels

Label	Code
None	0
Duty label reqd.	4*
Tag label reqd.	5*

* Specify wording on 4 or 5 as required

Voltage

Voltage	Code
a.c.	A
d.c.	D

Switches

Switches	Code
Single changeover	S
Double changeover	D

Options

Options	Code
None	N
LED	A
Resistor series	C*
Resistor EOL	D*
Earth continuity	F**
Self reset (momentary)	M

* Specify values.
** Must be selected when selecting CSA certification.

Terminals

Terminals	Code
7 x 14 AWG (standard)	7
9 x 14 AWG (optional)	9

Finish

Finish	Code
Red (standard)	R
Natural Black	N
Blue	B
Yellow	Y
Grey	G
Yellow/Black stripes	X
Special	S*

* Please specify

Crouse-Hinds by EATON

Hazardous Location, Weatherproof

Introduction

This range of alarm call points have been designed for use in hazardous areas and within harsh environmental conditions. The GRP enclosures are suitable for use onshore or offshore, where light weight combined with a high level of corrosion resistance is required.

The Break Glass model is available with an optional stainless steel lift flap for added protection along with an optional red LED that activates when the unit is operated to clearly demonstrate functionality.

European, Russian, Chinese and other worldwide approvals are available, please refer to the main section of the catalogue.

Features

- UL listed for USA and Canada:
  - Hazardous Locations.
  - Class 1, Div 1. Groups C&D.
  - Class 1, Zone 1
- ATEX certified.
- Operating temperature: -13°F to +131°F*
  -25°C to +55°C*
- NEMA 4X & 6.
- Corrosion Resistant GRP.
- In line and end of line resistors.
- Optional Red LED to indicate operation
- Retained stainless steel cover screws.
- Key operated test facility.

**Model dependent.*

c UL us ATEX IECEx

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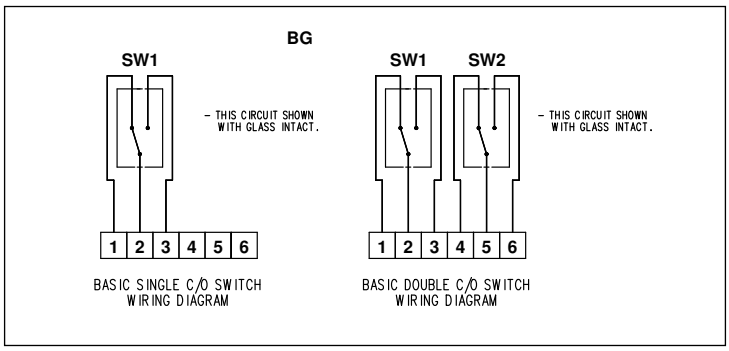
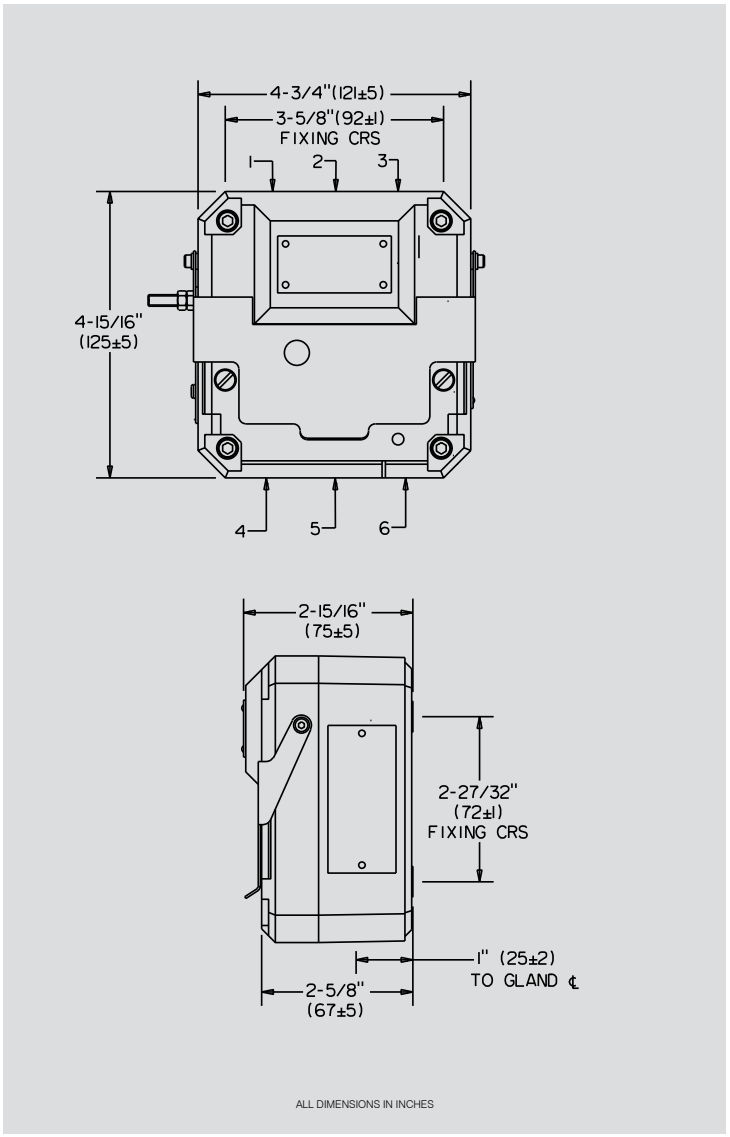
Certification and Specification

UL Haz Locs:	Listing no. E186629 UL listed to Class 1, Div 2. Groups A – D and Class 1, Zone 1.
UL Ord Locs:	Listing no. S8117. Fire alarm boxes.
Material:	Glass Reinforced Polyester.
Finish:	Red painted finish as standard or to customers specification.
Certified Temp:	-13ºF to +131ºF (-25ºC to +55ºC) -13ºF to +122ºF (-25ºC to +50ºC) With resistors or LED fitted.
Weight:	2.6lbs / 1.2Kg. Model Dependent
Ingress Protection:	NEMA 4X & 6. IP66 & IP67.
Input Voltage:	Up to 240V a.c.
Current:	3A
Terminals:	6 x 14 AWG Standard.
Resistor Values:	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.
Labels:	Glass Label - reads either: 1. Fire Break Glass - press here. 2. Break glass - press here. 3. Worded to customers requirements. Duty Label - worded to customers requirements. Riveted on. Tag Label - worded to customers requirements. Screwed on.





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.

Model **BG** | **Certification** | **Entries**

Entries	Code
1/2" NPT	*C

*Prefix entry size (see diagram above) with entry position. e.g. 4C6C

Certification	Code
UL Listed	UL
UL (ordinary locations)	UW

Labels | **Voltage** | **Switches**

Label	Code
None	0
Glass label (1) reqd.	1
Glass label (2) reqd.	2
Glass label (3) reqd.	3*
Duty label reqd.	4*
Tag label reqd.	5*
Glass label (7) reqd.	7

* Specify wording on 3, 4 or 5 as required.

Voltage	Code
a.c.	A
d.c.	D

Switches	Code
Single changeover	S
Double changeover	D

Options | **Terminals** | **Finish**

Options	Code
None	N
LED	A
Lift flap	B
Resistor series	C*
Resistor EOL	D*
Earth continuity	F
Resistor series and EOL	S*†
Plastic element replaces Break glass	P
Break glass hammer	H

* Specify values.
† Choose for BGE only - on the BGI/W, choose C & D.

Finish	Code
Red (standard)	R
Natural Black	N
Blue	B
Yellow	Y
Grey	G
Yellow/Black stripes	X
Special	S*

* Please specify

Terminals	Code
6 x 14 AWG	6

Hazardous Location

Introduction

FHF's new Expertline Multifunction LED Warning Light for Division 2 has been developed specifically for the corrosive and hazardous environments found in the oil and gas industry, in onshore chemical and petrochemical plants, and offshore platforms, food processing and pharmaceutical plants.

The light has been developed to withstand the extreme weather conditions found in harsh environments including high humidity, exposure to sea water and dust, and heavy mechanical wear and tear. The Expertline warning light is ideal for meeting the many demanding needs of installation in a harsh environmental atmosphere.

Features

- Continuous Light
- Rotating Warning Beacon
- Strobe Light
- Flashing Light
- The moulded polycarbonate housing with ½"NPT conduit entries is resistant to acids, sea water, alkali, moisture and has Type 4X / IP66 environmental ratings.
- Removable terminal box held to the main enclosure with an internal tie speeds installation.
- 316 SS mounting bracket included.
- Mountable in any position.
- Captive terminal box screws prevents their loss during installation.

Signalling in hazardous areas

Hazardous areas often require the use of optical signals for warning, information or signalling purposes.

c UL us

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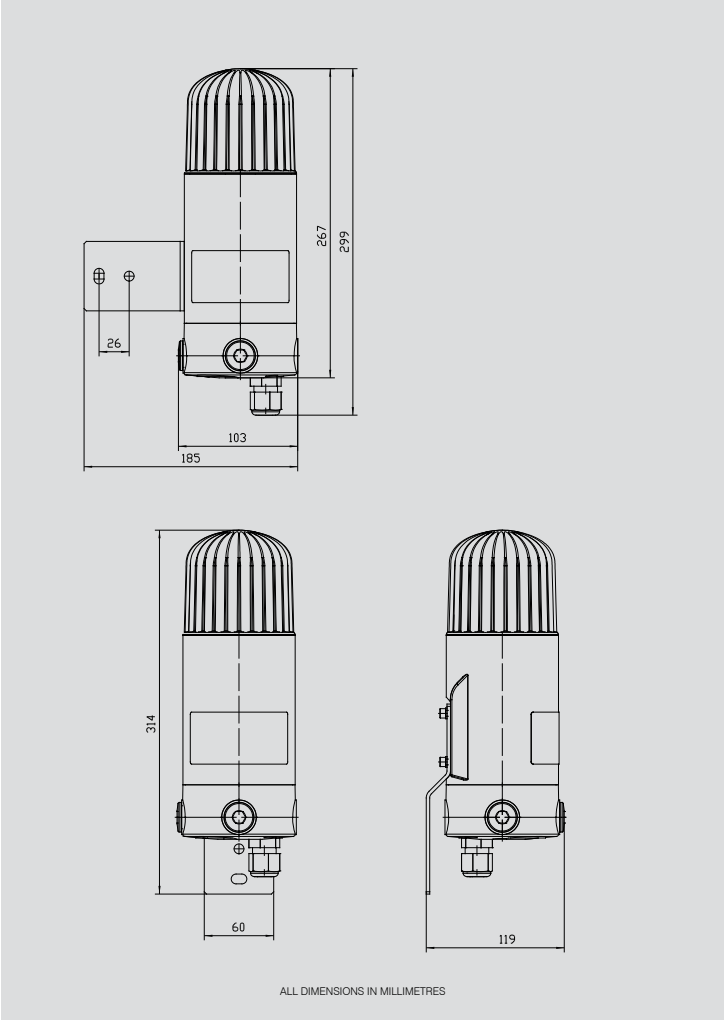
MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Type of protection:	UL Nonincendive. Class 1, Division 2, Groups A, B, C, D T4. Class 1, Zone 2, Groups IIA, IIB, IIC T4.
Enclosure protection:	Weatherproof type 4X.
Operating temperature:	-40ºC to + 60ºC (-40ºF - 140ºF).
Housing Material:	Black polycarbonate, with V4A/316 SS mounting bracket.
IP Rating:	IP 66 acc. to EN 60529.
Dimensions:	Approx. 12" x 4.5" x 4.5".
Weight:	5.5 lb. (2.5 kg).
Conduit connection:	Bottom entry, ½"with two ½"plugs.
Mounting:	Mountable in any position.
LED colours available:	Red, amber.
Operating modes:	Adjustable with internal dip switch: Continuous, blinking, strobe, rotating.
Operating voltage:	24 VDC +/- 20%. 230 VAC +/- 10%.



Ordering Information

The full article number is made up by appending the colour code for the coloured cap to the article number given here (--).
Red 02 | Amber 03 | For example **F2310130290** = Red LED light 24VDC 216 mA.

Type	Name	Voltage	Max. current consumption	Article no.
Expertline	LED Multifunction Light	24 VDC	216 mA	F231 013 (--) 90
Expertline	LED Multifunction Light	120 VAC	103 mA	F231 026 (--) 90
Expertline	LED Multifunction Light	230 VAC	71 mA	F231 007 (--) 90

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Features

- UL listed for USA and Canada.
  Class I, Div. 1, Groups C & D.
  Class I, Zone 1, AExd IIB.
- CSA certified.
- CUL listed.
- ATEX approved.
- Xenon.
- NEMA 4x & 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- High temperature unit (up to 185°F/85°C) available.
- 4 wire monitored connection.
- 24 & 48V d.c.
- 110, 120, 240 & 254V a.c.
- Various lens colours.
- Optional lens guard.

Introduction

These certified strobes have been designed for use in harsh environmental conditions.

The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

A high temperature unit is available which is ideal for harsh environments.

European, Russian, Chinese and other worldwide approvals are available, refer to main section of catalogue.

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Certification and Specification

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 1, Div 1, Group 0, Enclosure 3/4, Cert. No. 96406.
Material:	Grade 316 ANC4B stainless steel or LM25 TF Marin Grade Alloy. Lens – Toughened Glass.
Finish:	Epoxy paint finish as standard or to customer specification.
Certified Temp:	Standard unit SM87 HXB: –67ºF to +158ºF, –55ºC to +70ºC. High temperature unit: –67ºF to +185ºF, –55ºC to +85ºC.
Weight:	Alloy - 4.4lb/2.0kg. approx. stainless steel - 8.4lb/3.8kg
Ingress Protection:	NEMA 4x & 6, IP66 & 67.
Entries:	Up to 4 off 1/2" or 3/4" NPT.
Terminals:	4 off suitable for up to 14AWG conductor size.
Labels:	Duty/Tag labels optional.

Electrical Ratings:

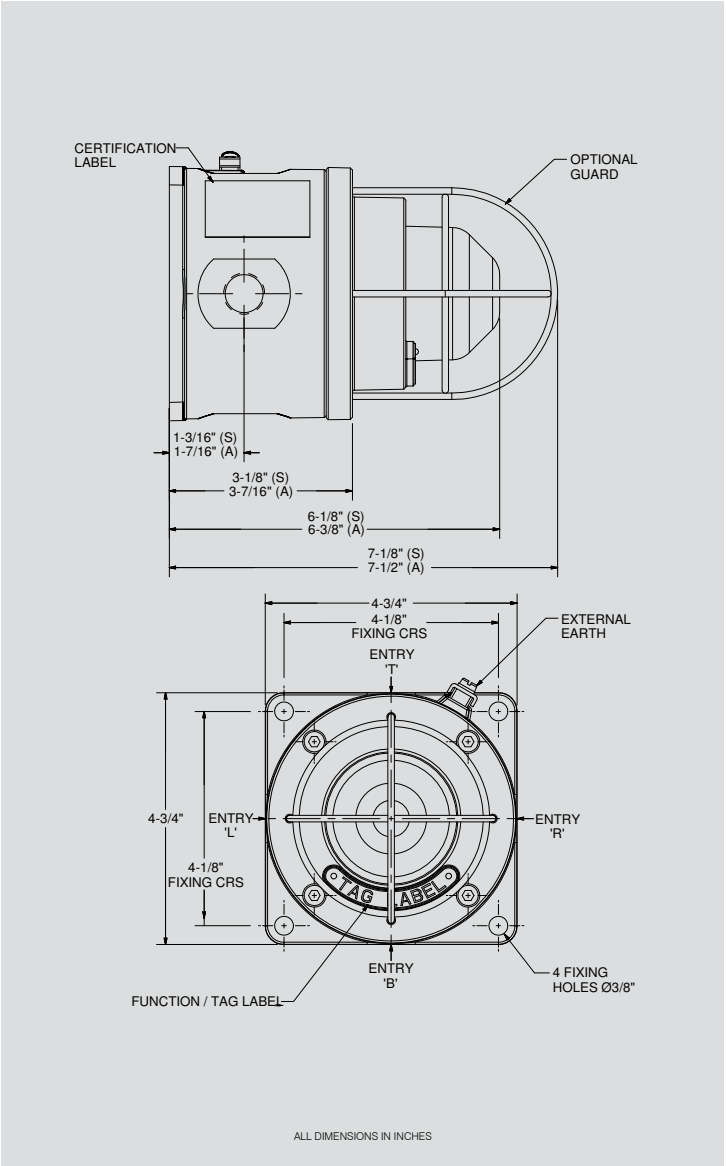
	d.c.		a.c. 50/60Hz			
Voltage	24	48	110	120	240	254
Tube Energy (Joules)	5	5	6	7	7	8
Peak Current Consumption (mA)	393	175	250	275	135	153
Power Consumption (Watts)	7.2	7.6	25	27	27	35
Effective Intensity (Cd)	29	29	32	39	39	44
Peak Intensity (Cd)	22213	22213	25061	30187	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.



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.

Model

Model	Code
Xenon (stainless steel)	SM87HXBS*
Xenon strobe, alloy	SM87 HXBA†
Xenon strobe, high temperature, alloy	SM87 XBTA†

SM87 XBTA only available UL listed and 24V d.c.
* Not available UL Listed.
† Not available CSA Certified.

Certification

Certification	Code
UL	UL
CSA	C

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
240V a.c.	240
254V a.c.	254

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code.

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify wording.

Options

Options	Code
None	N
Yes	Y*

* Please specify. (Note: 15 characters maximum).

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Yellow/Black Stripes	X
Gray	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Location, Weatherproof

Features

- UL listed for USA and Canada.
  - Hazardous locations:
    - Class I, Div. 2, Groups C & D.
    - Class I, Zones 1 & 2, AExd IIB T5.
  - Ordinary locations: Visual-Signal Device.
- CSFM approved.
- ATEX approved.
- Xenon.
- Output 22,000 Candela.
- NEMA 4x and 6, IP66 & 67.
- 24V d.c., 110 & 240V a.c.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- 4 wire monitored connection.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.
- Available as a status light.

Introduction

These certified strobes have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The glass reinforced polyester enclosure is suitable for use onshore and offshore, where light weight combined with a high level of corrosion is required.

The strobe housing is manufactured completely from a U.V. stable, glass reinforced polyester. Stainless steel screws and mounting bracket are incorporated ensuring a totally corrosion free product.

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

European, Chinese and other worldwide approvals are available, refer to main section of catalogue.

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Certification and Specification

Certification:	UL Listed for USA and Canada. – Hazardous locations: Class I, Div. 2, Groups C & D. Class I Zones 1 & 2, AExd IIB T5. UL Listing No. E187894. – Ordinary locations: Visual-Signal Device. UL Listing No. S8128.
Material:	Body: Glass reinforced polyester. Lens: Glass. Cover Screws + Backstrap: Stainless steel 316.
Finish:	Natural black or painted to customer specification.
Weight:	5 1/2 lb/2.5kg.
Certified Temp:	–67°F to +158°F (–55°C to +70°C.) hazardous locations. –67°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 1/2" NPT.
Strobe/Sounder Unit:	The beacon may be combined with an MEDC sounder to create a visual/audible alarm. Contact MEDC for price and specification.
Tube Life:	>1 x 10^6 Flashes

Electrical Ratings:

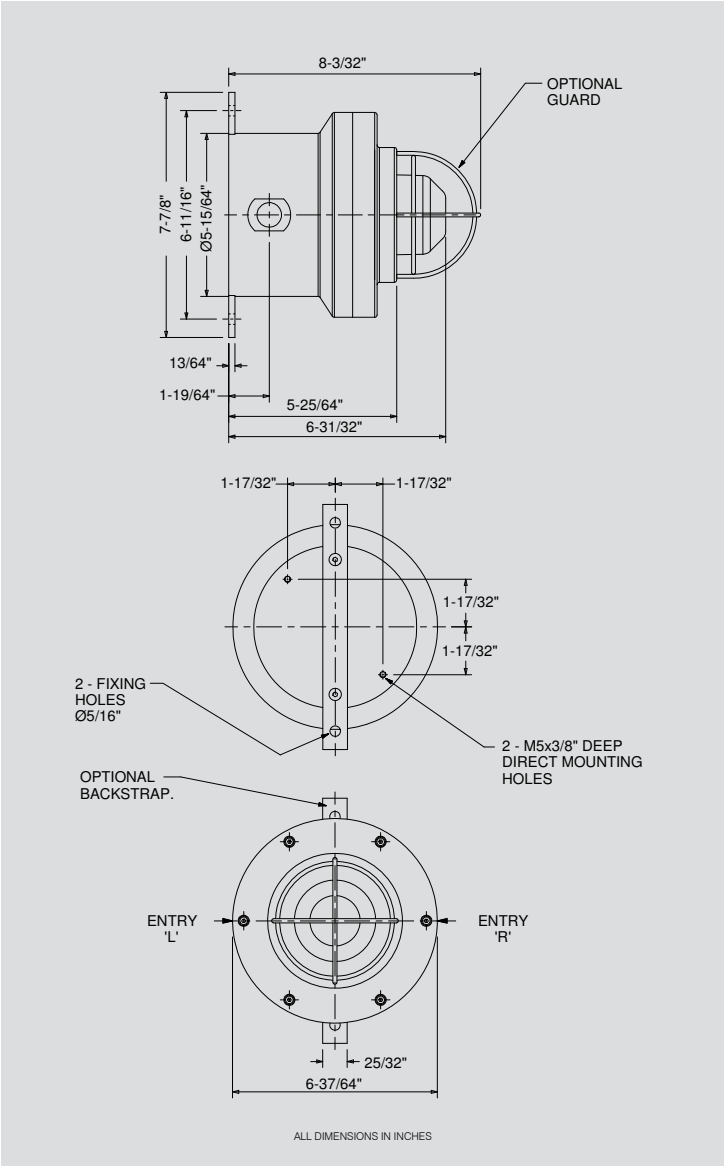
	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
XB11 Tube Energy (Joules)	5	5	5
Peak Current Consumption (mA)	320	100	60
Effective Intensity (Cd)	29	29	29
Peak Intensity (Cd)	22213	22213	22213
Power Consumption (Watts)	8	11	18

NOTE: The Cd figures are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.



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.

Model	Certification	Voltage	Flashrate	Lens Colour	Lens Guard	Fixing	Earth Continuity	Tag/Duty	Options	Finish
XB11							N			

Certification	Code
UL	UL
UL (ordinary locations)	UW

Flashrate	Code
60 / min	06

Other flash rates available, please specify.

Guard	Code
None	N
Yes	Y

Continuity	Code
None	N

Options	Code
None	N
Blanking Plug	P

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Gray	G
White	W
Special	S*

* Please specify.

Voltage	Code
24V d.c.	024
48V d.c.	048
120V d.c.	120
110V a.c.	110
240V a.c.	240

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Label	Code
None	N
Yes	Y*

*Please specify.

To order ATEX approved version, see European data sheet.

Hazardous Locations, Weatherproof

Introduction

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 lightweight combined with corrosion resistance is required.

The housings are manufactured completely from a U.V. stable, glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion-free product.

The model XB15 contains a supervisory diode and four wire lead connection for fire alarm applications.

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

European and other worldwide approvals are available, refer to main section of catalogue.

Features

- UL listed for USA and Canada.
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class II, Div 2 Groups F & G.
    - Class I, Zone 1, AExd IIC T4/T5/T6.
  - Ordinary locations: Visual-Signal Device.
  - Marine Listed.
- ULC Listed to Canadian Safety Standards.
- Conforms to ULC regulated a.c. power supplies.
- CSFM approved.
- ATEX approved.
- SIL 1 Certified.
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +158°F. –55°C to +70°C.
- Pipe mount or direct mount enclosure.
- Corrosion-free GRP.
- 520,000 peak candlepower.
- Four wires and supervisory diode.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional relay initiate.
- Optional cast or wire lens guard.
- Up to 3 x ¾" NPT entries.
- Filament version available.
- See data sheet for FB15.

c UL us ULC LISTED Ex ATEX IECEx

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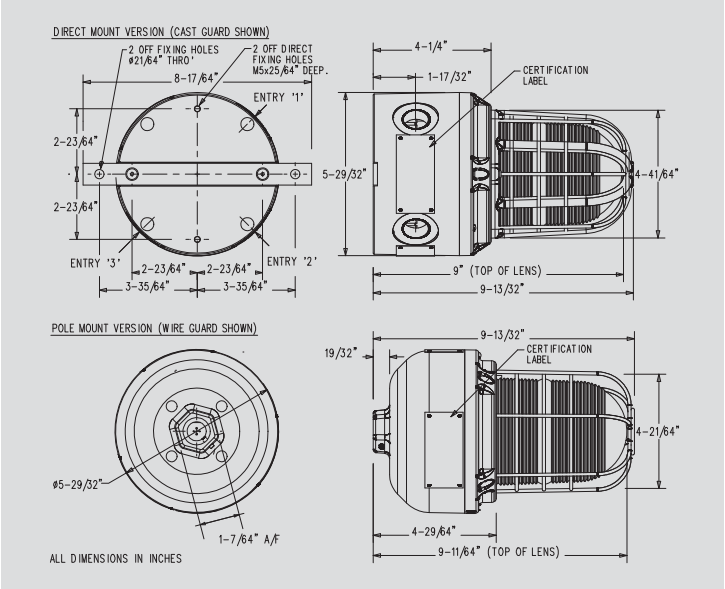
MEDC

Sales Enq. UK: +44 (0)1623 444 445 **Sales Enq. USA: +1 (713) 937- 9772** **E-Mail: MEDCSales@Eaton.com** **Web: www.medc.com**

Certification and Specification

Certification:	UL Listed for USA and Canada. – Hazardous locations: Class I, Div 2, Groups A, B, C & D. Class II, Div 2 Groups F & G. Class 1, Zone 1, AExd IIC T4/T5/T6. UL listing No. E187894. – Ordinary locations: Visual Signal Device. – Marine listed. UL listing No. S8128. ULC Listed: Listing No. CE133. CENELEC/ATEX approved. CENELEC EN50014 & EN50018. ATEX Cert. No. Baseefa 04ATEX0009X. SIL 1 Certification to 61508. Cert. No. Sira FSP12004.
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 painted to customer specification.
Voltage:	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.
Tube Energy:	15 Joules.
Tube Life:	>1 x 10^6 flashes.
Flash Rate:	60, 80, 120 fpm.
Certified Temp:	-67°F to +104°F (-55°C to +40°C) T6. -67°F to +131°F (-55°C to +55°C) T5. -67°F to +158°F (-55°C to +70°C) T4.
Weight:	Pipe mount: 5 3/4lb/2.6kg; Direct mount: 6 1/2lb/3.0kg.
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Entries:	Supplied as 2 x 3/4" NPT (direct mount) or 3/4" (pipe mount) as standard. Other options available: Up to 3 x 1/2" NPT or 3 x 3/4" NPT (direct mount); 1/2" NPT (pipe mount) – contact sales office to order.
Terminals:	Direct mount: 12 x 14AWG. / Pipe mount: 8 x 14AWG.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Labels:	Tag/Duty label option.



Electrical Ratings: UL/UW/UM versions

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A)	0.99	0.73	0.4	0.4	0.2	0.2	0.17

Effective Candlepower – 330 (Effective candlepower is the intensity that would appear to an observer if the light was burning steadily).

Multiplying Factor for Coloured Lenses: UL/UW/UM versions

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

Electrical Ratings: ULC versions

	d.c.		Regulated a.c.	
Voltage	24	48	120	240
Current (A)	1.24	0.76	0.4	0.2
Light Output (Cd) No Guard	60	50	30	30

Light output tested to ULC-S526-07 requirements
Multiplying Factor for Coloured Lenses: ULC versions

Red	Blue	Amber	Green	Yellow
0.2	0.27	0.36	0.24	0.65

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.

Model XB15

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW
UL Marine	UM
ULC	UC*

* 254V a.c not available with ULC. To order ATEX approved version, see European data sheet.

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120*
230V a.c.	230
240V a.c.	240*
254V a.c.	254

* Also conforms to ULC regulated power supplies.

Flashrate

Flashrate	Code
60 / min	06
80 / min	08
120 / min	12

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
None	N
Cast	C
Wire	W

Fixings

Fixings	Code
Pipe mount	P*
Direct mount without backstrap	D*
Direct mount with backstrap	B*

* Contact MEDC if 1/2" NPT is required.

Options

Option	Code
None	N
Tag label	T†
Duty label	D†
Relay initiate	R*
Blanking Plug	P

* Suitable for 24V d.c. initiate supplies only.
† ULC maximum of one label.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Introduction

These high output strobes have been designed for use in flammable atmospheres and harsh environmental conditions. The marine grade alloy or stainless steel enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

European, Russian and other worldwide approvals are available, refer to main section of catalogue.

Features

- UL listed for USA and Canada.
  - Hazardous locations:
    - Class I, Div. 1, Groups C & D.
    - Class I, Zone 1, AExd IIB T4.
  - Ordinary locations: Visual-Signal Device.
- ATEX approved.
- Xenon.
- NEMA 4x & 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- 4 wire monitored connection.
- 24V d.c.
- 110V & 240V a.c.
- Various lens colours.
- Optional lens guard.
- Twin replaceable tubes.
- Tapered spigot flamepath.

Certification and Specification

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. S8128.
Material:	LM25TF Marine Grade Alloy body. Grade 316 ANC4B Stainless Steel body. Toughened Wellglass.
Finish:	Epoxy paint finish as standard or to customer specification.
Certified Temp:	-67°F to +158°F. -55°C to +70°C.
Weight:	LM25: 14.5lb/6.6kg. Stainless Steel: Add 33lb/15.1kg.
Ingress Protection:	NEMA 4x & 6, IP66 & 67.
Entries:	Up to 3 x 1/2" or 3/4" NPT.
Terminals:	8 off suitable for up to 10 AWG conductor size.
Tube Life:	>1x10^6 flashes

Electrical Ratings:

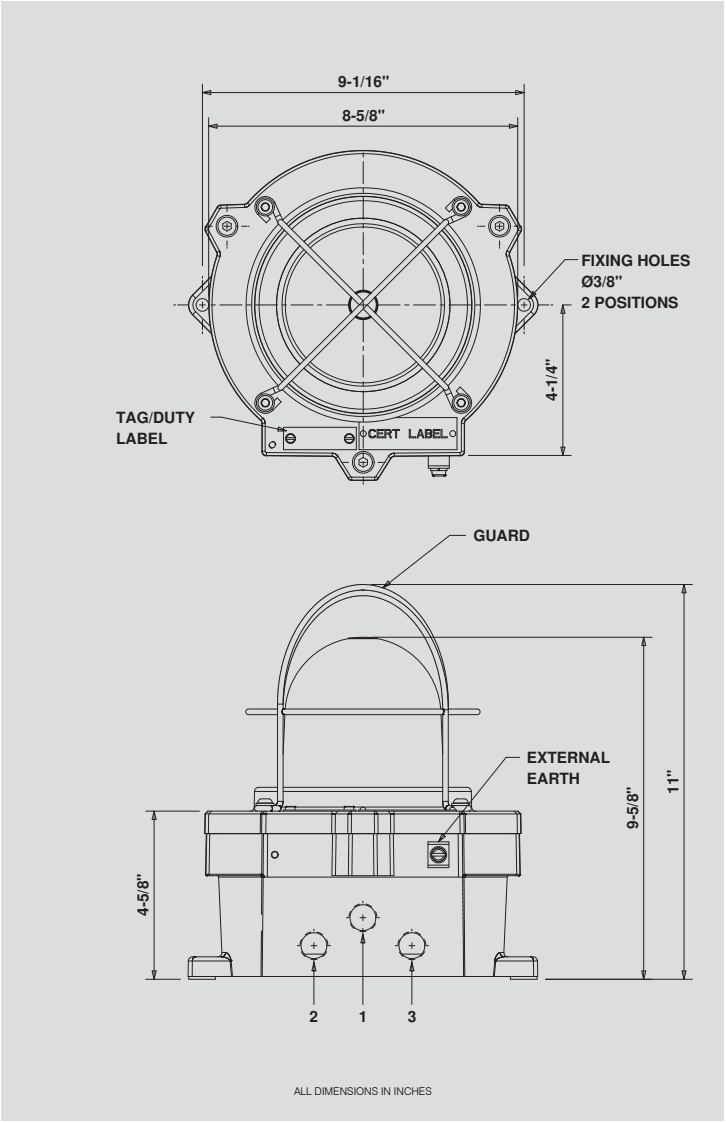
	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
Tube Energy (Joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.



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.

Model: XB4

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW

Voltage

Voltage	Code
24V d.c.	B
110V a.c.	E
240V a.c.	H

Terminals: 8D

Terminals	Type
8 x 10 AWG	8D

Entries

Entries	Code
1/2" NPT	*D
3/4" NPT	*E

* Prefix entry size with entry position code (from above diagram e.g. 1D, 2D.

Flashrate

Flashrate	Code
60	06
120	12
240	24

Options

Option	Code
None	A
Yes	Y*

* Please specify.

Guard

Guard	Code
None	N
Yes	Y

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Yellow	Y
Amber	A
Clear	C

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify wording.

Material

Material	Code
Alloy	1
Stainless Steel	0

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Gray	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Location, Weatherproof

Introduction

These high output certified strobes have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The strobe housing is manufactured completely from a U.V. stable, glass reinforced polyester. Stainless steel screws and mounting bracket are incorporated ensuring a totally corrosion-free product.

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

European and other worldwide approvals are available, refer to main section of catalogue.

Features

- UL listed for USA and Canada.
  - Hazardous locations:
    - Class I, Div. 2, Groups C & D.
    - Class I Zones 1 & 2, AExd IIB T4/T5.
  - Ordinary locations: Visual-Signal Device.
  - Marine listed.
- CSFM approved.
- ATEX approved.
- Xenon.
- High Output (124,000 Candelas).
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- 4 Wire monitored connection.
- 24V d.c., 110 & 240V a.c.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.
- Twin replaceable tubes.

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Certification and Specification

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. – Marine listed. UL Listing No. S8128.
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 Temp:	–67°F to +158°F (–55°C to +70°C) hazardous locations. –67°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 10 AWG conductor size.
Labels:	Duty/Tag Label optional.
Entries:	2 x ½" NPT.
Tube Life:	>1 x 10^6 Flashes

Electrical Ratings:

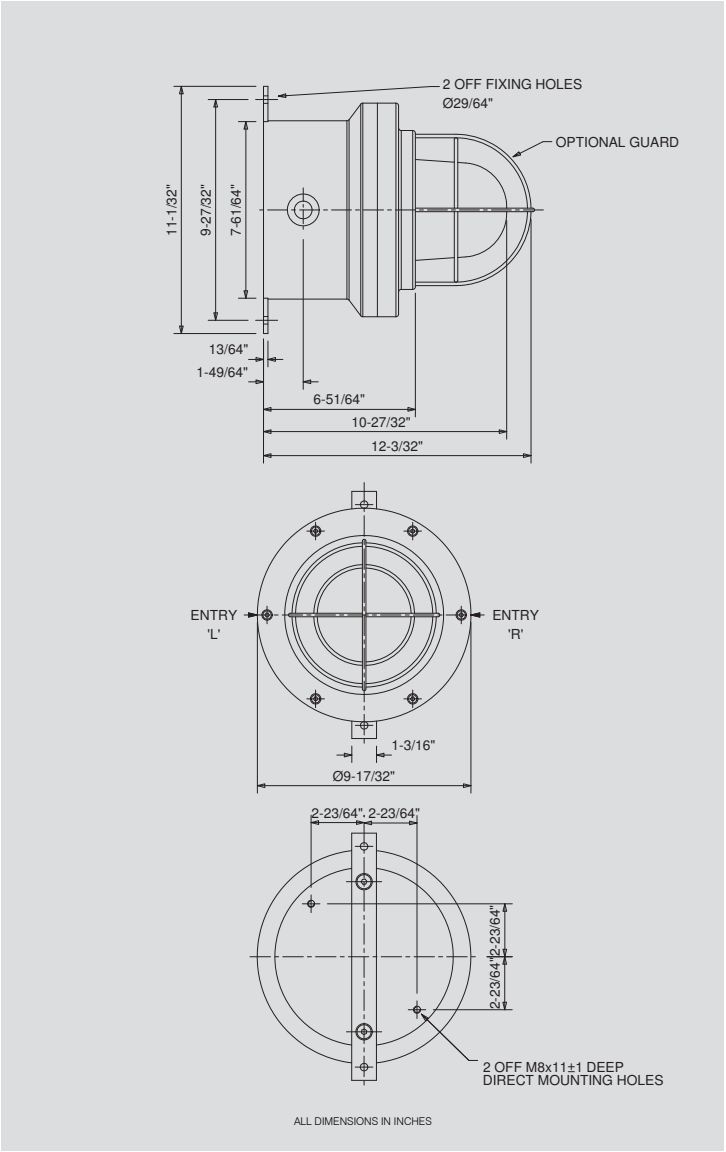
	d.c.	a.c. 50/60Hz	
Voltage	24	110	240
XB12 Tube Energy (Joules)	21	21	21
Peak Current Consumption (mA)	1400	350	185
Effective Intensity (Cd)	355	355	355
Peak Intensity (Cd)	123691	123691	123691
Power Consumption (Watts)	33.6	38.5	44.4

NOTE: The Cd figures are for a clear lens @ 1Hz flash rate.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.



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.

Model XB12

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW
UL Marine	UM

Voltage

Voltage	Code
24V d.c.	024
110V a.c.	110
240V a.c.	240

Flashrate

Flashrate	Code
60 / min	06

Other flash rates available, please specify.

Lens Colour

Lens Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
None	N
Yes	Y

Fixings

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Earth Continuity N

Continuity	Code
None	N

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify wording.

Options

Option	Code
None	N
Blanking Plug	P

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Gray	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Locations, Weatherproof

Features

- UL listed for USA and Canada.
  - Hazardous locations for USA and Canada:
    - Class I, Div. 2, Groups A, B, C & D*.
    - Class II, Div. 2, Groups F & G.
    - UL 1971 compliant version available†.
  - Ordinary locations: Visual Signal Device.
  - 'T' Rating model dependent. Contact sales office for information.
- CSFM approved.
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- Pipe mount with ¾" NPT entry.
- Corrosion-free GRP enclosure.
- 580,000 peak candlepower.
- Polycarbonate lens, various colours available.†
- 4 Wire diode monitored board.
- Optional relay initiate.
- Optional lens guard.

**Conforms to UL standard or regulated voltage.*

†UL 1971 version available with clear lens only.

Introduction

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 lightweight 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 model XB16 contains 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.

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Certification and Specification

Certification:	UL Listed for USA and Canada. – Hazardous locations for USA and Canada: UL1604: Class I, Div 2, Groups A, B, C & D. Class II, Div. 2, Groups F & G. UL listing No. E251185. – Ordinary locations: Visual Signal Device: UL1638. UL listing No. E251185. – Hazardous locations for hearing impaired: UL1971. 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:	24V d.c., 48V d.c. 110, 120, 230, 240, 254V a.c. Conforms to UL regulated voltage output (24Vdc, 120Vac, 240Vac).
Certified Temp:	–67ºF to +158ºF (–55ºC to +70ºC).
Tube Energy:	10 Joules.
Tube life:	>1 x 10^6 flashes.
Weight:	2.2lb/1.0kg.
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Entries:	Standard 1 x 3/4" NPT pipe mount. (Contact MEDC if 1/2" NPT is required).
Terminals:	8 x 14AWG.
Labels:	Tag/Duty label option.

Electrical Ratings:

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A)	0.89	0.30	0.38	0.38	0.22	0.22	0.18

Effective candlepower (Cd): 285 at 60 f.p.m.

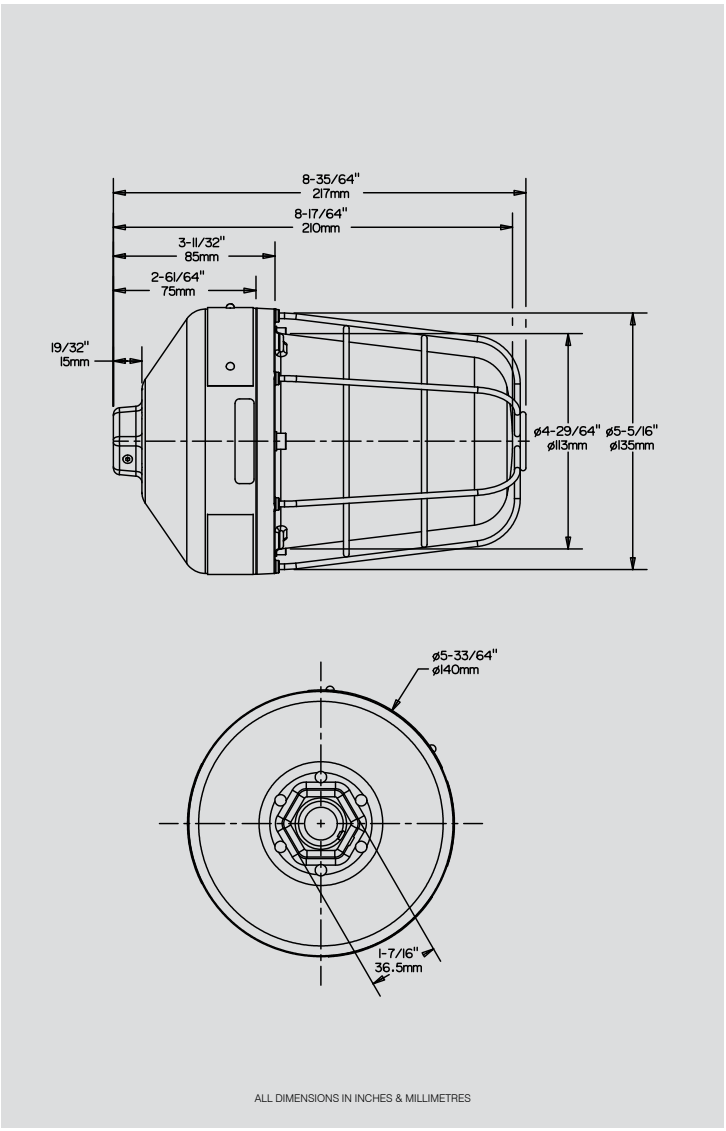
Peak candlepower: 580,000 (Peak candlepower is the maximum light intensity generated by a flashing light during its light pulse).

UL 1971 On-axis output: 15 Cd.

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

The photometric data given above has been verified by BSI. Reports are available if required.



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.

Model

XB16

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW
UL 1971	US

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Flashrate

Flashrate	Code
60 / min	60
80 / min	80
120 / min	120

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C*

* UL 1971 version available with clear lens only.

Lens Guard

Guard	Code
Yes	Y
None	N

Options

Option	Code
Tag label	T†
Duty label	D†
Relay initiate	R*
None	N

* Suitable for 24V d.c. supplies only.
† Please specify.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

Explosion-proof, Weatherproof

Features

- UL listed for USA and Canada:
  Class I, Div. 1, Groups C & D.
  Class I, Zone 1, AExd IIB.
- CSA certified.
- ATEX approved.
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +131°F.
  –55°C to +55°C.
- Fluorescent.
- Filament.
- Corrosion resistant.
- Fluorescent version suitable for obstruction or warning.

Introduction

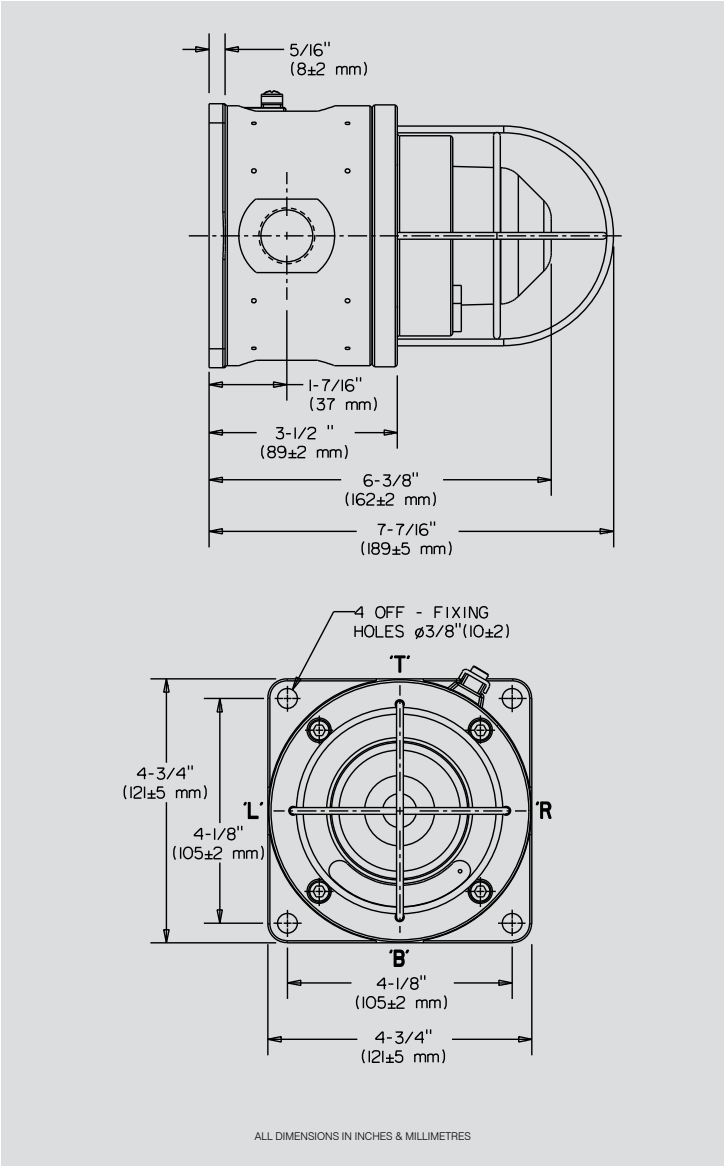
These certified steady lights have been designed for use in harsh environmental conditions.

The marine grade stainless steel or alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

European, Russian, Chinese and other worldwide approvals are available, refer to main section of catalogue.

Certification and Specification

Model:	SM87 LU1 – Fluorescent. SM87 LU3 – Filament.
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.
Material:	Grade 316 ANC4B Stainless Steel or Marine Grade Aluminium Alloy LM25TF with glass lens.
Finish:	Epoxy paint finish as standard or to customer's specification.
Voltage:	12, 24, 48V d.c., 110V (LU3 only), 220V, 240V, 254V a.c. 50Hz as standard. 60Hz available if required.
Fluorescent:	10 Watt tube light output 600 Lumens (240V & 254V a.c. versions). 5 Watt tube max. light output 250 Lumens (d.c. versions).
Filament:	Single filament fitted as standard10 watts. Others may be available, please contact MEDC with your requirements.
Certified Temp:	SM87 LU1/3 -67°F to +131°F. -55°C to +55°C.
Weight:	Alloy - 4.4lb/2.0kg approx. Stainless Steel - 8.4lb/3.8kg approx.
Ingress Protection:	NEMA 4x and 6. IP66 & 67.
Entries:	SM87 LU1& 3 – 2 x 1/2" or 3/4" NPT.
Terminals:	SM87 – 4 off for up to 14 AWG cable.
Power:	LU1- 7 Watts for 12V d.c., 24V d.c., 48V d.c., 220V a.c. 14 Watts for 240V a.c., 15 Watts for 254V a.c. LU3- Single filament fitted as standard 10W. Other options are available - please contact MEDC with your requirements.



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.

Model

SM87

Model

Type	Code
Fluorescent (Alloy)	LU1A†
Fluorescent (S/Steel)	LU1S*
Filament (Alloy)	LU3A†
Filament (S/Steel)	LU3S*

* Not available UL Listed.
† Not available CSA Certified.

Certification

Certification	Code
UL Listed	UL
CSA Certified	C

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c. (LU3 only)	110
220V a.c.	220
240V a.c.	240
254V a.c.	254

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS (not on LU1)	*R
LHS	*L

* Prefix position with entry size code.
e.g. 3R3B= 1/2" Right and Bottom entries.

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify.

Finish

Finish	Code
Red	R
Blue	B
Yellow	Y
Gray	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Features

- UL Listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 1, Groups C & D.
    - Class I, Zone 1, AExd IIB T4/T5.
  - Ordinary locations: Visual-Signal Device.
- ATEX approved.
- NEMA 4x & 6, IP66 & IP67.
- *Certified temperature: –67°F to +131°F.
  –55°C to +55°C.
- Fluorescent up to 39W.
- Filament Lamps supplied.
- Corrosion Resistant.
- Optional lens guard.
- Tapered spigot flamepath.
- Relay initiate.

**Model dependent.*

Introduction

These certified steady lights have been designed for use in flammable atmospheres and harsh environmental conditions. The marine grade alloy or stainless steel enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required.

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

European and other world wide approvals are available, refer to main section of catalogue.

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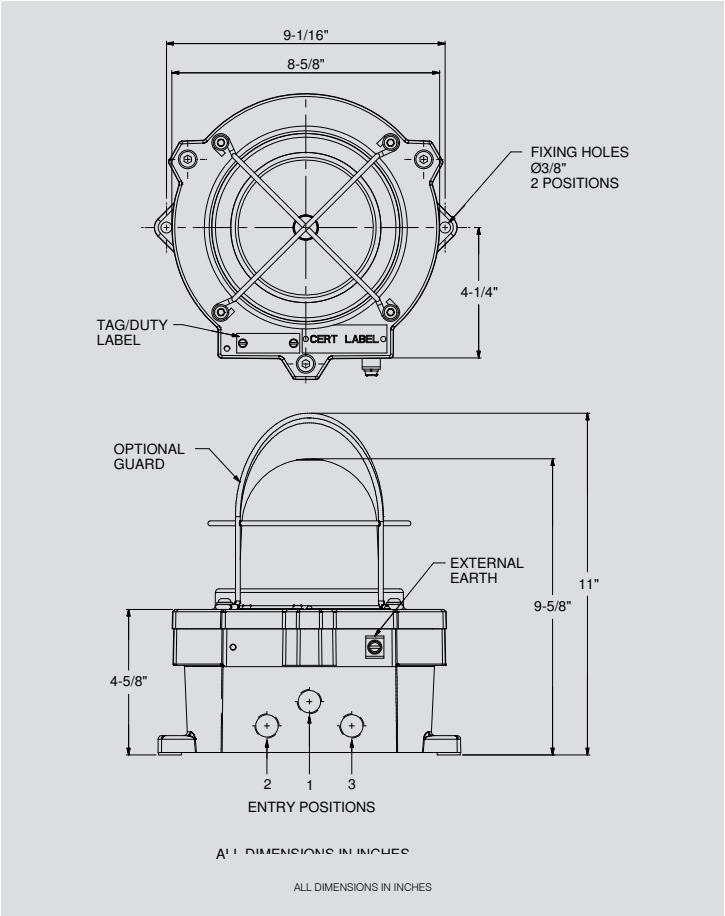
Certification and Specification

Models:	FL4 – Up to 3 x 13 Watt PL compact fluorescent lamps. FB4 – 100 watt GLS filament lamps. E27 holder as standard.
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.
Material:	LM25TF Marine Grade Alloy body. Grade 316 ANC48 Stainless Steel body. Toughened Wellglass.
Finish:	Gray epoxy paint finish as standard or to customer's specification.
Voltage:	FL4 24V d.c., 120V a.c., 240V a.c. ± 10% 50/60hz. FB4 110V a.c. ± 10% 50/60hz.
Lamps:	Units are supplied with lamps.
Certified Temp:	FL4 –4ºF to +131ºF (–20ºC to + 55ºC). FB4 –67ºF to +131ºF (–55ºC to + 55ºC).
Weight:	FL4 14 – 17lb/6.5 - 7.9kg (add 19lb/8.4kg for stainless steel). FB4 13lb/6.4 kg.
Ingress Protection:	NEMA 4x & 6. IP66 and IP67.
Entries:	Up to 3 x 1/2" NPT or 2 x 3/4" NPT.
Terminals:	8 off suitable for up to 10 AWG conductor size.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Labels:	Tag/Duty label option.

FL4 Lamp Details

Unit Type	Lamp Type	Lamp Ref	Holder Type
FL4	DC Osram Dulux D/E 13W	DD/E 13/XX	G24q–1
	Philips PLC 13W	PLC 13 P4	G24q–1
FL4 AC	Osram Dulux D/E 13W	DD/E 13/XX	G24q–1
	Philips PLC 13W	PLC 13	G24d–1

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



Temperature Ratings

Unit Type	Voltage/Wattage	T Class	Max. Amb.
FL4	DC units	T5	55ºC
	AC units	T4	55ºC
FB4	60W	T4 (UL T3)	55ºC
	100W	T3	55ºC

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.

Model

Code
FL4
FB4

Voltage

Voltage	Code
24V d.c.	B
110V a.c.*	E
120V a.c.†	F
240V a.c.†	H

* FB4 only.
† FL4 only.

Certification

Certification	Code
UL	UL
†UL (ordinary locations)	UW

† UW only available FL4.

Terminals

8U

Type	Code
8 x 10 AWG	8U

Entries

Entries	Code
1/2" NPT	*M
3/4" NPT	*N

* Prefix entry size (see diagram above) with entry position code e.g. 2M3M.

Lamp Wattage

Wattage	Code
FL4 13W (1 x 13W tube)	13
26W (2 x 13W tubes)	26*
39W (3 x 13W tubes)	39*
FB4 60W	60
100W	100

* Only available in the following voltage:
26W – a.c. only.
39W – H (240v a.c.).

Lens

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Yellow	Y
Amber	A

Lens Guard

Guard	Code
None	0
Guard	1

Unit Options

Option	Code
Duty*	D
Tag*	T
24V d.c. (relay init.)	R
None	N

* Please specify wording.

Material

Material	Code
Stainless Steel	0
Alloy	1

Finish

Finish	Code
Gray	G
Red	R
Blue	B
Yellow	Y
White	W
Other*	S

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Location, Weatherproof

Features

- UL listed for USA and Canada:
  - Class I, Div 2, Groups C & D.
  - Class I, Zone 1, AExd IIB T4/T5.
- ATEX approved.
- NEMA 4x and 6, IP66 and IP67.
- Certified temperature: –67°F to +131°F*.
  –55°C to +55°C.
- Filament: FB11 – 10W.
  FB12 – 60W.
- Corrosion resistant GRP.
- Optional stainless steel backstrap.
- Various lens colours.
- Optional lens guard.

**Model dependent.*

Introduction

These certified steady lights have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The housing is manufactured completely from a U.V. stable, glass reinforced polyester. Stainless steel screws and mounting bracket are available ensuring a totally corrosion free product.

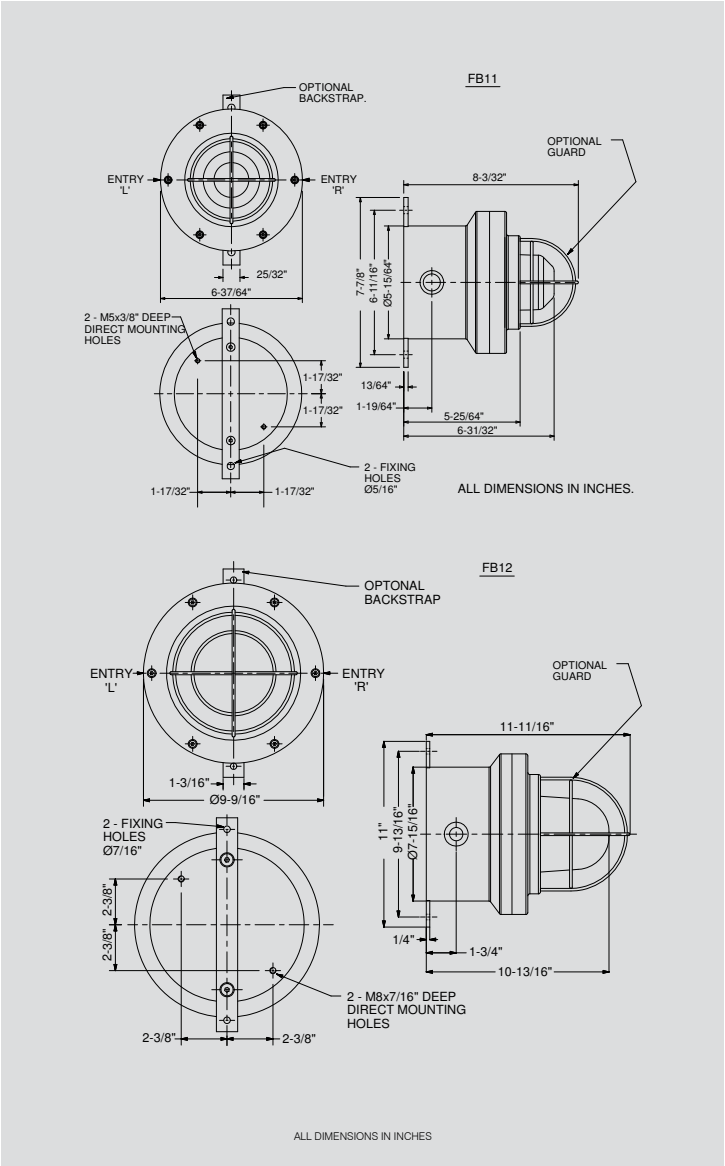
Units can be painted to customer specification and supplied with identification labels.

European and other world wide approvals are available, refer to main section of catalogue.

c UL us Ex ATEX IECEx

Certification and Specification

Model:	FB11 & FB12 – Filament.
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.
Material:	Body: – Glass reinforced polyester. Lens: – Glass. Cover screws + backstrap: – stainless steel 316.
Finish:	Natural black or painted to customer specification.
Voltage:	FB11 – 24, 48V d.c. 110, 220, 240, 250V a.c. FB12 – 120V a.c., 24V d.c.
Filament:	FB11 – 10W filament fitted as standard. FB12 – 60W filament fitted as standard.
Certified Temp:	FB11: –67ºF to +131ºF (–55ºC to +55ºC) T4. –67ºF to +104ºF (–55ºC to +40ºC) T5. FB12: –67ºF to +131ºF (–55ºC to +55ºC) T4. –67ºF to +104ºF (–55ºC to +40ºC) T5.
Weight:	FB11: 6.2lb/2.8kg. FB12: 16.7lb/7.6kg.
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Entries:	2 x 1/2" NPT.
Terminals:	FB11 – 6 x 14 AWG. FB12 – 6 x 10 AWG.



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.

Model

FB11UL
FB12UL

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048*
110V a.c.	110*
120V a.c.	120†
220V a.c.	220*
240V a.c.	240*
254V a.c.	254*

* FB11 only.
† FB12 only.

Lamp Wattage

Wattage	Code
FB11 10W	10
FB12 60W	60
FB12 100W	100

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Lens Guard

Guard	Code
None	N
Yes	Y

Fixing

B

Fixing	Code
Direct Mounting with Backstrap	B

Earth Continuity

N

Continuity	Code
None	N

Tag/Duty

Label	Code
None	N
Yes	Y*

* Please specify.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Gray	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Locations, Weatherproof

Features

- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class I, Zone 1, AExd IIC T3/T4*.
  - Ordinary locations: Visual-Signal Device.
- CSFM approved.
- ATEX approved.
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C*.
- Pipe mount or direct mount enclosure.
- Corrosion-free GRP.
- 60W or 100W filament lamp.
- Optional stainless steel backstrap (direct mount version only).
- Various lens colours.
- Optional cast or wire lens guard.
- Up to 3 x 3/4" NPT entries.

**Version dependent.*

Introduction

These listed steady lights have been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance is required.

The housings are manufactured completely from a U.V. stable, glass reinforced polyester.* Stainless steel screws and mounting bracket are available ensuring a totally corrosion-free product.

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

European and other world wide approvals are available, refer to main section of catalogue.

**UL pipe mount variants use an alloy lens cover, painted black where applicable.*

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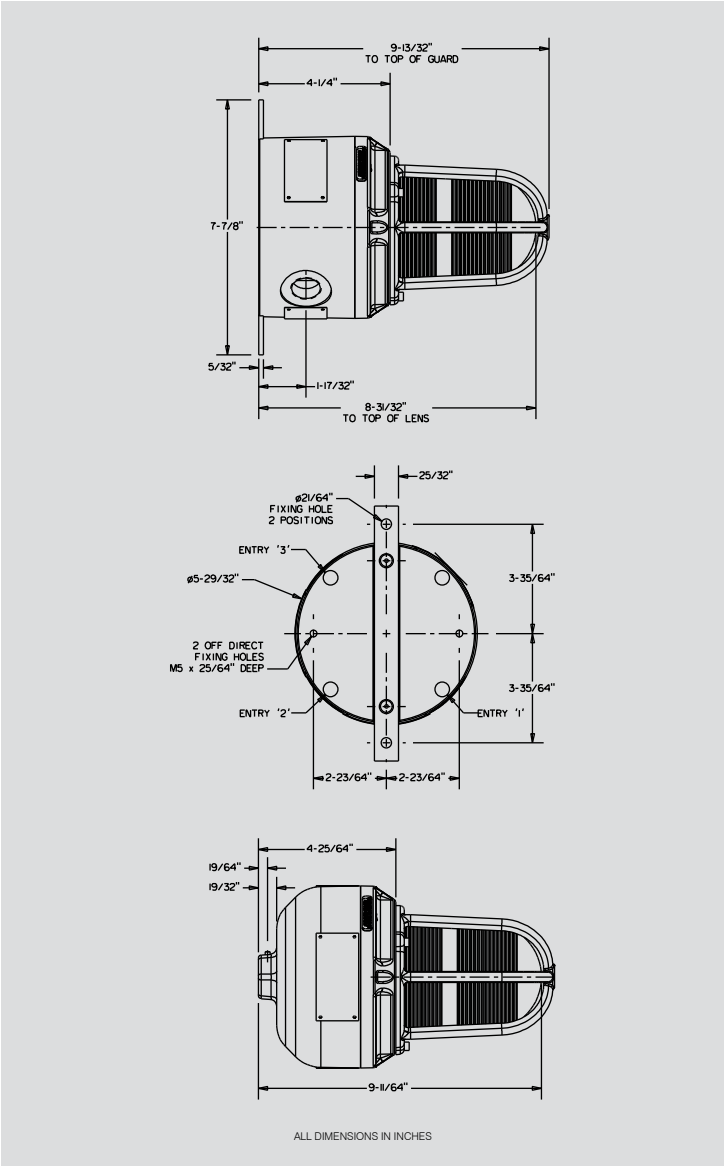
Certification and Specification

Certification:	UL Listed for USA and Canada. – Hazardous locations: Class I, Div 2, groups A, B, C & D. Class 1, Zone 1, AExd IIC T3/T4. UL listing No. E187894. – Ordinary locations: Visual Signal Device. UL listing No. S8128.
Material:	Body: Glass reinforced polyester. (UL Pipe mount - alloy lens cover). Lens: Glass. Backstrap: stainless steel 316. Wire Guard (optional): Stainless steel wire. Cast Guard (optional): Aluminium LM25M.
Finish:	Natural black or painted to customer's specification.
Voltage:	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.
Lamp Type:	60W or 100W GLS filament.
Lamp Holder:	E27 as standard.
Certified Temp:	60W: -67ºF to +131ºF (-55ºC to +55ºC) T4. -67ºF to +158ºF (-55ºC to +70ºC) T3. 100W: -67ºF to +104ºF (-55ºC to +40ºC) T3.
Weight:	Pipe mount: 5 3/4lb/2.6kg; Direct mount: 6 1/2lb/3.0kg.
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Entries:	Supplied as 2 x 3/4" NPT (direct mount) or 3/4" (pipe mount) as standard. Other options available: Up to 3 x 1/2" NPT or 3 x 3/4" NPT (direct mount); 1/2" NPT (pipe mount) – contact sales office to order.
Terminals:	Direct mount: 12 x 14AWG.
Pipe mount:	8 x 14AWG.
Labels:	Tag/Duty label option.

Electrical Ratings:

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A) - 60W lamp	2.5	1.25	0.55	0.50	0.26	0.25	0.24
Current (A) - 100W lamp	4.2	2.1	0.91	0.83	0.43	0.42	0.39



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.

Model: FB15

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Lamp Wattage

Wattage	Code
60	60
100	100

Lens Colour

Colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Guard

Guard	Code
None	N
Cast	C
Wire	W

Fixings

Fixings	Code
Direct mount without backstrap	D
Direct mount with backstrap	B

Options

Option	Code
None	N
Tag label	T*
Duty label	D*
Blanking Plug	P

* Please specify.

Finish

Finish	Code
Black	N*
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Explosion-proof, Weatherproof

Features

- UL listed:
  - Class I, Div. 1, Groups C & D.
  - Class 1, Zone 1.
- ATEX approved.
- NEMA 4x, IP66.
- Certified temperature: –13°F to +158°F.
  –25°C to +70°C.
- 4 Wire diode monitored connection for operation in supervisory mode.
- NFPA 72 compliant.
- Up to 103 dB(A) output @ 10 feet.
- Marine grade alloy.
- 27 output tones, user selectable.
- 12V, 24V & 48V d.c.
- 110V a.c.
- Tones can be selected remotely.
- Any two tones may be switched via the external voltage supply.

Introduction

This range of lightweight, explosionproof horns have been designed with a high weatherproof rating to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

New electronic circuitry allows the DB1P and DB1HP to be switched between two selectable tones by either reversing the supply polarity, or connecting a second voltage supply.

The higher output DB1HP is particularly suitable for noisy environments.

European, Russian and other worldwide approvals are available, refer to main section of catalogue.

UL Ex ATEX IECEx

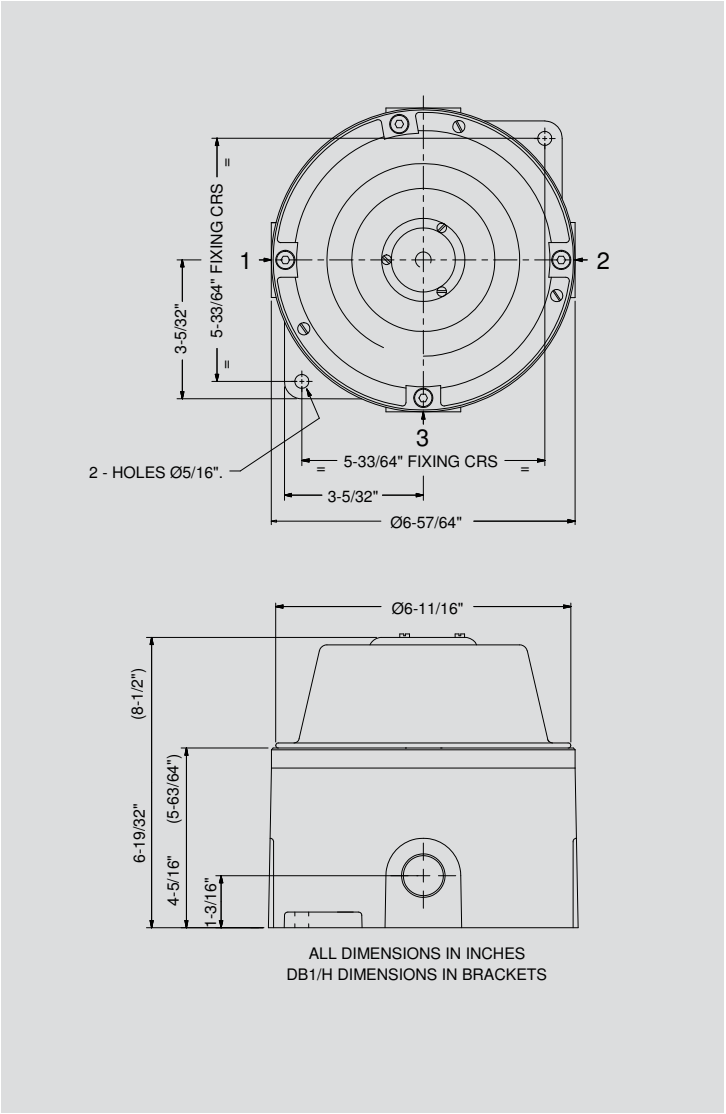
Certification and Specification

Certification:	UL Listed for Class I, Div. 1. Groups C & D and Class I, Zone 1. UL Listing No. E187688.
Material:	LM25 corrosion resistant alloy with stainless steel cover screws. ABS flare.
Finish:	Epoxy paint finish as standard or to customer specification.
Weight:	DB1P 7.7lb/3.5kg approx. DB1HP. 12.3lb/5.6kg approx.
Certified Temp:	–13ºF to +158ºF. –25ºC to +70ºC.
Ingress Protection:	NEMA 4x, IP66.
Entries:	Up to 3 x 1/2" or 3/4" NPT.
Terminals:	Suitable to accept up to 10 AWG conductor size.
Output:	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.
Labels:	Duty and tag labels optional.
Tone Selection:	27 user selectable tones available.

Tone	Tone Frequency	Tone	Tone Frequency
1	Alt Tones 800/970 Hz at 1/4 sec.	15	554 Hz for 0.1S/440 Hz for 0.1S
2	Sweeping 800/970 Hz at 7 Hz	16	Int 660 Hz 150 mS on 150 mS off
3	Sweeping 800/970 Hz at 1 Hz	17	Int 660 Hz 1.8 sec. on 1.8 sec. off
4	Continuous at 2850 Hz	18	Int 660 Hz 6.5 sec. on 13 sec. off
5	Sweeping 2400-2850 Hz at 7 Hz	19	Continuous 660 Hz
6	Sweeping 2400-2850 Hz at 1 Hz	20	Alt 554/440 Hz at 1 Hz
7	Slow Whoop	21	Int 660 Hz at 7/8 Hz
8	Sweep 1200-500 Hz at 1 Hz	22	Int 2850 Hz 150 mS on 100 mS off
9	Alt Tones 2400/2850 Hz at 2 Hz	23	Sweep 800-970 Hz at 50 Hz
10	Int Tones of 970 Hz at 1 Hz	24	Sweep 2400-2850 Hz at 50 Hz
11	Alt Tones 800/970 Hz at 7/8 Hz	25	3x970 Hz pulses 0.5 off, 1.5 off
12	Int Tone at 2850 Hz at 1 Hz	26	3x2850z pulses 0.5 on/0.5 off, 1.5 off.
13	970 Hz at 1/4 sec. on 1 sec. off	27	Int 3100 Hz 0.3 sec. on 0.7 sec. off
14	Continuous at 970 Hz		

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 d.c. 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.



Current Consumption:

	DB1P	DB1HP
	Steady State	**Steady State**
12V	125mA	900mA
24V	250mA	700mA
48V	250mA	–
110V	60mA	200mA

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.

Model

DB1PULA **DB1HPULA**

Voltage

Voltage	Code
12V d.c.	012
24V d.c.	024
48V d.c.	048
110V a.c.	110

Entries

Entries	Code
1/2" NPT	C
3/4" NPT	D
LHS	*1
RHS	*2
Bottom	*3

* Prefix position with entry size code e.g. C1C3 = 1/2" NPT left and bottom entries.

Duty Label

Duty Label	Code
None	N
Required	D*

* Please specify.

Tag Label

Tag Label	Code
None	N
Required	T*

* Please specify.

Options

Options	Code
None	N
Relay Initiate	R
Remote tone Select	S
End of line resistor	E*

* State value.

Finish

Finish	Code
Red	R
Gray	G
Special	S*

* Please specify.

For all other global certification please refer to standard data sheet.

Hazardous Location, Weatherproof

Introduction

This range of lightweight all GRP, explosion-proof horns intended for use in potentially explosive atmospheres have 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.

European, Russian, Chinese and other worldwide approvals are available, refer to main catalogue.

Features

- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class II, Div. 2, Groups F & G.
    - Class I, Zones 1 & 2, AExd IIC T5.
  - Ordinary locations: Audible-Signal device.
- ULC listed to Canadian Safety Standards.
- Conforms to ULC regulated power supplies.
- CSFM approved.
- ATEX approved.
- NEMA 4x & 6, IP66 & 67.
- SIL 1 Certified.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- All GRP corrosion free.
- Up to 108dB(A) output at 10 feet.
- Integral volume control.
- 27 tones, user selectable.
- Two tones may be switched via the external voltage supply – a.c. or d.c. versions.
- Horn/Strobe Combination Unit available.

c UL us ULC LISTED ATEX IECEx

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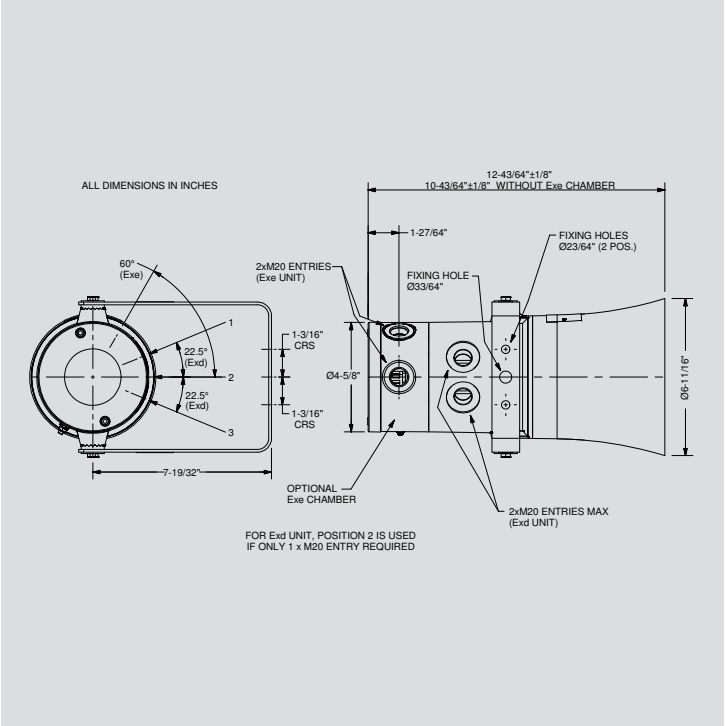
Certification and Specification

Certification:	UL Listed for USA and Canada. – Hazardous locations: Class I, Div. 2, Groups A-D. Class II, Div. 2, Groups F & G. Class I, Zones 1 & 2, AExd IIC T5. UL Listing No. E203310. – Ordinary locations: Audible-Signal device. UL Listing No. S8116. ULC Listed: Listing No. CE132. SIL 1 Certification Cert. No. Sira FSP12003.
Material:	Body & horn, glass reinforced polyester, natural black or painted to customer specification. Swivel bracket and captive cover screws in stainless steel.
Finish:	Body and horn, natural black or painted to customer colour requirements.
Voltage:	Up to 48V d.c. Up to 254V a.c.
Weight:	13.2lb/6.0kg approx.
Certified Temp:	–67ºF to +158ºF. –55ºC to +70ºC.
Ingress Protection:	NEMA 4x & 6, IP66 & 67.
Entries:	Up to 2 x 1/2" NPT.
Terminals:	4 x 14 AWG (a.c.), 6 x 14 AWG (d.c.).
Output:	DB3 105 ±3dB(A) Typical at 10 feet (tone dependent). ULC Rating: 102dB(A) at 3 metres.
Mounting:	Stainless steel bracket with ratchet facility.
Labels:	Duty and tag labels optional.
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 DB3P:	Switchable between two tones: d.c. (i) Reversing the polarity of the supply, or (ii) by a 3 wire common +ve system, switching between the two –ve lines. a.c. (iii) Closing/opening connection between 2 terminals e.g. by using a volt free relay contact at the panel. 2 tones must be specified at time of order.
3 & 4 Tone Unit:	Remote 3 & 4 tone unit available – contact sales office for details.



Volume Control

*Nominal Output dB(A)	Input Current mA
83	50
95	100
98	150
101	200
102	250
104	300
105	350

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

Current Consumption

V	I
12V d.c.	760mA
24V d.c.	380mA
48V d.c.	190mA
110V a.c	135mA
120V a.c.	124mA

V	I
220V a.c.	68mA
230V a.c.	65mA
240V a.c.	62mA
254V a.c.	59mA

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.

Model

DB3
DB3P

Certification

Certification	Code
UL	UL
UL (ordinary locations)	UW
ULC	UC*

* ULC version only available with voltage Codes 024, 048, 120. These codes conform to ULC regulated power supplies (excluding 048).

Voltage

Voltage	Code
12V - 48V d.c.	048
110V a.c.	110
120V a.c.	120
220V a.c.	220
230V a.c.	230
240V a.c.	240
254V a.c.	254
Regulated 24V d.c.(ULC only)	024

Labels

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify wording.

Entries

Entries	Code
1 x 1/2" NPT	1C
2 x 1/2" NPT	2C
2 x 1/2" NPT	2CP*

* With one certified plug fitted.

Options

Option	Code
None	N
End of line resistor	E*

* State value.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

For all other global certification please refer to standard data sheet.

Intrinsically Safe

Features

- FM approved – Class I, Div 1, Groups A, B, C & D.
- CSA certified – Class I, Groups A, B, C & D.
- ATEX approved.
- NEMA 4, IP65.
- Certified temperature: –4°F to +131°F.
  –20°C to +55°C.
- Volume control as standard.
- Up to 93 dB(A) output at 10 feet.
- 26 different sound outputs, user selectable by internal switches.
- Encapsulated electronics.
- Second tone selectable using third wire.

Introduction

This range of lightweight, intrinsically safe horns have been designed for industrial environments where potentially explosive atmospheres are present.

Suitable for use in all divisions, the units offer up to 26 selectable tones using a third wire.

The unit is available in 12V and 24V models.

European and other worldwide approvals are available, refer to main section of catalogue.

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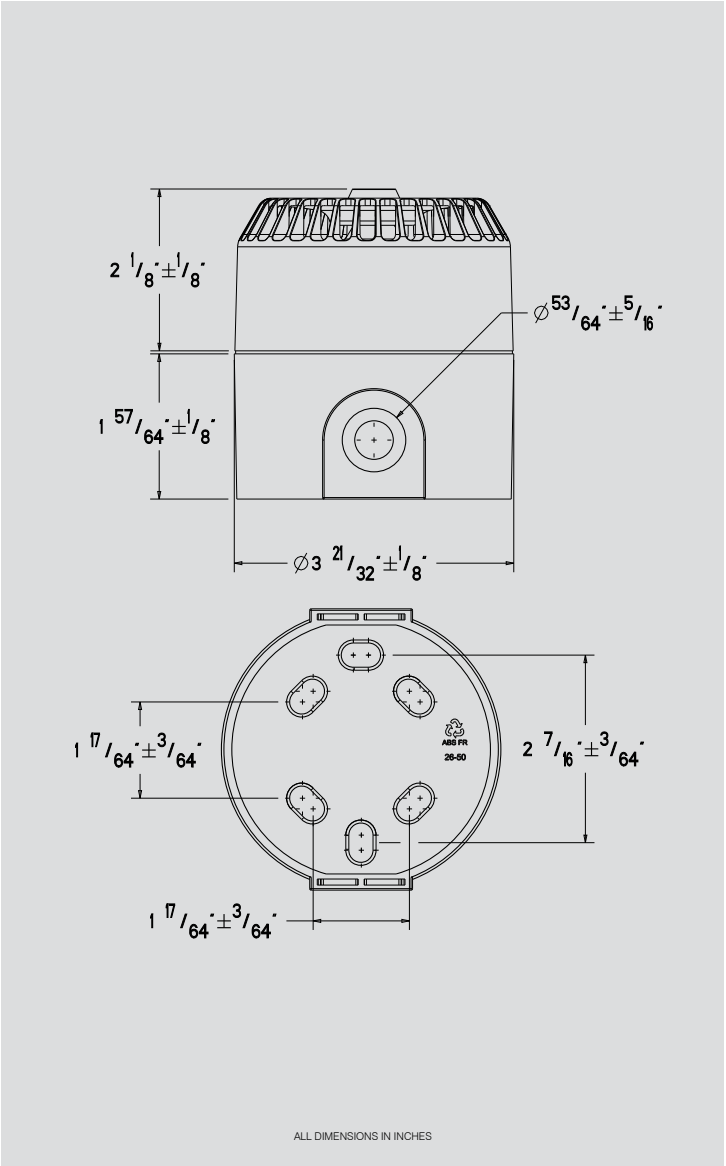
Certification and Specification

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, C & D, Cert. No. 79122.
Material:	A.B.S. (Acrylonitrile Butadiene Styrene).
Finish:	Available in Red as standard.
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.
Certified Temp:	–4ºF to +131ºF. –20ºC to +55ºC.
Weight:	0.7lb/0.3kg.
Entries:	2 x M20 side entries.
Terminals:	6 off suitable to accept up to 14 AWG.



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.

Model

DB5

Certification

Certification	Code
FM Approved	FM
CSA Certified	C

Voltage

Voltage	Code
12V	012
24V	024

Tag Label

Tag Label	Code
None	N
Yes	Y*

* Please specify.

Finish

Finish	Code
Red	R
Special	S*

* Please specify.

For all other global certification please refer to standard data sheet.

Ex-Signalling bell dGW 21

Crouse-Hinds by EATON

Hazardous locations

Introduction

FHF's new electromechanical alarm bell for Division 2 has been developed specifically for the corrosive and hazardous environments found in the process industries; for onshore chemical and petrochemical plants, off-shore platforms, food processing and pharmaceutical plants.

The alarm bell has been developed to withstand the extreme temperatures, high humidity, exposure to sea water and dust, as well as heavy mechanical wear and tear.

Features

- Precision GRP (Glass Fiber Reinforced) housing includes the junction box with ½"NPT conduit entries and is resistant to acids, sea water, alkali and moisture.
- Weatherproof Type 4X / IP66 environmental ratings.
- Volume - Approx. 105 dB (A).
- Ringing emphasis at 1000Hz stands out clearly against low frequency ambient and machinery noises.
- Fully encapsulated / sealed electronics provide unparalleled resistance to chemicals and moisture in harsh environments.
- 316 SS mounting bracket included.

Acoustic signalling device in a chemical plant

The emphasis of the ringing lies at approx. 1000 Hz, as a result of which the signal stands out clearly against lower frequency ambient noises.

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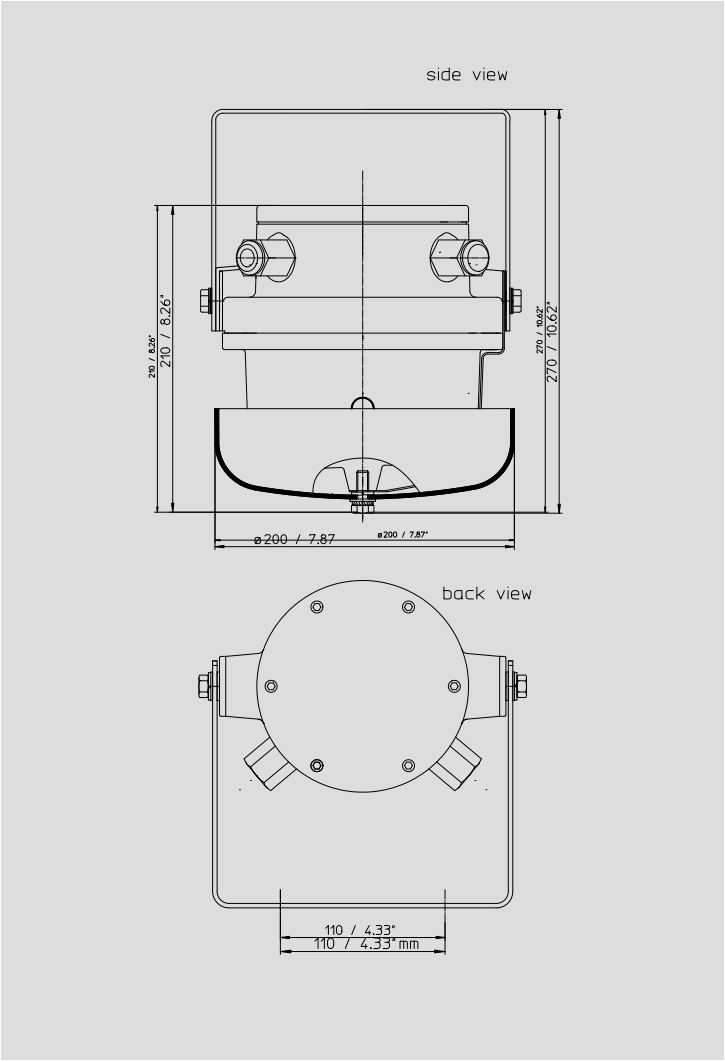
Certification and Specification

Type of protection:	Electrical Protection UL Nonincendive, Class 1, Division 2 Groups A, B, C, D T4
Certified temp:	-4ºF to + 104ºF
Housing:	GRP (Glass Reinforced Polyester)
Colour:	Black
Weight:	5.5 kg (12 lb.)
Dimensions:	Approx. 8" high x 8"diameter.
IP rating:	4X IP66
Cable entries:	½" NPT, Integral junction box
Operation mode:	Continuous
Operating position:	Mounting Bell dome to the front, tappet downwards. Mountable in any position
Volume Approx:	105 dB (A) at 1 m distance
Operating Voltage:	24 VDC, 120 VAC



Ordering Information

Type	Name	Voltage Ue	Oper. Volt range Ue	Current Cons	Article no.
dGW 21	Alarm Bell	24 VDC	+10/-15%	0.35 A	F910 242 70
dGW 21	Alarm Bell	120 VAC 60Hz	+10/-15%	0.18 A	F911 201 70

Crouse-Hinds by EATON

Hazardous Location, Weatherproof

Features

- UL listed for USA and Canada:
  Class I, Div 2, Groups A, B, C & D.
  Class II, Div II, Groups F & G.
  Class I, Zone 1, AExd IIC T5.
- CSFM approved.
- ATEX approved.
- NEMA 4x and 6, IP66 & 67.
- Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- GRP corrosion-free flamepaths.
- 109dBA at 25 watts at 10 feet.
- 8, 15 and 25 watt versions.
- Power tappings, via integral transformer.
- Ratcheted swivel bracket.
- Stainless steel sinter.
- Stainless steel mounting bracket.
- Tapered flamepath.
- 100V line and 8Ω versions available.

Introduction

This range of loudspeakers, intended for use in potentially explosive atmospheres, has a power rating of up to 25 watts and is suitable for use in all gas groups including hydrogen.

The flamepaths, flare and the body are manufactured completely from a UV stable glass reinforced polyester.

316 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.

European, Russian and other worldwide approvals are available, refer to main section of catalogue.

c UL us ATEX IECEx

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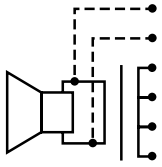
Certification and Specification

Certification:	UL Listed for USA and Canada. – Class I, Div 2, Groups A-D. – Class II, Div II, Groups F & G – Class I, Zone 1, AExd IIC T5. UL Listing No. E203310. Zones 1 and 2. Not for use in atmospheres containing carbon disulphide.
Material:	Body & horn in antistatic, UV stable, glass reinforced plastic. Swivel bracket in stainless steel. Captive cover screws in stainless steel.
Finish:	Body & horn, natural black or painted to customer's specification.
Rated Power:	8, 15 or 25 watts RMS continuous (at 77°F).
Certified Temp:	–67°F to +158°F. –55°C to +70°C.
Weight:	11lb/5.0kg approx. dependent on model.
Ingress Protection:	NEMA 4x and 6, IP66 & 67.
Entries:	Up to 2 x 1/2" NPT.
Terminals:	8 x 14AWG. Other terminal arrangements available on request.
Output:	97 dBA at 1 watt at 10 feet. 109 dBA at 25 watts at 10 feet. Measured in accordance with IEC 268.
Frequency Range:	400Hz to 8kHz.
Voice Coil Impedance:	8 ohms.
Mounting:	Bracket with ratchet facility.
Labels:	Duty and tag labels optional.
Transformer:	Used to vary the rated power by selecting different tappings (see table below).

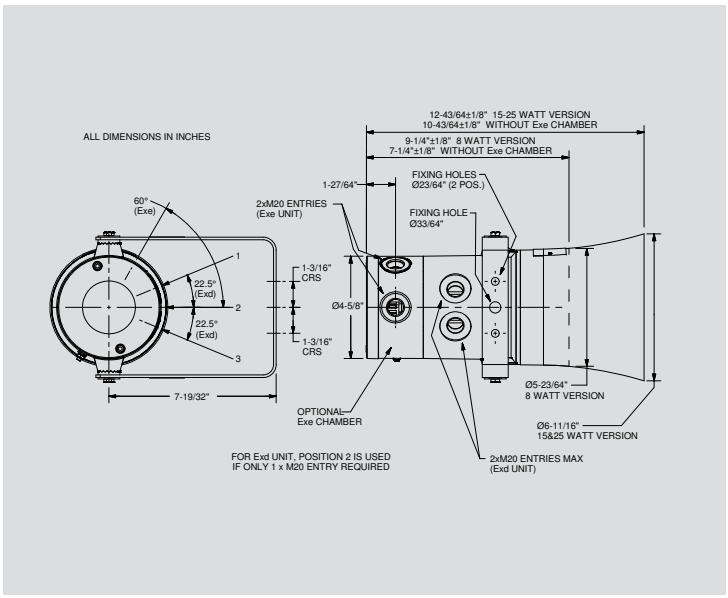
Transformer Tappings	Power 25W	15W	8W
1:2	25.0	15.0	8.0
2:3	12.5	7.5	4.0
3:4	6.0	5.0	2.0
1:3	4.0	4.0	1.5
2:4	2.0	2.0	0.7
1:4	1.0	0.8	0.4

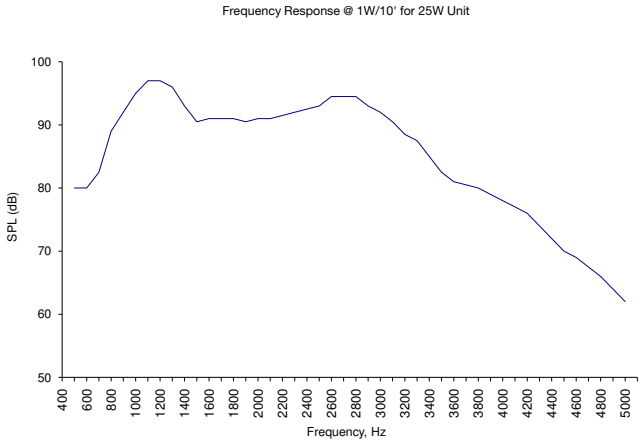
Transformer Tapping Options:

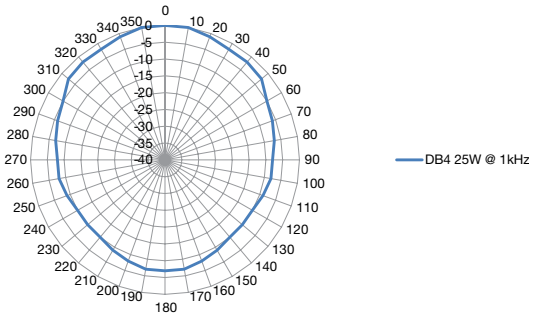


i) Loop in/loop out (4 x 2) power tap change; 8 terminals.

ii) 4 terminal tap change with 2 terminals (5 & 6) directly connected to driver (8 ohms).







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.

Model: DB4

Max Rated Power

Power	Code
8 watt	8
15 watt	15
25 watt	25

Certification: UL

To order ATEX approved version, see European data sheet.

Transformer

Transformer	Code
Yes	X*
No	N

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

Tag/Duty

Label	Code
Duty	D*
Tag	T*
None	N

* Please specify wording.

Entries

Entries	Code
1 x 1/2"NPT	1C
2 x 1/2"NPT	2C

To specify certified plug, suffix appropriate code with 'P'. e.g. 2CP is 2 x 1/2" NPT entries with one certified plug.

Finish

Colour	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Hazardous Locations, Weatherproof

Introduction

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.

European and other world wide approvals are available, refer to main section of catalogue.

Features

- UL listed for USA and Canada:
  - Hazardous locations:
    - Class I, Div 2, Groups A-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.
- 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 8Ω versions available (other voltages available on request).

**Model dependent.*

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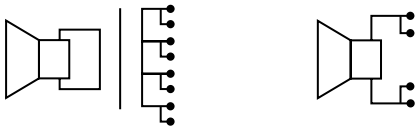
Certification and Specification

UL Haz Locs:	Listing no. E203310A. Class 1, Div 2, Groups C & D, Class 1, Zone 1, AExde IIB T3. Class 1, Div 2, Groups A - D, Class 1, Zone 1, AExde IIC T110ºC.
UL Ord Locs:	Listing no. 58847. Ordinary locations: Signalling Speaker.
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 requirements.
Rated Power:	30 Watts RMS continuous (at 77ºF/25ºC).
Certified Temp:	-67ºF to +104ºF (-50ºC to +40ºC).
Weight:	12lb/5.5kg approx.
Ingress Protection:	NEMA 4 x & 6,IP66 & IP67.
Entries:	Up to 2 x M20 with 1/2" NPT adaptors or 2 x M25 with 3/4" NPT adaptors into termination (EExe) chamber.
Terminals:	8 x 2.5mm².
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-D Version: Maximum output at 1W at 10 feet is 97dBA. Maximum output at 30W at 10 feet is 109dBA.
Frequency Range:	370Hz to 8kHz.
Voice Coil Impedance:	8Ω.
Mounting:	Via stirrup with ratchet facility.
Earth Continuity:	Available via optional earthing stud or by internal earth plate.
Labels:	Optional stainless steel tag and duty labels.
Transformer:	Used by combining the rated power tappings below.

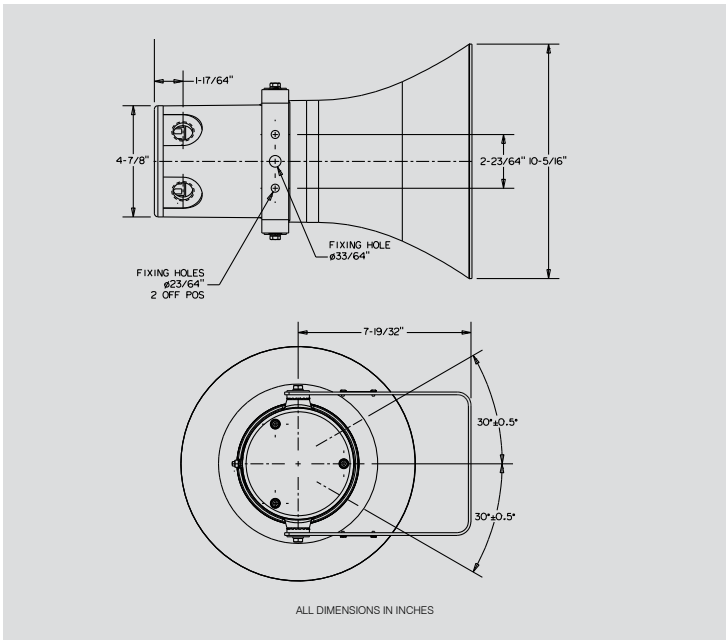
Transformer Tappings	Power W
1:2	30
2:3	25
3:4	12
1:3	6
2:4	4
1:4	2

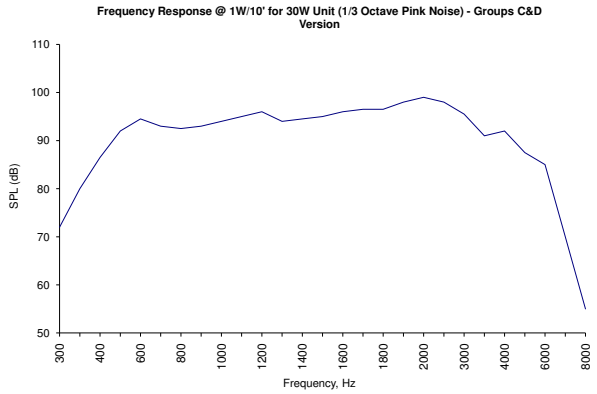
Transformer Tapping Options:

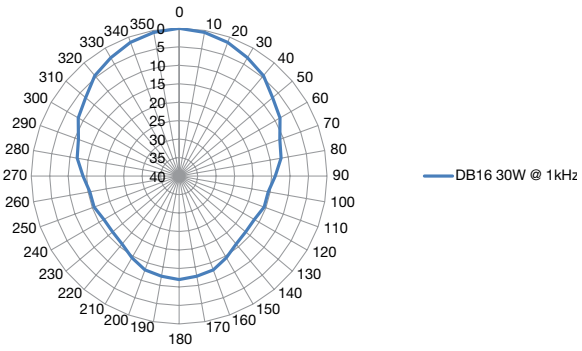


i) Loop in/loop out (4 x 2) power tap change; 8 terminals.

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







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.

Model

DB16

Certification

Certification	Code
UL (C & D)	UB*
UL (A-D)†	UC
UL (ordinary locations)	UW

Unit suitable for gas groups.
* C & D.
† A-D.

To order ATEX approved version, see European data sheet.

Transformer

Transformer	Code
Yes	X*
No	N

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

Options

Options	Code
None	N
Duty label	D*
Tag label	T*
Internal earth continuity	E
Earth stud	B

* Please specify.

Entries

Entries	Code
1 x 1/2" NPT	1M
2 x 1/2" NPT	2M
1 x 3/4" NPT	1N
2 x 3/4" NPT	2N

To specify certified plug, suffix appropriate code with 'P'.

Finish

Finish	Code
Natural Black	N
Red	R
Special	S*

* Please specify.

Crouse-Hinds by EATON

Hazardous Locations, Weatherproof

Introduction

These Status Lights have been designed for use in potentially explosive atmospheres and harsh environmental conditions. They are suitable for use offshore or onshore, where a high degree of corrosion resistance is required.

The housings are manufactured from a U.V. stable, glass reinforced poly-ester (GRP) fitted to a stainless steel mounting plate for ease of installation. Stainless steel fixings are also used, ensuring a corrosion free product.

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

Units can be supplied as 2, 3 or 4 way in any combination of xenon strobe or filament lamp. 5 way available by special order.

** 3-way Status Light shown without optional guards*

Features

- UL listed for USA and Canada. (For ULC ordering codes and technical details please contact MEDC.)
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D.
    - Class II, Div. 2, Groups F & G.
    - Class I, Zone 1, AExd IIC T3/T4/T5/T6.
    - Ordinary locations.
- Visual Signal Device.
- Marine listed.
- ATEX and IECEx Approved (see European data sheet).
- NEMA 4X & 6, IP66 and IP67.
- Certified temperature: –67°F to +158°F *.
  –55°C to +70°C.
- Corrosion free GRP.
- Filament 60W or 100W*.
- Various flash rates available for xenon units. Various lens colours.
- Optional cast or wire lens guard.

**Model dependent.*

c UL us ATEX IECEx

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Certification and Specification

Certification:	UL listed for USA and Canada. - Hazardous Locations. Class I, Div. 2, Groups A, B, C & D. Class I, Zone 1, AExd IIC T3 / T4 / T5 / T6*. UL listing No. E187894. - Ordinary Locations - Visual Signalling Device. UL listing No. S8128. *Model dependent.
Material:	Body: Glass reinforced polyester. Lens: Glass. Back plate & fixings: stainless steel 316. Wire Guard (optional): stainless steel wire. Cast Guard (optional): aluminium LM25M.
Finish:	Natural black or painted to customer specification.
Voltage:	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.

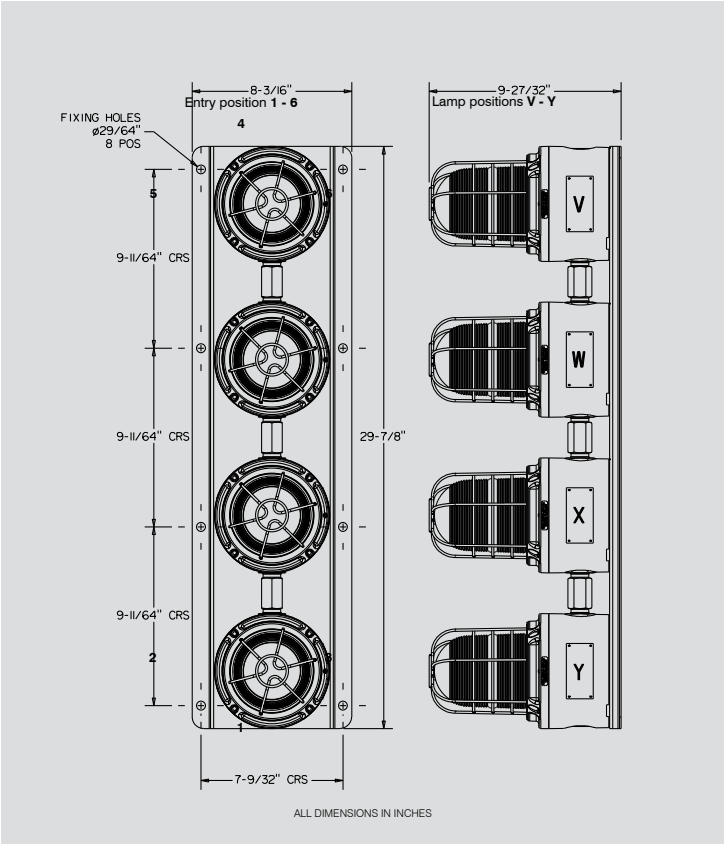
Xenon:	
Tube Energy:	15 Joules.
Tube Life:	$>1x10^6$ flashes
Flash rate:	60, 80 or 120 fpm
Certified Temp:	-67°F to +104°F (T6) -67°F to +131°F (T5) -67°F to +158°F (T4)

Filament:	
Lamp Type:	60W or 100W GLS filament
Lamp Holder:	E27 as standard
Certified Temp: 60W	-67°C to +131°F (T4) -67°C to +158°F (T3)
100W	-67°C to +104°F (T3)

Weight:	2-Way: 15.6lb, 3-Way: 23.1lb, 4-Way: 30.8lb.
Ingress Protection:	IP66 & 67, NEMA 4X & 6.
Entries:	Available with up to 2 x 1/2" or 2 x 3/4" entries in either bottom or top of unit. Entries in both bottom and top of unit by special order only.
Terminals:	(14 AWG).
Labels:	Tag/Duty label option.

Xenon electrical ratings (per way)

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A)	0.78	0.67	0.40	0.40	0.20	0.20	0.17
Effective Candlepower (Cd) - 330 at 60 fpm.							



Filament electrical ratings (per way)

	d.c.		a.c.				
Voltage	24	48	110	120	230	240	254
Current (A) - 60W lamp	2.5	1.25	0.55	0.50	0.26	0.25	0.24
Current (A) - 100W lamp	4.2	2.1	0.91	0.83	0.43	0.42	0.39

Multiplying Factor for Coloured Lenses:

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.86

eg. an amber lens gives 0.51 (approx half) of the intensity from a clear lens.

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.
For ATEX/IECEx approved versions, please see European data sheet.

Lamp Type / Positions (see diagram)

Model **SL15** | **Certification** | **V** | **W** | **X** | **Y** | **Voltage** | **Cable Entries** | **Lens Guard**

Certification

Certification	Code
UL	UL
UL (ordinary location)	UW
UL Marine	UM

Indicate light module type

Filament	Xenon
60W - 1	60fpm - 3
100W - 2	80fpm - 4
	120fpm - 5

Suffixed by colour required

Lens colour	Code
Red	R
Blue	B
Green	G
Amber	A
Yellow	Y
Clear	C

Voltage

Voltage	Code
24V d.c.	024
48V d.c.	048
110V a.c.	110
120V a.c.	120
230V a.c.	230
240V a.c.	240
254V a.c.	254

Cable Entries

Entry Size	Code
1/2" NPT	*A
3/4" NPT	*B

* Prefix with cable entry position (see diagram).
Note: maximum 2 entries bottom OR top. Bottom AND top entry(s) by special order only.

Lens Guard

Guard	Code
None	N
Cast	C
Wire	W

Duty/Tag label

Label	Code
Duty label	D*
Tag label	T*
None	N

* Specify wording.

Finish

Finish	Code
Natural Black	N
Red	R
Blue	B
Yellow	Y
Green	G
White	W
Special	S*

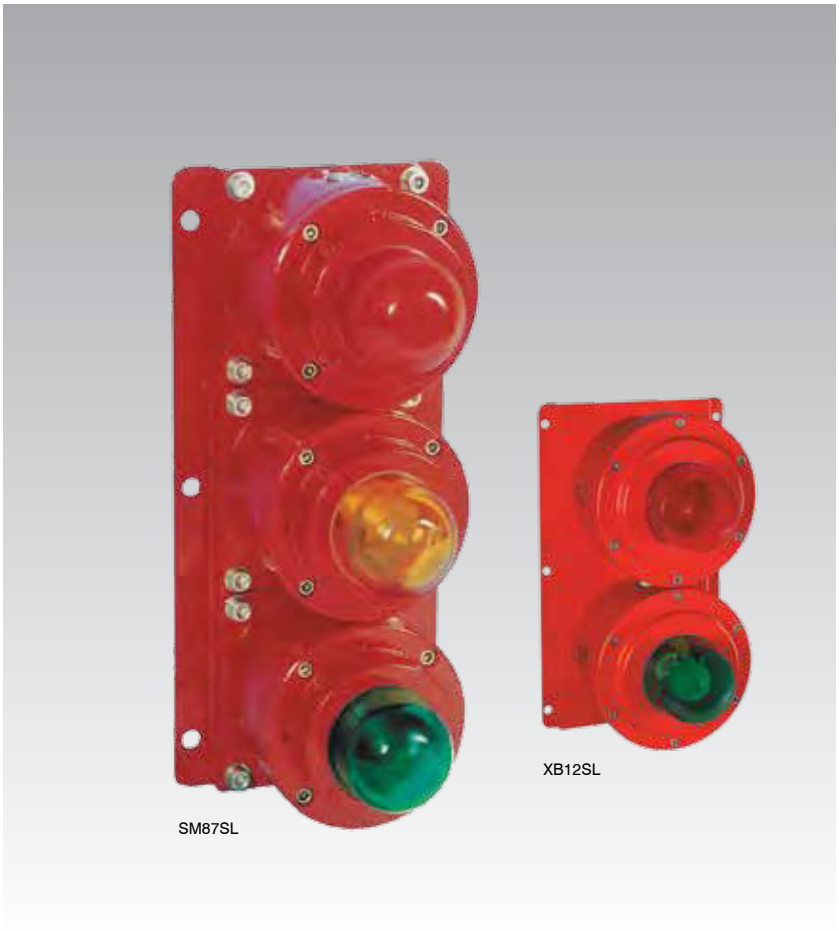
* Please specify.

Example: A two way UL approved unit with one 100W filament lamp with green lens for the top unit and one 60fpm xenon lamp with red lens for the bottom unit, rated 24V with 2 x 3/4 bottom entries, no guard, no labels, finished in red would be:

SL15UL2G3R0242B3BNNR

Crouse-Hinds by EATON

Explosion-proof, Weatherproof



Features

- *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.
- IECEx certified.
- *Xenon, fluorescent, filament.
- NEMA 4x & 6, IP66 & 67.
- Certified temperature: –67°F to +131°F.
  –55°C to +55°C.
- *4 Wire monitored connection.
- Marine grade alloy or GRP.
- Close-coupled and pre-wired to customer's requirements.

**Model dependent.*

Introduction

This range of versatile status lights has been designed to suit various offshore and onshore applications.

Available as Xenon, filament 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 clients' requirements.

All units can be supplied as 1, 2, 3, 4 or 5 way.

European, Russian and other worldwide approvals are available, refer to main section of catalogue.

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Certification and Specification

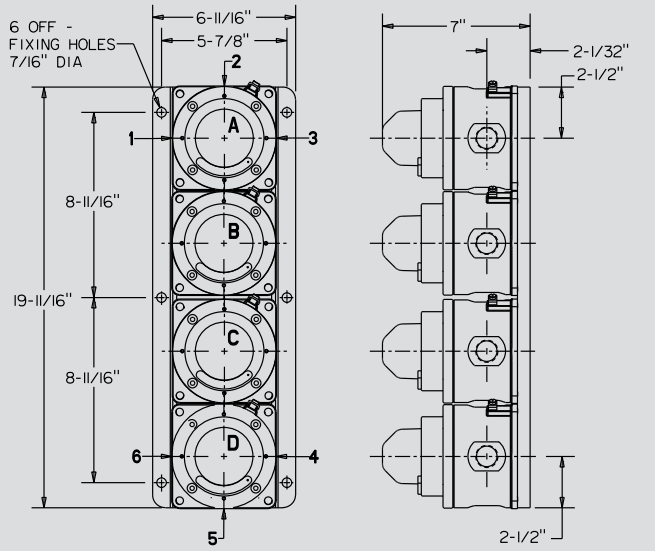
SM87SL

Lamp Types:	Xenon 6 joules maximum. Fluorescent 10W or 5W. Filament 40W maximum.
Certification:	UL Listed for USA and Canada Class I, Div 1, Groups C & D, Class I, Zone 1, AExd IIB T6. Listing No. E187894. CSA Certified: Class 1, Div 1 & 2, Group D. Cert. No. 96406.
Voltage Frequency:	50 Hz as standard. 60 Hz available if required.
Xenon Voltages:	24, 48V d.c. 110, 120, 240, 254V a.c. (see SM87 HXB data sheet for further information).
Filament Voltages:	12, 24, 48V d.c., 110, 220, 240, 254V a.c. (see SM87 LU3 data sheet for further information).
Fluorescent Voltages:	12, 24, 48V, 220, 240, 254V a.c. (see SM87 LU1 data sheet for further information).
Lamp Colours:	Red, Amber, Yellow, Green, Blue or Clear.
Terminals:	Will accept up to 14AWG cable.
Wiring:	Standard configuration of internal wiring is to common the negative/neutral connections. If individually wired lamps are required, please state requirements.
Entries:	Up to 3 x 1/2" or 3/4" NPT.
Enclosure:	LM 25TF Marine Grade Alloy.
Lens:	Glass.
Finish:	Painted to customer's specification.
Ingress Protection:	NEMA 4x and 6, IP66 & 67.
Ambient Temp.	–13ºF to 131ºF (–25ºC to +55ºC) – Class I, Div 1. –67ºF to +131ºF (–55ºC to +55ºC) – Class I, Zone 1.

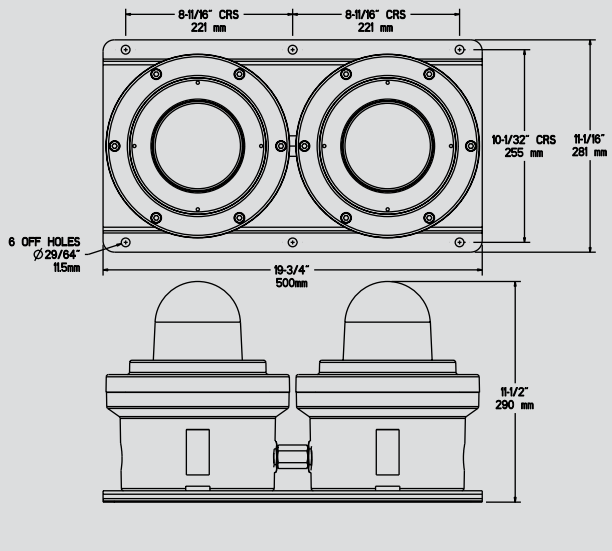
XB12SL

Lamp Types:	Xenon 21 joules. Filament 60W.
Certification:	UL Listed for USA and Canada Class I, Div 2, Groups C & D, Class I, Zones 1 & 2, AExd IIB T4/T5. Listing No. E187894.
Voltage Frequency:	50 Hz as standard. 60 Hz available if required.
Xenon Voltages:	24V d.c., 110V, 240V a.c. (see XB12 data sheet for further information).
Filament Voltages:	120V a.c. (see FB12 data sheet for further information).
Fluorescent Voltages:	-
Lamp Colours:	Red, Amber, Yellow, Green, Blue or Clear.
Terminals:	Will accept up to 14AWG cable.
Wiring:	Standard configuration of internal wiring is to common the negative/neutral connections. If individually wired lamps are required, please state requirements.
Entries:	1 x 1/2" NPT.
Enclosure:	GRP.
Lens:	Glass.
Finish:	Painted to customer's specification.
Ingress Protection:	NEMA 4x and 6, IP66 & 67.
Ambient Temp.	–67ºF to +158ºF (–55ºC to +70ºC).

Note: XB11 SLUL also available.



ALL DIMENSIONS IN INCHES



ALL DIMENSIONS IN INCHES & MILLIMETRES

Ordering Requirements

Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Explosionproof & Hazardous Location, Heavy Duty Industrial & Marine, Weatherproof

Introduction

This range of audio/visual combination units may be assembled from MEDC's range of beacons and sounders. Mounted on a sturdy, drilled, painted, stainless steel plate, the units are pre-wired as standard such that a single input operates both the sounder and beacon simultaneously.

Units are available for use in potentially explosive atmospheres and dedicated units are now available for use in industrial and marine environments.

Features

- *UL listed Class I, Div. 1 & 2, Groups C & D.
- *ATEX approved.
- NEMA 4x & 6, IP66 and 67.
- *Certified temperature: –67°F to +158°F.
  –55°C to +70°C.
- Corrosion free GRP beacon/sounder.
- Beacon available as xenon, filament, fluorescent or LED.
- Xenon: up to 21J.
- Filament: up to 100W.
- Fluorescent: up to 39W.
- LED: up to 192cd.
- Sounder: up to 105dBA output at 10 feet.
- All stainless steel (316), epoxy painted back plate.

**Model dependent.*

Other combinations of beacons and sounders are available – please contact sales office for detailed specifications.

ATEX IECEx IP66/67 Weatherproof

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1. DB3/XB11 – Explosionproof Xenon 5J; Sounder up to 115dB(A), all GRP corrosion free products.

Certification:	ATEX: Ex II 2GD, EExdIIBT5. cULus: Class I, Div. 2, Groups C & D.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: XB11 (Xenon 5J). Option: Filament (10W). Fluorescent (≤ 10W).
Sounder:	Standard: DB3 (long fl are) ≤ 105dBA at 10 feet. Option: DB3 (short fl are) ≤ 98dBA at 10 feet.
Dimensions:	16 1/2" (height) x 8 2/3" (width) x 13 1/4" (depth).
Options:	Refer to data sheet. Specify when ordering.

Ordering information – Standard product. Specify options 1 to 4

Product	1. Certification	2. Voltage	3. Lens colour	4. Finish	
XB11+DB3	ATEX UL	see above	Red Amber	Natural Black or Red	

2. DB1/SM87HXB – Explosionproof Xenon 5J; Sounder up to 110dB(A), LM25 or stainless steel construction, red finish.

Certification:	ATEX: Ex II 2G, EExdIIBT4(T3). UL: Class I, Div. 1, Groups C & D.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: SM87 (Xenon 5J). Option: Filament (10W). Fluorescent (≤ 10W). LED (≤ 192cd).
Sounder:	Standard: DB1 HP ≤ 100dB(A) at 10 feet. Option: DB1 P ≤ 96dB(A) at 10 feet.
Dimensions:	13 3/4" (height) x 9" (width) x 8" (depth).
Options:	Refer to data sheet. Specify when ordering.

Ordering information – Standard product. Specify options 1 to 5

Product	1. Body Material	2. Certification	3. Voltage	4. Lens colour	5. Finish
SM87HXB+DB1HP	LM25 or Stainless Steel	ATEX UL	see above	Red Amber	specify

3. DB3/SM87HXB – Explosionproof Xenon 5J; LM25 or stainless steel, Sounder up to 115dB(A), GRP construction, red finish.

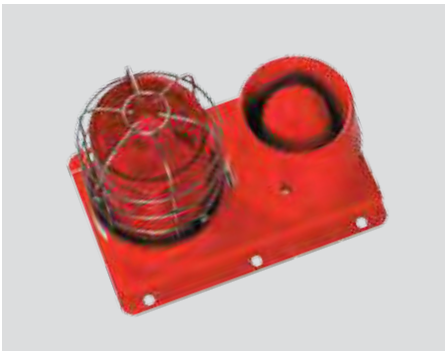
Certification:	ATEX: Ex II 2G, EExdIICT5. UL: Class I, Div. 2, Groups C & D.
Voltage:	24V d.c., 48V d.c.,110V a.c. to 240V a.c.
Beacon:	LM25 or stainless steel.
Sounder:	Corrosion-free GRP.
Beacon:	Standard: SM87 HXB (Xenon 5J).
Sounder:	Option: Filament (10W). Fluorescent (≤ 10W). LED (≤ 192cd). Standard: DB3 (long fl are) ≤ 105dB(A) at 10 feet. Option: DB3 (short fl are) ≤ 98dB(A) at 10 feet.
Dimensions:	16 1/2" (height) x 8 2/3" (width) x 13 1/4" (depth).
Options:	Refer to data sheet. Specify when ordering.

Ordering information – Standard product. Specify options 1 to 5

Product	1. Body Material	2. Certification	3. Voltage	4. Lens colour	5. Finish
SM87HXB+DB3	LM25 or Stainless Steel	ATEX UL	see above	Red Amber	specify

4. DB12/XB13 or DB15/XB13 – Heavy Duty Industrial & Marine Xenon 10J; Sounder DB12 (DB15) up to 110dB(A) (117 dB(A)

Applications:	Harsh Industrial & Marine Environments.
Voltage:	24V d.c.,110V a.c., 240V a.c.
Beacon:	Standard: XB13 (Xenon 10J).
Sounder:	Standard: DB12 ≤ 100dB(A) at 10 feet. Standard: DB15 ≤ 105dB(A) at 10 feet.
Dimensions:	11 3/4" (height) x 7 2/3" (width) x 8 2/3" (depth).



Ordering information – Standard product. Specify options 1 to 3

Product	1. Voltage	2. Lens colour	3. Finish		
XB13/DB12	see above	Red Amber	Natural Red		

Ex-Telephone FernTel IP/ Zone 2 UL

Crouse-Hinds by EATON

For areas with explosive atmospheres, Class 1, Div. 2 Groups A, B,C&D T5

Introduction

This new telephone with a housing made of impact-resistant and shockproof polycarbonate is approved for Class 1, Div. 2.

Within the field of chemical and petrochemical industry combustible atmospheres result repeatedly from procedural progress eventually caused by gas, steam or exhalation.

Due to its striking signal colour the FernTel IP / zone 2 UL cannot be missed whenever a telephone is urgently needed.

Further advantages concerning the employment in areas with high air humidity and explosive atmospheres are given by the use of an impact-proof thermoplastic housing as well as screws made of stainless steel.

The device is easily converted from a wall telephone to a desk telephone.

The FernTel IP / zone 2UL allows efficient working with high comfort completed by the illuminated keypad and display. The standardized features according to H.450 are supported.

The FernTel IP / zone 2UL offers features of high quality based on industrial standards instead of proprietary solutions.

Features

- Protection degree Type 3
- Ambient temperature -4°F to +32°F
- Call tone ≥ 95 dB(A), 1 m
- Explosion protection Class 1, Div. 2 Groups A, B, C & D T5
- Pixel-based, illuminated LCD Display
- Illuminated keypad
- Intelligent and user-friendly menu structure
- Standard H.323, SIP, TSIP, SIPS protocols
- Power supply Power over Ethernet
- Connection to single 10/100-BASE-T Ethernet LAN

Application Example:

Telephones in Class 1, Div. 2

The new FernTel IP / Zone 2 UL is the ideal telephone for many different work areas.

c UL us

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MEDC

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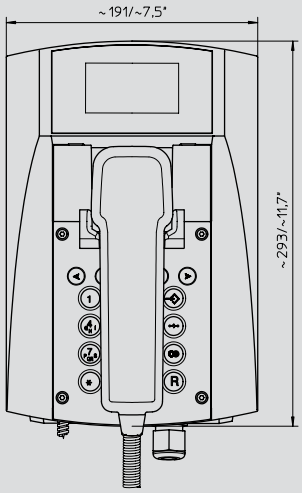
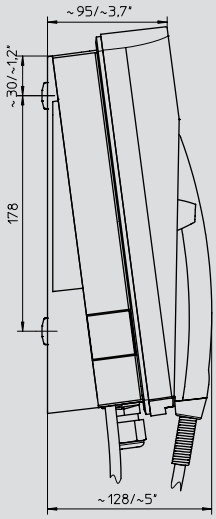
Certification and Specification

Explosion protection:	Class 1, Division 2, Groups A, B, C, D T5.
Temperature Range:	-4°C to +32°C.
Housing:	Polycarbonate.
Keypad:	with stainless steel plate.
Housing Dimensions:	height x width x depth 293 x 191 x 128 mm.
Weight:	approx. 2.4 kg.
Protection Degree:	Type 3.
Power Supply:	Power over Ethernet (IEEE 802.3af).
Connection:	10/100-BASE-T Ethernet LAN.
Ringing Volume:	approx. 95 dB(A) at 1 m distance.
Display:	128 x 64 Pixel.
Protocol:	H.323, SIP, TSIP, SIPS.
Total:	H.323 version 4 incl. H.225, H.235, H.245 and RAS Gatekeeper routed Signalling, H.450 Session Initiation Protocol (SIP) RTP, SRTP Real Time Protocol.
RTCP:	Real Time Control Protocol – first level of Quality of Service.
RAS:	Protocol Support for External Gatekeeper.
DTMF:	H.245 Alphanumeric or Signal Type.
Additional VoIP-Features:	H.245 Fast Connect En-block dialling Overlapped Sending.
Security:	Password Protected Administration.
Encoded:	Password Authorization acc. to H.235.
Quality of Service:	Priority of IP-Packages acc. to TOS and DiffServ, VLAN Priority acc. to IEEE 802.1p / 802.1q.
Voice Encoding:	G.711 A-law / µ-law (64 kbps), G.723.1 (5.3 kbps), G.729A (16kbps).
Echo Compensation:	G.168.
Access:	via HTML Web-Browser. Password protected authentication.
Troubleshooting:	Log- and Trace-Files, State Display of Interfaces and Connections, Ping Connection Test sending of SNMP Traps over Internet Protocol.
Update:	Configuration recording/reading, Boot code and firmware update via HTML upload, Automatic update via Update-Server.
DSL-Access:	PPPoE Protocol.
VPN:	Tunnelling with PPTP Encoding via MPPE.
NAT:	Network Address Translation – for Transformation of official IP Addresses into private IP Addresses and vice versa.
DHCP:	Dynamic Host Configuration Protocol – IP interfaces settings.
ICMP:	Internet Control Message Protocol – for Ping tests.
Dial Tone Generation:	Automatic Dial tone Generation European and US Standard.
Call Transfer:	Call Transfer with/without consultation call.
Call Diversion:	Call Diversion Unconditional, Busy, No Reply.
Call Hold / Retrieve:	Call Hold / Retrieve.
Call Waiting Call:	Waiting inclusive Signalling of second Call Information.
Calling Name Identification:	Name Display.
3 Party Conference:	3 Party Conference of internal and/or external Subscriber.
Calling Number Identification:	Display of Calling Number.
Multiple Registrations:	up to 6 Registrations.
Telephone Book:	Local, Integration of an External Database.
Time/Date:	Exact Time and Date Information via Time Server.





ALL DIMENSIONS IN MILLIMETRES

Ordering Information

The full article number is made up by appending the colour code for the coloured housing to the article number given here (-).
Yellow 1 | Red 2 | Black 0 | For example **F11241141** = yellow FernTel IP with spiral cord.

Type	Name	Version	Article no.
FernTel IP / Zone 2 UL	Desk/Wall Telephone	with spiral cord	F112 411 4 (-)
FernTel IP / Zone 2 UL	Desk/Wall Telephone	with armoured cord	F112 431 4 (-)

ExResistTel Telephone

Crouse-Hinds by EATON

For Hazardous and Corrosive Areas UL Approved Nonincendive Rated Class 1, Div. 2 Groups A, B, C & D

Introduction

FHF's new ExResistTel Industrial Telephone for Division 2 has been developed specifically for the harsh environments found in the process industries – for onshore chemical and petro-chemical plants, offshore platforms, in mills and in harbors. The telephone can handle the large temperature differences found outdoors, high humidity, exposure to sea water and dust, as well as heavy mechanical wear and tear. It is simply the most rugged and reliable telephone available in the world today.

Features

- Handsfree
- Temperature range -4°F to +104°F
- Certified for dust and gas atmospheres
- Display
- IP 66 EN 60529

Application Example:

Telephones offshore

The housing is made of impact-resistant and shockproof glass fibre reinforced polyester and is resistant to acids, sea water, alkalis, moisture and grease.

c UL us

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MEDC

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Certification and Specification

Electrical Specifications

Hazardous:	Area Rating Class1, Division 2 Groups A, B, C, D T6.
Approval:	UL, Nonincendive.
Line Voltage:	24 VDC- 56.5 VDC.
Line Current:	15 mA - 100 mA.
Ringing AC:	30 VAC- 150 VAC (at 16.6 - 54 Hz ringing frequency).
Ringing Impedance:	Greater than 5.0 K@ G2 VAC & 15.3 - 68 Hz.
Inquiry Key:	Flash function adjustable from 40-399 ms.
Dialling Procedure:	PD or DTMF operation set in menu DTMF operation according to ITU-T rec. Q.23. PD operation where the pulse/pause ratio can be set to either 1:5:1 or 2:1.
W-Conductor:	Connection for external secondary sounder.
Screw Terminals:	Up to 4 mm rigid or 2.5 mm flexible (wire gauge).

Housing

Material:	Glass fibre-reinforced polyester.
Dimensions:	Approx. 10.5" x 9" x 5.3" (260 x 228 x 135mm).
Weight:	12 lb. (5.5 kg).
Display:	2 line alphanumerical display, visible area approx. 3" x 1"
Keypad:	316 SS Metal keypad with ice protection. 21 keys with embedded lettering.

Receiver

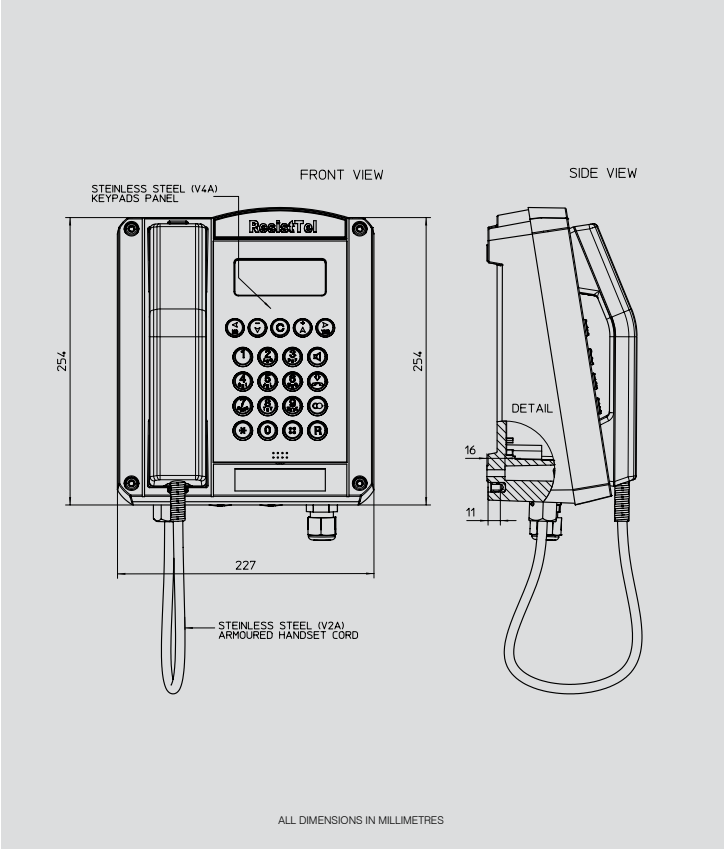
Stabilizer bracket:	Integrated and adjustable.
Handset cord:	Stainless steel (V4A) armoured handset cord.
Receiver inset:	Dynamic receiver inset with leakage field spool for inductive coupling of hearing aids.
Mouthpiece:	Electret-foil microphone.
Noise Suppression:	Greater than 3 dB.

Environmental Conditions

Enclosure Protection:	Type 4X - IP 66 acc. to EN 60529.
Impact Protection:	IK 09 acc. to IEC 50598.
Operating Temperature:	-4°C to +104°C.

Additional Characteristics

Optical Call Signalling:	Display shows a bell.
Ringing sound pressure level:	Approx 90 dB (A) at 1m distance.
Ringing melodies:	10 melodies selectable.
Listening by loudspeaker:	Max. 68 dB (A) at 1m distance.
Handsfree operation:	Max. 68 dB (A) at 1m distance.
Amplified listening in receiver:	Receiver volume can be boosted in 7 steps from 0 +/- 12 dB (A).
Menus:	Available in several languages, selectable.
Telephone Directory:	Max. 50 entries (names and phone numbers).



Ordering Information

Type	Description	Article no.
ExResistTel	UL Telephone	F112 861 01 110
Accessories	Additional earpiece	F112 861 03
Accessories	Additional headset	F112 861 04
Accessories	Loudspeaker set	F112 861 05
Accessories	Secondary sounder	F211 842 06
Accessories	Protection hood, hot galvanized	F118 901 01
Accessories	Protection hood, stainless steel	F118 901 11

Note: Accessories are not UL approved

Crouse-Hinds by EATON

Hazardous Locations, Weatherproof

Features

- UL Listed for USA and Canada:
  Class I, Div. 2, Groups A-D.
- ATEX certified.
- NEMA 4x & 6, IP66 & IP67.
- Certified temperature: –4°F to +131°F.
  –20°C to +55°C.
- Stainless steel probe.
- Detector temperature settings 140°F to 725°F (60°C to 385°C).
- GRP enclosure.
- Optional Stainless Steel guard.

Introduction

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 a JB10 corrosion-free GRP enclosure. The contact in the detector CLOSES at alarm temperature.

To select appropriate temperature setting see specification on reverse.

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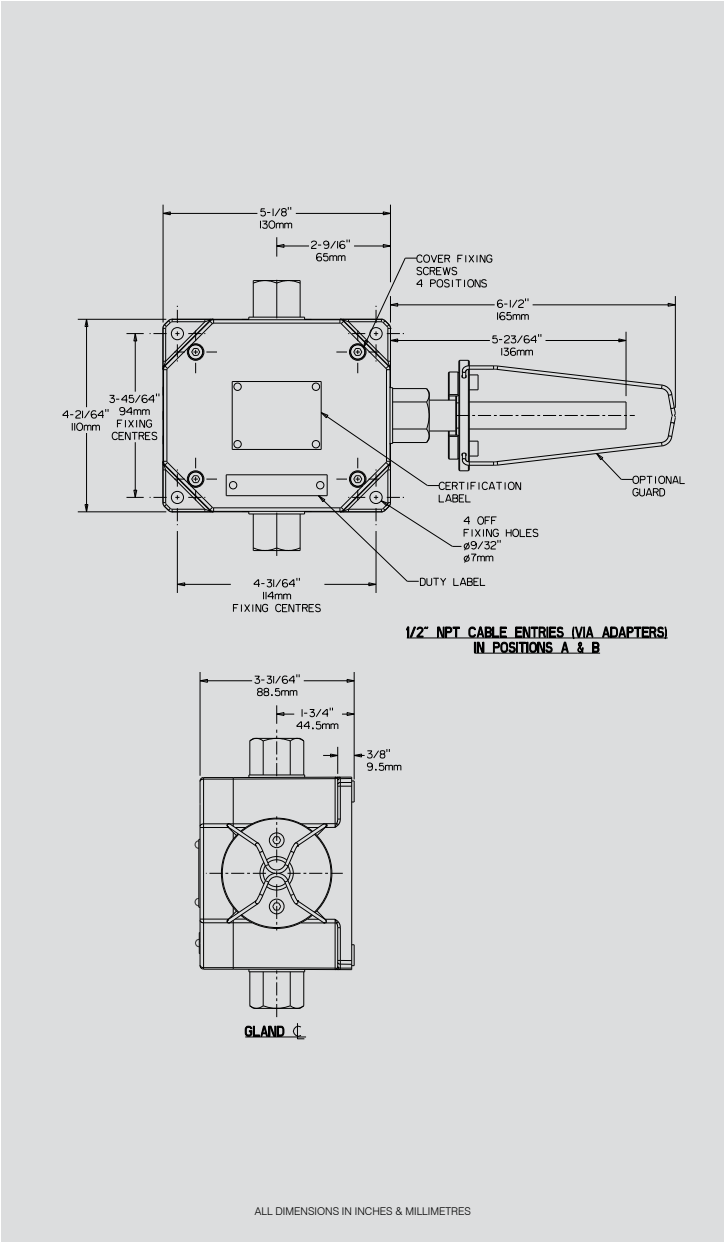
Certification and Specification

UL:	Listing no. E252920 – versions up to 450ºF. Listing no. E254077 – versions from 600---F to 725ºF. UL for USA and Canada, listed to Class 1, Div 2. Groups A – D.
SIL:	SIL2 certified. Cert no. Sira FSP 12007/02.
Material:	Detector: Stainless steel. Enclosure: GRP (anti-static). Stainless steel cover screws. Optional Guard: 316 stainless steel.
Finish:	Detector: Sand blasted. Enclosure: Natural black or painted to customer's specification.
Certified Temp:	–4ºF to +131ºF. –20ºC to +55ºC.
Weight:	2.4lbs (1.1kg).
Ingress Protection:	NEMA 4x & 6, IP66 & IP67.
Operation:	The detector contact is normally open and CLOSES at alarm temperature.
Contact Rating:	125V a.c. - 5A, 125V d.c. - 0.5A, 48V d.c. - 1A, 24V d.c. - 2A.
Entries:	2 x ½" NPT (via supplied adaptors).
Terminals:	6 x 12 AWG.
Resistor:	Series & EOL resistors (maximum total 2) minimum value (each) 470Ω.
Labels:	Optional stainless steel tag and duty labels.

Listed Temperature:
To select appropriate temperature settings, choose detector at Settings:
100ºF (38ºC) above maximum ambient temperature.

Temperature Setting (ºF)	Temperature Setting (ºC)	Tolerance (ºF)	Tolerance (ºC)	Colour Code of Text on Probe
140	60	+7/-8	±4	Black
160	71	+7/-8	±4	Black
190	88	+7/-8	±4	White
210	99	+7/-8	±4	White
225	107	+7/-8	±4	White
275	135	±10	±6	Blue
325	163	±10	±6	Red
360	182	±10	±6	Red
450	232	±15	±8	Green
500	260	±15	±8	Orange
600	316	±20	±11	Orange
725	385	±25	±14	Orange



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.

Model
HD1

Certification
ULU

Temp Settings

Temp ºF	Code
140	140
160	160
190	190
210	210
225	225
275	275
325	325
360	360
450	450
500	500
600	600
725	725

Options

Option	Code
Duty Label	D*
Tag Label	T*
Guard	G
Resistor EOL	E*
Resistor Series	S*
Blanking Plug	P
None	N

* Please specify.

Finish

Finish	Code
Natural Black	N
Gray	G
Red	R
Blue	B
Yellow	Y
Special	S*

* Please specify.

To order ATEX approved version, see European data sheet.

Crouse-Hinds by EATON

Hazardous Locations, Weatherproof

Introduction

These GRP terminal boxes have been designed for use in hazardous locations and hostile environments.

The robust design, coupled with corrosion-free glass reinforced polyester and high ingress protection, ensure a long life, low maintenance product.

European and other world wide approvals are available, refer to main section of catalogue.

Features

- UL listed for USA and Canada:
  Class I, Div 2, Groups A-D.
  Class I, Zone 1, AExe IIC T4 & T5.
- ATEX approved.
- NEMA 4x & 6, IP66 & IP67.
- *Certified temperature: –67°F to +131°F.
  –55°C to +55°C.
- Glass reinforced polyester.
- Lightweight.
- Robust.
- Corrosion free.
- Retained stainless steel cover screws.
- Optional gland continuity plate.
- Mixed rail mounted terminals.

**Depending on version.*

c UL us ATEX

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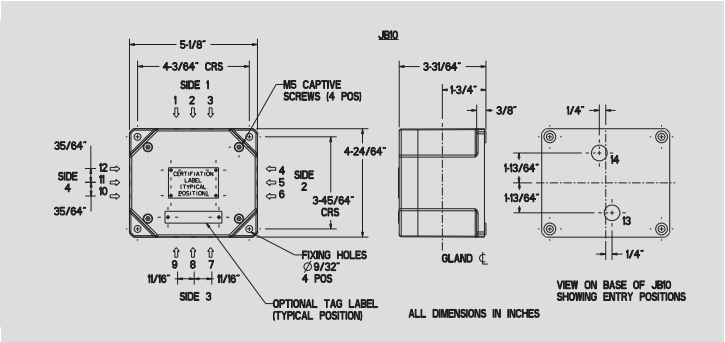
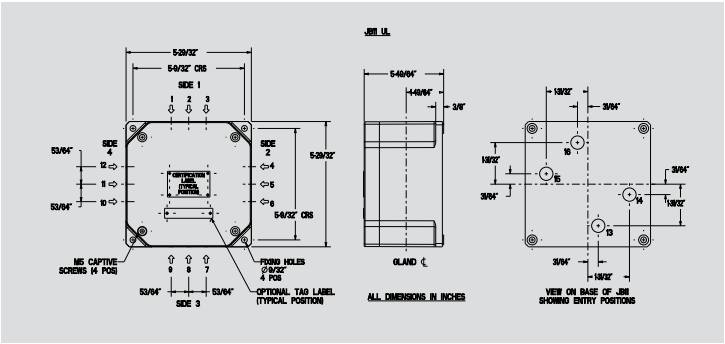
Certification and Specification

Certification:	UL listed for USA and Canada: – Class I, Div 2, Groups A-D and – Class I, Zone 1, AExe IIC T4 & T5. UL Listing No. E237592.
Material:	Glass reinforced polyester (anti-static) stainless steel cover screws.
Finish:	Self coloured black.
Certified Temp:	Standard –4ºF to +131ºF (–20ºC to + 55ºC). Optional –67ºF to +131ºF (–55ºC to +55ºC) (MK6/6 only).
Weight:	JB10, 2.4 lbs (1.1 Kg.) average. JB 11, 4.0 lbs (1.8 Kg.) average.
Ingress Protection:	NEMA 4x &6, IP66 & IP67.
Gland Continuity:	Via an internal BZP (bright zinc plated) steel plate.

Terminal Type / Size	Max No. of Terminal JB10	JB11	Max Voltage	Max Current	T Rating
SAK 2.5	12	15	550	15	T4
SAK 4	10	14	550	21	T4
SAK 6N	8	12	550	26	T4
SAK 10	5	8	550	37	T4
SAK 16	–	7	550	47	T4
MK6/6	1	1	418	26	T5
BK6	1	–	275	21	T5
UK 2.5 B-Ex	11	14	418	15	T4
UK 4-Ex	9	13	418	21	T4
UK 10-Ex	7	11	418	37	T4
UK 16-Ex	5	7	418	47	T4

All Junction Boxes will be supplied with an internal earth terminal appropriate to the terminals fitted.
If more than one internal earth terminal is required the maximum number of feed-through terminals must be reduced.
Increased quantities of terminals are available, depending upon the number of cable entries. Please contact MEDC with your requirements.





JB10 Gland Details

Gland Entries	Maximum No. of Gland Entries Sides 1 & 3	Maximum No. of Gland Entries Sides 2 & 4		Maximum No. Gland Entries (Base)
	With or Without Earth Continuity	With Earth Continuity	Without Earth Continuity	With or Without Earth Continuity
1/2" NPT	2	1	2	2
3/4" NPT	1	1	1	N/A

JB11 Gland Details

Gland Entries	Maximum No. of Gland Entries per Side With or Without Earth Continuity	Maximum No. of Gland Entries (Base) With or Without Earth Continuity
1/2" NPT	2	4
3/4" NPT	2	N/A

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.

Terminal Box
JB10
JB11

Certification
UL

To order ATEX approved version, see European data sheet.

Terminals

Type	Code
SAK 2.5	A*
SAK 4	B*
SAK 6N	C*
SAK 10	D*
SAK 16	E*
MK6/6	J*
BK6	K*
UK 2.5 B-Ex	L*
UK 4 -Ex	M*
UK 10 -Ex	N*
UK 16 -EX	O*

* Suffix with number of terminals, e.g: B6 = 6 x SAK4.
Please note:
Mixed combinations of SAK or UK terminals can be supplied, e.g: 3 x SAK 2.5 & 4 x SAK 4.

Earth Continuity

Type	Code
None	N
ES0001 (6mm² cable max)	R*
ES0003 (16mm² cable max)	S*

* Suffix with side, e.g: R1 ES0001 x side 1.

Gland Continuity

Continuity	Code
None	N
Yes	E*

* Gland Continuity 'E' must be selected when Ext Earth 'R' or 'S' is required.

Side Cable Entries

Size	Code
None	N
1/2" NPT	*M
3/4" NPT	*O

* Prefix with cable entry position (see diagram above) e.g. 1M, 2M.

Tag Label

Label	Code
None	N
Yes	T*

* Please Specify.

Option

Option	Code
None	N
Extra Internal Earth Base Entry	W*
	Y*

* Please discuss your requirements with MEDC Application Engineers prior to ordering.

Finish
N

Finish	Code
Natural Black	N

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2,21 and safe area.
- Exe IIC T6.
- ATEX approved Ex II 2GD.
- CSA Listed for USA and Canada:
  - Class I, Div 2, Groups A, B, C,D.
  - Class I, Zone 1 AEx e II T6.
  - Class II, Div.1, Groups E,F,G.
  - AExe IIC T6.
- PTB Certified.
- IP66.
- Certified temperature: –67°F to +131°F.
- Impact resistant GRP or 316 stainless steel.
- Retained stainless steel cover screws.
- Variety of terminals.
- Variety of enclosures.

Introduction

This range of Exe enclosures offers a range of enclosure sizes, terminals and cable entries.

Available in 316 sheet stainless steel and in GRP, these enclosures offer a variety of sizes which will suit most applications.

Enclosures may also be coupled together to form large control panels.

The enclosures are suitable for use onshore or offshore where lightweight combined with a high level of corrosion resistance is required.

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MEDC

Sales Enq. UK: +44 (0)1623 444 445 Sales Enq. USA: +1 (713) 937- 9772 E-Mail: MEDCSales@Eaton.com Web: www.medc.com

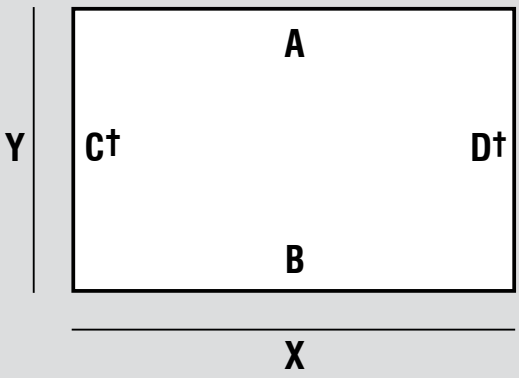
Certification and Specification

Certification:	The GHG 74 ranges are certified for gas and dust atmospheres (ATEX Ex II 2GD). CSA Listed. Class I, Div 2, Groups A, B, C, D. Class I, Zone 1 AEx e II T6. Class II, Div.1, Groups E,F,G.
Material:	GRP (74…01/02/03 Range) or 316 Stainless Steel (74…21/22/23/24 Range).
Finish:	Natural finish.
Certified Temp:	-67ºF to +131ºF.
Ingress Protection:	IP66.
Earth Continuity:	Earth continuity via earth terminal. Gland continuity via brass plate (for GRP enclosures).

Enclosure Sizes (mm) & Weights (kg):

Box Type	Dimensions (mm)			Weight	Fixing	Fixing
	X	Y	Depth*	(kg) empty	Cent.X	Cent.Y
744 01	271	134	136	1.5	110	247
745 02	271	271	136	2.5	247	247
746 03	544	271	136	4.2	247	520
749 04	817	271	136	5.8	247	793
744 21	175	312.5	151	3.5	225	247
744 22	312.5	312.5	151	7.5	362.5	247
746 23	627	312.5	151	11.5	362.5	561.5
749 24	941.5	312.5	151	16.5	362.5	876

Note: *Depth of box only. Excludes depth of actuators or other fittings.
Fixing screw dim. Ø 7 x 11mm.



Maximum number of terminals per enclosure:

Terminal Cross Section (mm^2)	Enclosure Type			
	744	745	746	749
2.5mm^2	40	41 x 2	94 x 2	148 x 2
4.0mm^2	33	34 x 2	78 x 2	124 x 2
6.0mm^2	25	26 x 2	59 x 2	94 x 2
10mm^2	20	20 x 2	47 x 2	75 x 2
16mm^2	17	17	40	63
25mm^2	17	17	40	63
35mm^2	–	14	32	51
Terminal Rail	1 x 230mm	2 x 235mm	2 x 510mm	2 x 795mm

Maximum number of cable entries per enclosure. Note: Enclosures supplied with clearance holes suitable for required cable glands.

Cable Entry	Enclosure Type							
	744 01 A&B	745 02 A&B	746 03 A&B	749 04 A&B	744 21 A&B	745 22 A&B	746 23 A&B	749 24 A&B
M20	26	26	52	78	23	23	46	69
M25	18	18	36	54	15	15	30	45
M32	10	10	20	30	9	9	18	27
M40	7	7	14	21	5	5	10	15
M50	4	4	8	12	3	3	6	9
M63	3	3	6	9	2	2	4	6

† Top or bottom entries as standard - for other entries contact MEDC for further information.

Ordering Requirements

Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2 and safe area.
- EExed IIC T4/T6.
- ATEX approved Ex II 2GD*.
- PTB Certified.
- CSA listed for USA and Canada:†
  Class I, Div 2, Groups A, B, C, D.
- IP65/66*.
- Certified Temperature: –4°F to +104°F*.
- Impact resistant GRP or 316 stainless steel.
- Retained stainless steel cover screws.
- Variety of components.
- Variety of enclosures.

**Depending on version.*

†Please contact MEDC Technical Sales.

Introduction

This range of Exe enclosures offers a range of enclosure sizes, Exde components and cable entries.

Available in 316 sheet stainless steel and in GRP, these enclosures offer a variety of sizes which will suit most applications.

Pushbuttons, control switches, indicating lamps, meters, potentiometers and terminals can be fitted into the enclosures.

Enclosures may be coupled together to form large control panels. The enclosures are suitable for use onshore or offshore where lightweight combined with a high level of corrosion resistance is required.

Variations of above please refer to specification sheet.

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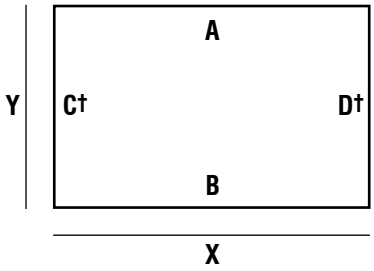
Certification and Specification

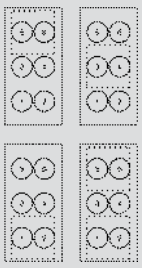
Certification:	CSA Listed.† Class I, Div 2, groups A, B, C, D.
Material:	GRP (44…23 Range) or Stainless Steel (44…33 Range).
Finish:	Natural finish.
Potentiometer:	100Ω -10kΩ, 1 watt, max. voltage 250V.
Meters:	72 x 72 voltmeter or ammeter direct connected up to 30A or 1A CT operated.
Certified Temp:	-4ºF to +104ºF (UL Version). See separate European data sheet for ATEX operating temperatures.
Ingress Protection:	IP66 (IP65 for double push button and measuring instrument).
Entries:	To customer specification or manufacturers standard – contact sales office for details. Entries are provided as clearance hole suitable for standard certified glands unless glands are requested by customer. †Top or bottom entries as standard – for other entries contact MEDC for further information.
Terminals:	Refer to GHG 74 Range Terminal Boxes data sheet for more information.
Earth Continuity:	Earth continuity via earth terminal. Gland continuity via brass plate (for plastic enclosures).
Pushbuttons:	Standard pushbutton, double pushbutton, mushroom head latching and momentary. Key operated actuators also available. Two sets of terminals per contact block. 2NO, 2NC or 1NO+1NC per actuator.
Switches:	Two or three position, 2 pole or 4 pole.
Indicators:	White, yellow, red, blue and green, 20-250V AC/DC or 12-30V AC/DC. Note clear led with coloured lens.
Connection:	Direct to components or via terminal block if requested.

Enclosure Sizes (mm) & Weights (kg):

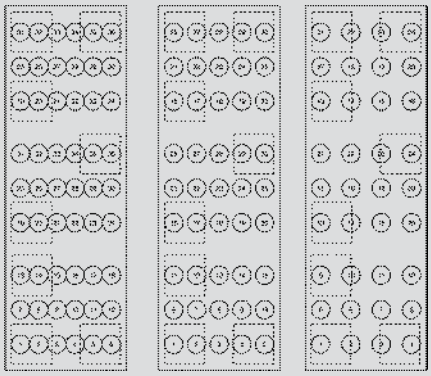
Box Type	Dimensions (mm)			Weight	Fixing	Fixing
	X	Y	Depth*	(kg) empty	Cent.X	Cent.Y
444 23	271	134	136	1.5	110	247
448 23	271	271	136	2.5	247	247
449 23	544	271	136	4.5	247	520
447 23	817	271	136	6.5	247	793
444 33	312.5	175	151	1.5	225	247
448 33	312.5	312.5	151	2.5	362.5	247
449 33	627	312.5	151	4.5	362.5	561.5
447 33	941.5	312.5	151	6.5	362.5	876

Note: *Depth of box only. Excludes depth of actuators or other fittings.
Fixing screw dim. Ø 7 x 11mm.





444



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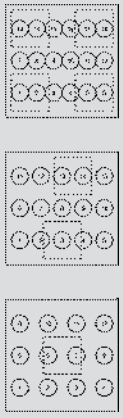

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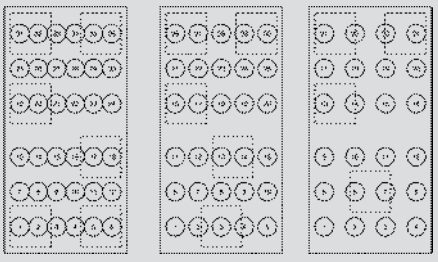

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Ordering Requirements Please contact MEDC to discuss your requirements.

Crouse-Hinds by EATON

Exe, Weatherproof

Features

- Zones 1,2,21 and safe area.
- Exed IIC T6.
- ATEX approved Ex II 2GD.
- PTB Certified.
- CSA Listed for USA and Canada.†
  Class I, Div 2, Groups A-D.
- IP65/66*.
- Certified temperature: –20°C to +40°C*.
- Impact resistant thermoplastic.
- Retained stainless steel cover screws.
- Variety of components.
- Variety of enclosures.

**Depending on version.*

†Please contact MEDC Technical Sales.

Introduction

This range of control stations, intended for use in potentially explosive atmospheres, is suitable for use in all gas groups.

These rugged enclosures are manufactured from a UV stable, impact resistant polyamide; cover fixing screws are stainless steel thus ensuring a corrosion-free product.

The GHG 411 range comprises a 1,2 and 3 way unit offering a compact footprint. The GHG 432 and 434 ranges are 2 and 4 way units with larger termination area for heavy duty offshore cable.

The high ingress protection rating makes this range of control stations suitable for use in harsh environmental conditions.

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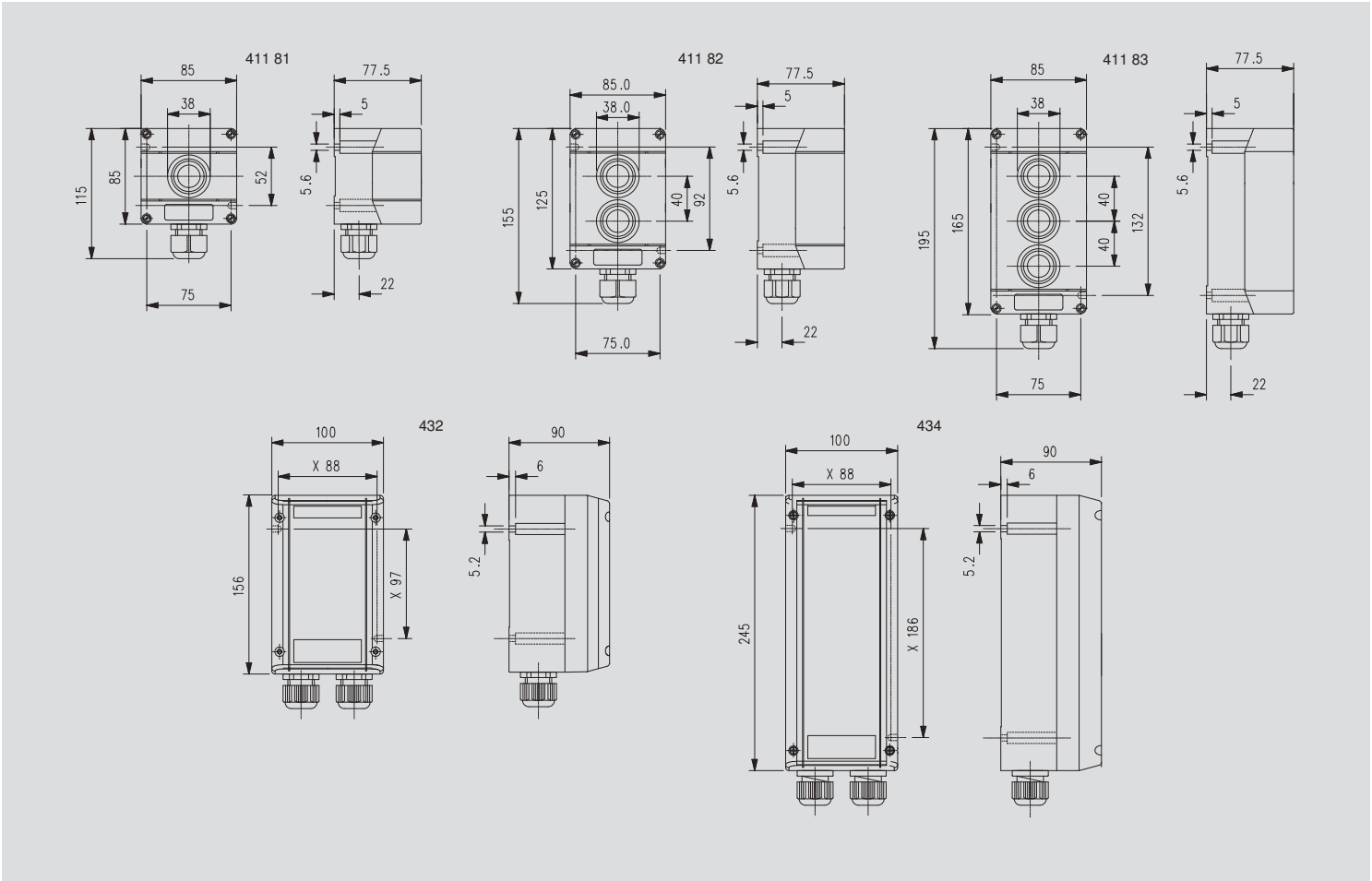
Certification and Specification

Certification:	CENELEC EN60079 Certificate No. PTB 00 ATEX 3117. Exed IIC T6. Zones 1 & 2. CSA Listed for USA and Canada. †
Material:	Impact resistant thermoplastic, anti-static enclosure with stainless steel cover screws.
Finish:	Self coloured black.
Signal Lamps:	Available in two voltage ranges: Universal voltage 20V-250V AC/DC (current consumption 4-15mA). Low voltage 12V-30V AC/DC (maximum current consumption 24mA). Lamp colours available: white, yellow, red, blue, green.
Certified Temp:	-55ºC to +50ºC. Versions with switch -55ºC to +45ºC. (ATEX version). See separate US data sheet for CSA operating temperatures.
Weight:	From 0.5kg to 1.3kg (411 Range). From 0.8kg to 1.6kg (432 & 434 Range).
Ingress Protection:	IP66 (IP65 for double pushbutton).
Entries:	411 Range. 1 x 20mm entry bottom as standard. 2 x 20mm entries on bottom face available via brass gland continuity plate. 432 & 434 Range. 2 x 20mm entries in bottom as standard (one blanking plug as standard).
Multi-way units:	Enclosures can be coupled together. Please contact sales office.

Actuator Types:	Spring return pushbutton, mushroom head emergency stop, mush room head momentary, double pushbutton, key operated switches, mini control switch and rotary switches.
Termination:	2.5mm^2 max. direct to components. Alternatively pre-wired to a 6 way terminal block accepting up to 4mm^2 conductors. Max voltage rating 400V.
Relay Initiate:	Available on all versions – operates with 24V d.c. initiate supplies only.
Function Labelling:	Each cover component can have a function label as extra.
Labels:	Duty or tag labels are self adhesive.
Options/accessories:	Lift flap, function label, terminal block, potentiometer, duty/tag labels. Contact sales office to order.



Typical configurations: 411 81 range

Built-in components	Weight Approx	Order No.*
1 x pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.40kg	GHG 411 8195 R0001
1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.45kg	GHG 411 8195 R0002
1 x mushroom head latching, with key release, 1NO + 1NC, "Emergency stop"	0.50kg	GHG 411 8195 R0012
1 x double pushbutton, 1NO + 1 NC, label: O, I, START, STOP	0.45kg	GHG 411 8195 R0009
1 x key operated switch, 2NO I - O - II	0.52kg	GHG 411 8195 R0018
1 x control switch, 1 x change-over, label: HAND-AUTO label: O - I label: I - II	0.45kg 0.45kg 0.45kg	GHG 411 8195 R0003 GHG 411 8195 R0004 GHG 411 8195 R0005
1 x control switch, 2 NO, label: HAND - O - AUTO label: I - O - II label: Local Remote Auto	0.45kg 0.45kg 0.45kg	GHG 411 8195 R0006 GHG 411 8195 R0007 GHG 411 8195 R0008

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 81...01

411 81...18

411 81...12

411 81...04

Typical configurations: 411 82 range

Built-in components	Weight Approx	Order No.*
2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.54kg	GHG 411 8295 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.65kg	GHG 411 8295 R0003
1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.57kg	GHG 411 8295 R0016
1 x control switch, 1 x change-over, label: O - I 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.57kg	GHG 411 8295 R0017
1 x signal lamp, 20-254V AC/DC, lens cover: white, red, green, yellow, 1 x key operated switch, 2 NO, label: I - O - II	0.65kg	GHG 411 8295 R0008

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 82...01

411 82...03

411 82...17

411 82...18

Typical configurations: 411 83 range

Built-in components	Weight Approx	Order No.*
1 x signal lamp, 20-254V AC/DC, lens cover: white, red, green, yellow 2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.76kg	GHG 411 8395 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.80kg	GHG 411 8395 R0003

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

411 83...01

411 83...03

Typical configurations: 432 range

Built-in components	Weight Approx	Order No.*
2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP	0.85kg	GHG 432 0095 R0001
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP	0.90kg	GHG 432 0095 R0002
1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	0.85kg	GHG 432 0095 R0003

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

432…01

432…02

432…03

Typical configurations: 434 range

Built-in components	Weight Approx	Order No.*
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 2 x pushbutton, 1NO + 1NC each, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop"	1.45kg	GHG 434 1195 R0004
2 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 2 x double pushbutton, 1NO + 1NC each, label: O, I, START, STOP	1.45kg	GHG 434 1195 R0005
1 x signal lamp, 20-254V AC/DC, lens cover; white, red, green, yellow 1 x double pushbutton, 1NO + 1NC, label: O, I, START, STOP 1 x mushroom head latching, 1NO + 1NC, "Emergency stop" 1 x key operated switch, 2NO, label: I - O - II	1.55kg	GHG 434 1195 R0009

*Note: Ordering codes are for ATEX compliant units only – for CSA listed units contact sales office.

434…04

434…05

434…09

Ordering Requirements

Please contact MEDC to discuss your requirements.

Certification Index

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Manual Alarm Call Points												
SM87 PB	■	■	■	■	■	■	■	■		■	66 / 67	14
SM87 BG	■	■	■		■	■	■	■			66 / 67	14
PH1	■	■	■								66 / 67	16
PB	■	■	■		■	■	■	■	■	■	66 / 67	18
BG	■	■	■			■	■	■	■	■	66 / 67	20
BG2	■										66 / 67	22
BG3	■							■			66 / 67	24
Beacons Lights and Strobes												
LD15 Range	■	■					■			■	66 / 67	28
dSLB 20 LED	■	■									66 / 67	30
Expertline	■	■	■			■	GOST				66	32
SM87HXB	■	■	■		■	■	■	■			66 / 67	34
XB11	■	■	■			■	■	■			66 / 67	36
XB9	■	■				■	■	■			66 / 67	38
XB10	■	■				■	■				66 / 67	40
dSLB 20 strobe	■	■					GOST				66 / 67	42
XB15	■	■	■	■		■	■	■		■	66 / 67	44
XB4	■	■	■			■	■				66 / 67	46
XB12	■	■	■			■	■	■			66 / 67	48
XB8	■	■					■		■		66 / 67	50
XB16			■								66 / 67	52
XB13											66 / 67	54
TH12	■	■				■	■				66 / 67	56
SM87 LU1/3	■	■	■		■	■	■	■			66 / 67	58
FL4 FB4	■	■	■			■	■				66 / 67	60
FL11 FB11 FL12 FB12	■	■	■			■	■				66 / 67	62
FB15	■	■	■			■	■				66 / 67	64
Horns & Sounders												
DB1	■	■	■			■	■				66	68
DB3B	■	■									66 / 67	70
DB3	■	■	■	■		■	■	■	■	■	66 / 67	72
DB3V	■	■				■	■	■			66 / 67	74
dEV 20	■	■									66	76
DB5	■	■			■	■			■		65	78
DB7	■						■				66 / 67	80
DB12											66 / 67	82
DB15											66 / 67	84
DB6	■	■				■					65	86
dGW21	■		■				GOST				66	88

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Certification Index

Crouse-Hinds by EATON

PRODUCT	ATEX	IECEx	UL	ULC	CSA	Inmetro	CUTR	CQST	ABS	SIL	IP Rating	Page
Loudspeakers												
DB4B	■	■									66 / 67	92
DB4	■	■	■			■	■	■	■	■	66 / 67	94
DB20C	■	■				■	■				66 / 67	96
DB20	■	■				■	■				66 / 67	98
DB10	■	■				■	■	■			66 / 67	100
DB16	■	■	■			■	■				66 / 67	102
DB18	■										66 / 67	104
DB14											66 / 67	106
Status Lights & Combination Units												
CU1	■	■				■	■		■		66 / 67	110
DB3/XB11	■	■	■								66 / 67	112
DB3/SM87HXB	■	■	■								66 / 67	113
DB1/SM87HXB	■	■	■								66	113
DB12/XB13											66 / 67	113
DB15/XB13											66 / 67	113
SM87SL & XB11SL	■	■	■		■	■	■	■			66 / 67	114
SL5	■	■						■			66 / 67	116
SL15	■	■	■	■		■	■	■			66 / 67	118
CCTV Camera Stations												
MCS1	■	■									66 / 68	122
MCS2	■	■									67	124
MCS3											68	126
MCS4											68	128
MCS7	■	■									66	130
MCS8											66	132
Telephones												
ExII ResistTel	■	■	■			■	GOST				66	136
Ex ResistTel MB	■	■									66	138
ExResistTel IP2	■	■									66	140
Ex FernTel 3	■	■				■					65	142
Ex FernTel IP	■	■	■								65	144
ResistTel WP											66	146
ResistTel MB WP											66	148
ResistTel IP2 WP											66	150
FernTel 3 WP											65	152
FernTel IP WP											65	154
Control & Distibution												
HD1	■	■	■			■	■	■	■	■	66 / 67	158
SM87JB	■	■									66 / 67	160
JB10 & 11	■		■								66 / 67	162
GP & JL	■										65 / 66	164
GHG RANGE	■				■						65 / 66	166
GHG 74	■				■						66	168
GHG 44 RANGE	■				■						65 / 66	170

Notes

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