

# XB12 21 joule xenon beacons range

Ex d, weatherproof



## Overview

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 certified for USA and Canada
  - Hazardous locations:
    - Class I, Div 2, Groups C & D
    - Class I, Zone 1 & 2, AExd IIB T4
  - Ordinary locations: visual-signal device
  - Marine listed
- IECEx certified Gb
- PESO 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



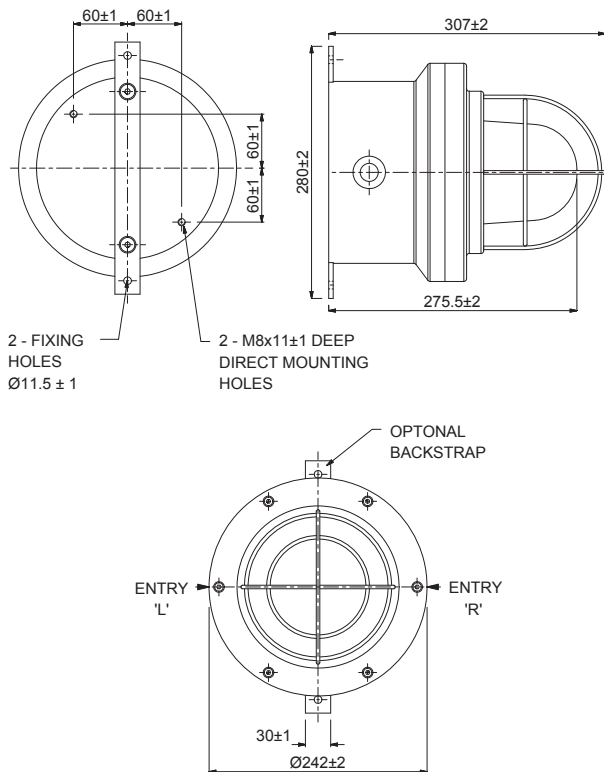
## Certifications

<b>ATEX Ex d</b>	Cert. no. BAS99ATEX2196 Certified to: EN60079-0, EN60079-1 Ex II 2G, Ex d IIB T4/T5/T6 Gb
<b>IECEX Ex d</b>	Cert. no. IECEX BAS 10.0094. Certified to: IEC60079-0, IEC60079-1 Ex d IIB T4/T5/T6 Gb
<b>UL Haz Locs</b>	Cert. no. E187894. Class I, Div 2, Groups C & D. Class I, Zones 1 & 2, AExd IIB T4
<b>UL Ord Locs</b>	Cert no. S8128. Visual Signal Device
<b>INMETRO Ex d</b>	Ex d IIB T4/T5/T6 Gb

## Specifications

<b>Material</b>	Body: glass reinforced polyester Lens: toughened glass Cover screws + backstrap: stainless steel 316
<b>Finish</b>	Natural black or painted to customer specification
<b>Weight</b>	7.0kg
<b>Certified temp</b>	Exd -55°C to +70°C (T4) -55°C to +55°C (T5) -55°C to +40°C (T6) UL -55°C to +70°C (hazardous locations) -55°C to +55°C (ordinary locations)
<b>Ingress protection</b>	IP66 & IP67
<b>Fire retardancy</b>	GRP is fire retardant to ISO 1210
<b>Earth continuity</b>	Optional for metal glands provided via a brass plate (not available in UL version)
<b>Terminals</b>	6 x 6.0mm <sup>2</sup> (10AWG UL)
<b>Telephone initiation</b>	Initiation by telephone ringing tone
<b>Labels</b>	Duty/tag label optional
<b>Entries</b>	2 x M20 Ex d 2 x 1/2" NPT UL
<b>Tube life</b>	>1x10 <sup>6</sup> flashes

## General arrangement drawing (all dimensions in mm)



## Electrical ratings

	d.c.	a.c. 50/60Hz	
<b>Voltage</b>	24	110	240
XB12 tube energy (Joules)	21	21	21
Current (mA)	1400	350	185
Effective intensity (Cd)	355	355	355
Peak intensity (Cd)	123691	123691	123691
Power consumption (W)	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	Certification	Voltage	Flashrate	Lens colour	Lens guard	Fixings	Earth continuity	Tag/duty	Unit options	Finish
XB12										
<b>Certification</b> Uncertified W ATEX B IECEX J UL UL UL(ordinary locations) UW UL Marine UM INMETRO DM		<b>Fpm</b> 60/min 06 Other flash rates available, please specify		<b>Guard</b> None N Yes Y		<b>Continuity</b> None N Yes Y* *Earth continuity not available in UL version		<b>Option</b> None N Blanking plug P Telephone T* *Telephone option not available in UL version		
		<b>Voltage</b> 24V d.c. 024 110V a.c. 110 240V a.c. 240 Other voltage available, please specify		<b>Colour</b> Clear C Red R Blue B Green G Yellow Y Amber A		<b>Fixing</b> Direct mount D Direct mount without backstrap Direct mount with backstrap B		<b>Label</b> None N Yes Y* *Please specify		<b>Colour</b> Natural black N Red R Blue B Yellow Y Grey G White W Special S* *Please specify

# XB15 range 5, 10 & 15 joule xenon beacons

Ex d, weatherproof



## Overview

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 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 incorporated 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.

As well as the standard worldwide certificates, EN54-23 and SIL1 are both now available.

As well as the XB15 being certified from -55°C to +70°C, the new control circuits have been designed to consistently energise at -55°C.

## Features

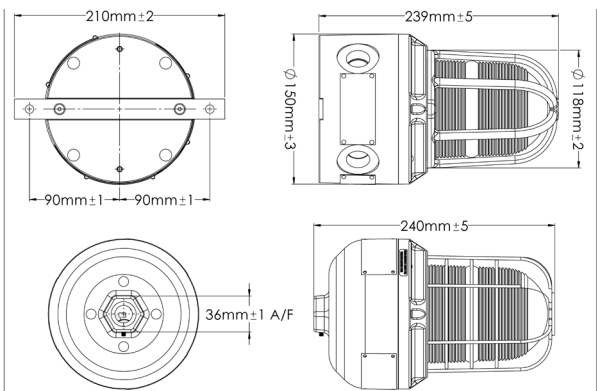
- Zones 1, 2, 21 & 22
- Exd IIC, T4/T5/T6
- ATEX certified, Ex II 2GD
- IECEx certified Gb, Db
- UL certified for USA and Canada:
  - Hazardous locations:
    - Class I, Div. 2, Groups A, B, C & D
    - Class II, Div 2 Groups F & G
    - Class I, Zone 1, AExd IIC T4/T5/T6
  - Ordinary locations: visual-signal device
  - Marine listed
- ULC certified to Canadian Safety Standards
- CCC Ex certified
- GB certified
- CCCF certified
- INMETRO certified
- CCOE certified
- IP66 & 67
- EN54-23 certified
- SIL 2 certified
- Certified temperature from -55°C to +70°C
- 5, 10 & 15J versions available
- Pipe mount or direct mount enclosure
- Corrosion-free GRP
- Four wire 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
- LED version available (see data sheet for LD15)
- Improved inrush current characteristics
- Consistent extreme temperature start-up
- Automatic synchronization option



Certifications	
ATEX Ex d	Cert. no. Baseefa 04ATEX0009X Certified to: EN 60079-0, EN 60079-1, EN 60079-28, EN 60079-31 Ex II 2 GD Ex db op is IIC T4/T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C/T135°C Db
IECEX Ex d	Cert. no. IECEX BAS 05.0048X Certified to: IEC 60079-0, IEC 60079-1, IEC 60079-28, IEC 60079-31 Ex db op is IIC T4/T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C/T135°C Db
UL Haz Locs	Cert. 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/Marine	Cert. no. SB128. Visual signal device
ULC Haz Locs	For ULC ordering codes and technical details please refer to the US data sheet
INMETRO Ex d	Ex db op is IIC T4/T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C/T135°C Db
CCC Ex	Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T85°C/T100°C/T135°C Db
GB (GuoBiao)	Ex db op is IIC T4/T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C/T135°C Db
SIL	SIL2 certified to IEC61508. Cert number FSP 12004.
EN54-23	LPCB: 1120b/01, CPR: 0832-CPR-F0761 (White) LPCB: 1120b/02, CPR: 0832-CPR-F0762 (Red)
CCCF	Chinese Compulsory Certification for Fire Systems (CCCF)

Specifications	
Material	Body: glass reinforced polyester Lens: borosilicate 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	5, 10 & 15 Joule
Tube life	>1 x 10 <sup>6</sup> flashes
Flash rate	60, 80, 120 fpm
Certified temp	15J: -55°C to +70°C (T4), -55°C to +40°C (T5) 10J: -55°C to +70°C (T4), -55°C to +55°C (T5), -55°C to +40°C (T6) 5J: -55°C to +70°C (T5), -55°C to +55°C (T6)
Weight	Pipe mount: 2.6kg; Direct mount: 3.0kg
Ingress protection	IP66 & IP67
Entries	ATEX version: Standard: 2 x M20 Optional: 1 x M20/M25, 3 x M20/M25 entries UL version: Standard pipe: ¾" NPT Standard direct: 2 x ¾" NPT Optional direct: 1 x ½"/¾" NPT or 3 x ½"/¾" NPT Dual UL/ATEX, UL/IECEX: Standard direct: 2 x ¾" NPT
Terminals	Direct mount: 12 x 2.5mm <sup>2</sup> /14AWG. Pipe mount: 8 x 14AWG
Relay initiate	Operates with 24V d.c. initiate supplies only
Telephone initiate	Operates from telephone ringing voltage
Labels	Tag/duty label optional
Synchronization	Up to 6 beacons on a loop can synchronize without the need for an external controller. Beacons will need to be the same flashrate and need the A code in the options

## General arrangement drawing (all dimensions in mm)



### Electrical:

Nominal voltage @ 60fpm	d.c.		a.c. (50Hz*)				
	24V	48V	110V	120V	230V	240V	254V
Average current 5J (mA)	330	150	120	130	70	70	70
Average current 10J (mA)	650	320	190	210	110	120	120
Average current 15J (mA)	900	430	220	250	140	160	140

\*For 60Hz please refer to the US datasheet

### Typical light output:

	5J	10J	15J
Effective (Cd)	107	280	382
Peak (Cd)	173,000	342,000	520,000

### Multiplying factor for coloured lens:

Red	Blue	Amber	Green	Yellow
0.12	0.11	0.29	0.22	0.74

### EN54-23 rating:

White		Red	
Rating	Volume (m³)	Rating	Volume (m³)
C-3-32	2,413	C-3-16	603
C-6-31	4,529	C-6-6	170
C-9-12	1,018		
W-8-13	1,352	W-3-5	75

## 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	Tube energy	Flashrate	Lens colour	Lens guard	Fixings	Options	Finish																																																																											
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# LD15 range high intensity LED beacon

Ex d, weatherproof



## Overview

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 incorporated 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
- UL certified 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 T6/T5
  - Ordinary locations: visual-signal device
- CCC Ex certified
- INMETRO certified
- IP66 & 67
- SIL2 certified
- Certified temperature -55°C to +70°C
- Corrosion-free GRP
- Optional stainless steel backstrap
- Various lens colours
- Optional cast aluminium or stainless steel wire 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

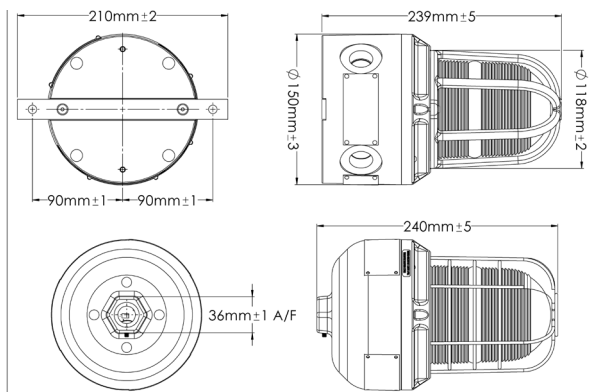


Certifications	
<b>ATEX Ex d</b>	Cert. no. Baseefa 04ATEX0009X Certified to: EN60079-0, EN60079-1, EN60079-28, EN60079-31 Ex II 2GD Ex db op is IIC T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C Db
<b>IECEX Ex d</b>	Cert. no. IECEX BAS 05.0048X Certified to: IEC60079-0, IEC60079-1, IEC60079-28, IEC60079-31 Ex db op is IIC T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C Db
<b>INMETRO Ex d</b>	Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db
<b>CCC Ex</b>	Ex db IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db
<b>GB (GuoBiao)</b>	Ex db op is IIC T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C Db
<b>UL Haz Locs</b>	Cert. no. E187894
<b>UL Ord Locs/Marine</b>	Cert. no. S8128. Visual signal device
<b>ULC</b>	Cert. no. E187894
<b>UL certified</b>	Class I, Div. 2, Groups A, B, C & D Class II, Div. 2, Groups F & G Class I, Zone 1, AEx d IIC T5/T6
<b>SIL</b>	SIL2 certified to IEC61508. Cert number FSP 13005

Specifications	
<b>Material</b>	Body: glass reinforced polyester Lens: borosilicate glass Backstrap: stainless steel 316 Wire guard (optional): stainless steel wire Cast guard (optional): aluminium LM25M
<b>Finish</b>	Natural black or painted to customer specification
<b>Voltage</b>	12V d.c. to 48V d.c., 110V a.c. to 254V a.c
<b>LED life</b>	Up to 54,000 hours
<b>Function</b>	Steady, 60, 80 & 120 fpm, double flash
<b>Certified temp</b>	-55°C to +70°C (T5) -55°C to +55°C (T6)
<b>Weight</b>	Pipe mount: 3.1kg Direct mount: 3.5kg
<b>Ingress protection</b>	IP66 & IP67
<b>Entries</b>	ATEX version: Standard: 2 x M20 Optional: 1 x M20/M25, 3 x M20/M25 entries UL version: Standard pipe: ¾" NPT Standard direct: 2 x ¾" NPT Optional direct: 1 x ½"/¾" NPT or 3 x ½"/¾" NPT Dual UL/ATEX, UL/IECEX: Standard direct: 2 x ¾" NPT
<b>Terminals</b>	Direct mount: 12 x 2.5mm <sup>2</sup> /14AWG Pipe mount: 8 x 14AWG
<b>Labels</b>	Tag/duty optional

NPT

## General arrangement drawing (all dimensions in mm)



### Electrical:

Nominal voltage	d.c.			a.c. (50Hz*)				
	12	24	48	110	120	230	240	254
Average current steady (mA)	430	220	120	70	70	40	40	40
Average current 60fpm (mA)	880	420	220	90	90	50	50	50
Average current 80fpm (mA)	880	420	220	90	90	50	50	50
Average current 120fpm (mA)	880	420	220	90	90	50	50	50
Average current double (mA)	710	340	180	40	40	30	30	30

\*For 60Hz please refer to the US datasheet

### Typical light output (effective Cd) (no guard)

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

\*Not available ULC

## 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	Lens colour	Lens guard	Fixings	Options	Finish																																																																																								
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\*Please specify. For UL one label only. For AU/JU no labels.

†Suitable for 24Vdc initiate supplies only

‡Not available on UL/UW/ULC

\*\*Not available on SIL



# SL15 status lights range

Ex d, weatherproof



## Overview

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 certified (see US data sheet)
- IP66 and 67
- Certified temperature: -55°C to +70°C\*
- Corrosion free GRP
- Filament 60W
- 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



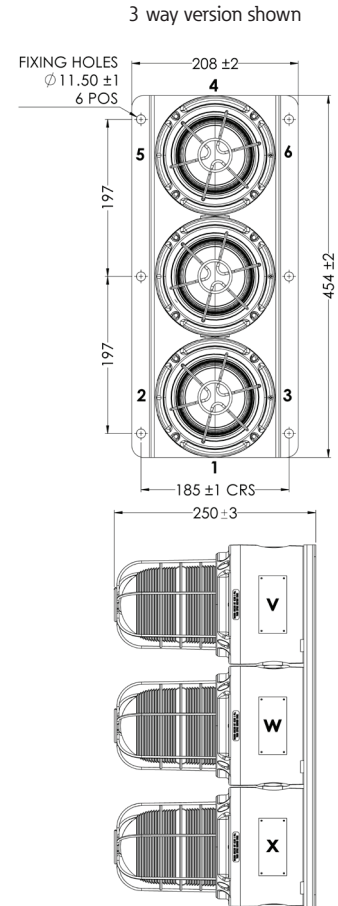
## Certifications

<b>ATEX Ex d</b>	Cert. no. Baseefa 04ATEX0009X Certified to: EN60079-0, EN60079-1, EN60079-31, (EN60079-28 LED only) Xenon: Ex II 2GD Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T85°C/T100°C/T135°C Db LED: Ex II 2GD Ex db op is IIC T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C Db Filament: Ex II 2GD Ex db IIC T3/T4 Gb, Ex tb IIIC T135°C/T200°C Db
<b>IECEX Ex d</b>	Cert. no. IECEX BAS 05.0048X Certified to: IEC60079-0, IEC60079-1, IEC60079-31 (IEC60079-28 LED only) Xenon: Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T85°C/T100°C/T135°C Db LED: Ex db op is IIC T4/T5/T6 Gb, Ex tb op is IIIC T85°C/T100°C/T135°C Db Filament: Ex db IIC T3/T4 Gb, Ex tb IIIC T135°C/T200°C Db

## Specifications

<b>Material</b>	Body: glass reinforced polyester Lens: glass Back plate & fixings: stainless steel 316 Wire guard (optional): stainless steel wire Cast guard (optional): aluminium LM25M
<b>Finish</b>	Natural black or painted to customer specification
<b>Voltage</b>	24, 48V d.c. - 110, 120, 230, 240, 254V a.c.
<b>Xenon</b>	Tube energy: 5, 10 or 15 joules Tube life: >1x10 <sup>6</sup> flashes Flash rate: 60, 80 or 120 fpm Certified temp: 15J -55°C to +70°C (T4), -55°C to +40°C (T5) 10J: -55°C to +70°C (T4), -55°C to +55°C (T5), -55°C to +40°C (T6) 5J: -55°C to +70°C (T5), -55°C to +55°C (T6)
<b>Filament</b>	Lamp type: 60W GLS filament Lamp holder: E27 as standard Certified temp: 60W -55°C to +55°C (T4) -55°C to +70°C (T3)
<b>LED</b>	Certified temp: -55°C to +55°C (T6) -55°C to +70°C (T5) LED life: up to 54,000 hours
<b>Weight</b>	2-Way: 6.5Kg, 3-Way: 9.8Kg, 4-Way: 13.1Kg
<b>Ingress protection</b>	IP66 & 67
<b>Entries</b>	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
<b>Terminals</b>	Suitable for up to 2.5mm <sup>2</sup> cable max
<b>Labels</b>	Tag/duty label option

## General arrangement drawing (all dimensions in mm)



### Current consumption per way (A):

	dc		ac (50Hz*)				
Voltage	24	48	110	120	230	240	254
5J Xenon	0.33	0.15	0.12	0.13	0.07	0.07	0.07
10J Xenon	0.65	0.32	0.19	0.21	0.11	0.12	0.12
15J Xenon	0.9	0.43	0.22	0.25	0.14	0.16	0.14
Filament - 60W	2.5	1.25	0.55	0.5	0.26	0.25	-
LED - Steady	0.22	0.12	0.07	0.07	0.04	0.04	0.04
LED - Flashing	0.42	0.22	0.09	0.09	0.05	0.05	0.05

\* For 60Hz please refer to the US datasheet

### Light output (effective Cd):

5J Xenon	10J Xenon	15J Xenon	Filament 60W	LED - Steady	LED - Flashing (60fpm)
107	280	382	64	86	128

### Multiplying factor for coloured lenses

	Red	Blue	Green	Amber	Clear	Yellow
Xenon/filament	0.12	0.11	0.29	0.22	1	0.74
LED	0.47	0.19	0.67	0.43	1	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	Certification	Lamp type/positions				Voltage	Cable entries	Lens guard	Duty/tag	Finish
		V	W	X	Y					
SL15										
<b>Certification Code</b> ATEX B IECEx J						<b>Voltage Code</b> 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		<b>Guard Code</b> None N Cast C Wire W		<b>Finish Code</b> Natural black N Red R Blue B Yellow Y Green G White W Special S*
						<b>Entry Size Code</b> M20 *C M25 *D			<b>Label Code</b> Duty label D* Tag label T* None N	
		<b>Indicate light module type</b> Filament Xenon LED - 6* Xenon Xenon 60W - 1† 15J 60fpm - 3 10J 60fpm - 7 5J 60fpm - 10 15J 80fpm - 4 10J 80fpm - 8 5J 80fpm - 11 15J 120fpm - 5 10J 120fpm - 9 5J 120fpm - 12								
		Suffix by colour required <b>Lens colour Code</b> Red R Blue B Green G Amber A Yellow Y Clear C								

\*Please specify

\*User selectable function preset at 60fpm  
†Not available 254Vac

Example: A two way ATEX approved unit with one 60W filament lamp with green lens for the top unit and one 15J 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:  
**SL15B1G3R0242C3CNNR**



# SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



## Overview

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.

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 T4/T5/T6
- ATEX approved, Ex II 2GD
- 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
- CQST certified\*
- INMETRO certified\*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: -55°C to +70°C\*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

\*Depending on version



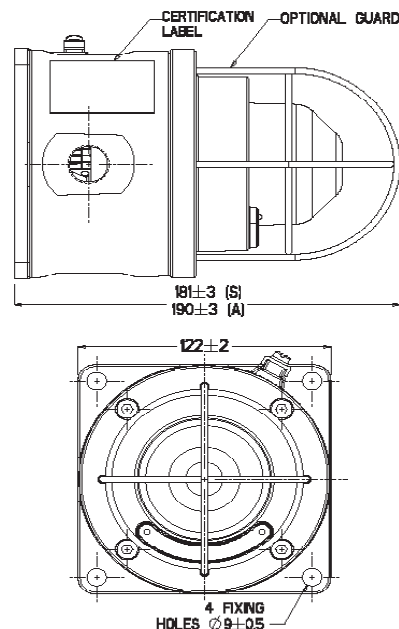
## Certifications

<b>ATEX Ex d</b>	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/T80°C/T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/T70°C Db
<b>IECEX Ex d</b>	Cert. no. IECEX BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/T80°C/T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/T70°C Db
<b>UL</b>	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
<b>CSA</b>	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
<b>INMETRO Ex d</b>	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
<b>CQST Ex d</b>	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/T80°C/T95°C Db
<b>SIL</b>	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

## Specifications

<b>Material</b>	SM87HXBs and SM87LEDs: Grade 316 ANC4B stainless steel SM87HXBs and SM87LEDs: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
<b>Finish</b>	Epoxy paint finish as standard
<b>Certified temp</b>	SM87HXB: ATEX, IECEX, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEX, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
<b>Weight</b>	SM87HXBs & SM87LEDs: 3.8kg each (approx) SM87HXBs & SM87LEDs: 2kg. each (approx)
<b>Ingress protection</b>	IP66 & IP67
<b>Entries</b>	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
<b>Terminals</b>	SM87HXB 6 off suitable for up to 1.5mm <sup>2</sup> cable SM87LED: 6 off suitable for up to 1.5mm <sup>2</sup> cable
<b>Relay initiate</b>	Initiation by telephone ringing tone or low voltage control signals
<b>Labels</b>	Duty & tag labels optional

## General arrangement drawing (all dimensions in mm)



## Electrical ratings

	d.c.		a.c. 50/60Hz				
<b>Voltage</b>	24	48	110	120	220	240	254
<b>Tube energy (Joules)</b>							
<b>SM87HXB</b>	5	5	6	7	6	7	8
<b>Current consumption SM87HXB</b>	393	175	250	275	120	135	153
<b>Current consumption SM87LED (mA)</b>	165	85	N/A	N/A	N/A	N/A	N/A
<b>Effective intensity (Cd)</b>	29	29	32	39	32	39	44
<b>Peak intensity (Cd)</b>	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
<b>Total LED output (candela)</b>	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear  
Flash rate: 90fpm 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	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish																																																																																																														
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† Only SM87HXBs is available UL certified  
‡ Only SM87HXB

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

# BG2 range manual call point

Ex de, Ex ia, weatherproof



## Overview

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 2GD (Ex de)
- IP66 and IP67
- Certified temperature from -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

\*Model dependent

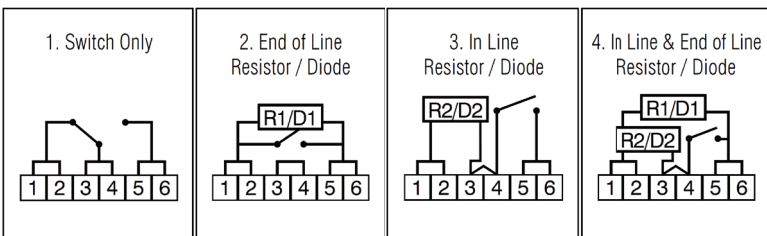


## Certifications

ATEX Ex de	Cert. no. BAS02ATEX2105X. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-7, EN60079-18, EN60079-31 Ex db eb IIC T6 Gb, Ex tb IIIC T85°C Db (switch only) Ex db eb mb IIC T4 Gb, Ex tb IIIC T135°C Db (with resistors & diodes)
ATEX Ex ia	Cert. no. Baseefa 03ATEX0084X. ATEX Approved Ex II 1 GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da

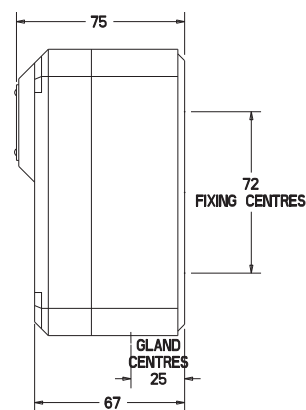
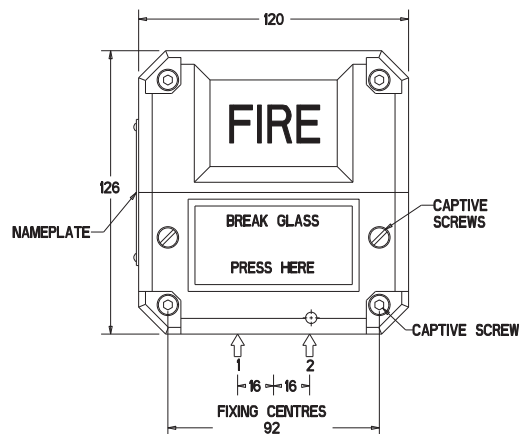
## Specifications

Material	Anti static UV resistant glass reinforced polyester
Finish	Painted red
Certified temp	-40°C to +70°C
Voltage	Up to 250Vac. Up to 50Vdc (model dependent)
Weight	1.2Kg
Ingress protection	IP66 and IP67
Cable entries	2 x M20 bottom
Terminals	6 x 2.5 mm <sup>2</sup>
Resistors values	Ex de - 100Ω minimum, 39 KΩ maximum Ex ia - 470Ω minimum
Switch ratings	Switch only 30Vdc 5A (resistive) or 3A (inductive) 30-50Vdc 1A (resistive or inductive) 250Vac 5A (resistive or inductive) 24Vdc 0.05A
	Resistor(s)



ALL CIRCUITS SHOWN WITH GLASS INTACT

## General arrangement drawing (all dimensions in mm)



## 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		Options		Flap		Finish	
<div></div>		<div></div>		<div></div>		<div></div>	
<b>Model</b>	<b>Code</b>	<b>Options</b>	<b>Code</b>	<b>Flap</b>	<b>Code</b>	<b>Finish</b>	<b>Code</b>
BG2W - ac or dc	BG2WNN	Switch only	1	Fitted	F*	Red painted	R
BG2I - Up to 28V (I.S.)	BG2INN	End of line resistor	2*	Not fitted	N		
BG2E - dc	BG2EDC	In line resistor	3*				
BG2E - ac	BG2EAC	In line and end of line resistor	4*				
		Diode (specify location & value)	5				

\*Specify resistor values

\*Polycarbonate lift flap

The Eaton BG range of manual alarm call point caters for numerous options such as variety of colours, LED indication, earth continuity, double switch, etc. See separate catalogue sheet for details

# PB manual call point range

Ex de, Ex ia, weatherproof



## Overview

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 (not available for turn and push version).

## Features

- ATEX certified
- IECEx certified
- UL certified for Haz locs
- UL certified for Ord locs
- Chinese (CCC) certified
- Brazilian (INMETRO) certified
- CCOE certified
- DNV type approval (IEC 60945)
- SIL 2 certified
- IP66 and IP67
- Corrosion free GRP construction
- 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 (not available for turn and push version)
- Latching as standard. Self reset (momentary) available



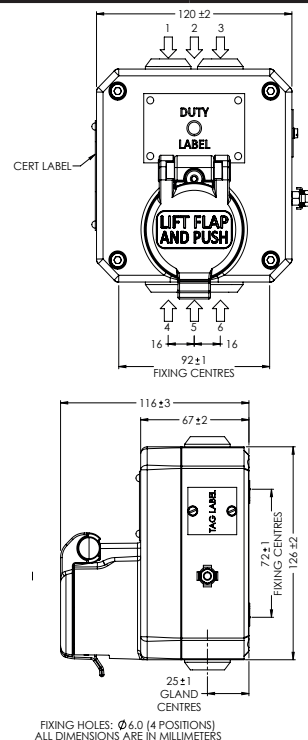
## Certifications

<b>ATEX Ex de</b>	Cert. no. BAS02ATEX2105X. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-7, EN60079-18, EN60079-31 Ex db eb IIC T6 Gb, Ex tb IIIC T85°C Db (switch only) Ex db eb mb IIC T6 Gb, Ex tb IIIC T85°C Db (with LED) Ex db eb mb IIC T4 Gb, Ex tb IIIC T135°C Db (with resistors & diodes)
<b>ATEX Ex ia</b>	Cert. no. Baseefa 03ATEX0084X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
<b>IECEX Ex de</b>	Cert. no. IECEX BAS 18.0100X. Certified to: IEC60079-0, IEC60079-1, IEC60079-7, IEC60079-18, IEC60079-31 Ex db eb IIC T6 Gb, Ex tb IIIC T85°C Db (switch only) Ex db eb mb IIC T6 Gb, Ex tb IIIC T85°C Db (with LED) Ex db eb mb IIC T4 Gb, Ex tb IIIC T135°C Db (with resistors & diodes)
<b>IECEX Ex ia</b>	Cert. no. IECEX BAS 12.0093X Certified to: IEC 60079-0, IEC 60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
<b>UL</b>	Listing no. E186629 UL listed to Class 1, Div 2. Groups A,B,C & D UL listed for Ordinary Locations. Listing no. S8117
<b>CSA</b>	Cert. no. 79120-3. Class 1 groups A,B,C & D
<b>INMETRO Ex de</b>	Ex db eb IIC T6 Gb, Ex tb IIIC T85°C Db (switch only) Ex db eb mb IIC T6 Gb, Ex tb IIIC T85°C Db (with LED) Ex db eb mb IIC T4 Gb, Ex tb IIIC T135°C Db (with resistors & diodes)
<b>CCC Ex de</b>	Ex de IIC T6 (switch only), Ex de mb IIC T4 (other versions)
<b>CCC Ex ia</b>	Ex ia IIC T4
<b>Type Approvals</b>	American Bureau of Shipping type approval (ABS) PBI only DNV (IEC 60945)
<b>SIL</b>	SIL2 Certification to IEC61508. Cert no. 20151118-4786827453

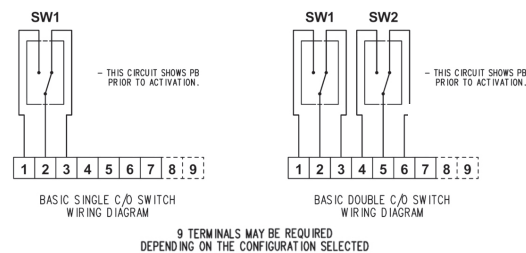
## Specifications

<b>Material</b>	Anti-static UV resistant glass reinforced polyester
<b>Finish</b>	Red painted finish as standard or to customer specification
<b>Voltage</b>	Up to 250Vac. Up to 50Vdc (model dependent)
<b>Weight</b>	1.2 kg. (Varies with models and entries)
<b>Ingress protection</b>	IP66 & IP67
<b>Entries</b>	Up to 4 entries, M16 or M20 top and bottom (1/2" NPT available on UL version)
<b>Terminals</b>	7 x 2.5mm <sup>2</sup> – standard 9 x 2.5mm <sup>2</sup> optional – up to 60V only
<b>Resistors</b>	Various configurations available on versions up to 24V and all 'IS' versions. (Minimum Resistor value 100ΩPBE, 470ΩPBI)
<b>Earth continuity</b>	Internal and external earth continuity is provided with an optional earth plate
<b>LED indication</b>	A high intensity red LED can be fitted as an optional extra to indicate operation on versions up to 24V and all 'IS' versions As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA
<b>Labelling</b>	Duty label – worded to customers requirements. Riveted on Tag label – worded to customers requirements. Screwed on
<b>Switch ratings (1 or 2 changeover switches fitted)</b>	Switch only 30Vdc 5A (resistive) or 3A (inductive) 30-50Vdc 1A (resistive or inductive) 250Vac 5A (resistive or inductive) LED 24Vdc 0.05A Resistor(s) 24Vdc 0.05A

## General arrangement drawing (all dimensions in mm)



## PB standard wiring configuration



## Temperature

Model	PBW	PBUL	PBE	PBI	CSA
	-40°C to +70°C	-25°C to +55°C†	-40°C to +70°C*	-40°C to +70°C	-30°C to +40°C

\* -35°C to +70°C with LED  
† -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	Certification	Entries	Labels	Voltage	Switches	Options	Terminals	Finish
PB								
		<b>Entries</b> M16 A* M20 B* 1/2" NPT C*	<b>Label</b> None 0 Duty label reqd 4* Tag label reqd 5* Burning house duty label 8	<b>Switches</b> Single changeover S Double changeover D	<b>Terminals</b> 7 x 2.5mm (standard) 7 9 x 2.5mm (optional) 9	<b>Option</b> 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*†	<b>Finish</b> Red (standard) R Natural black N Blue B Yellow Y Grey G Yellow/black stripes X Special S*	
		<b>Certification</b> ATEX/CENELEC - Ex de EB ATEX/CENELEC - Ex ia IB IECEX - Ex ia IJ IECEX - Ex de EJ CSA - Ex ia IC UL - Listed UL UL (Ordinary Locations) UW	<b>Certification</b> CCC - Ex de CC CCC - Ex ia CC INMETRO - Ex de IN Uncertified UN	<b>Voltage</b> a.c. A d.c. D*				

\* Not suitable for use in China on fire alarm systems

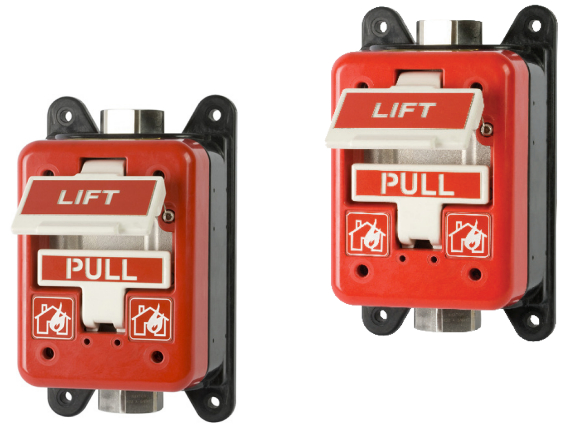
\*Specify values  
\*\*Must be selected when selecting CSA certification  
†Choose for PBE only - on the PBW, choose C & D  
‡Not available for UL/CSA versions

\*Please specify



# PH1 range pull handle call point

Ex d, UL hazardous  
& ordinary locations



## Overview

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, Division 2. 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
- SIL 1 certified
- Certified temperature from -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<sup>UL</sup>us SIL**

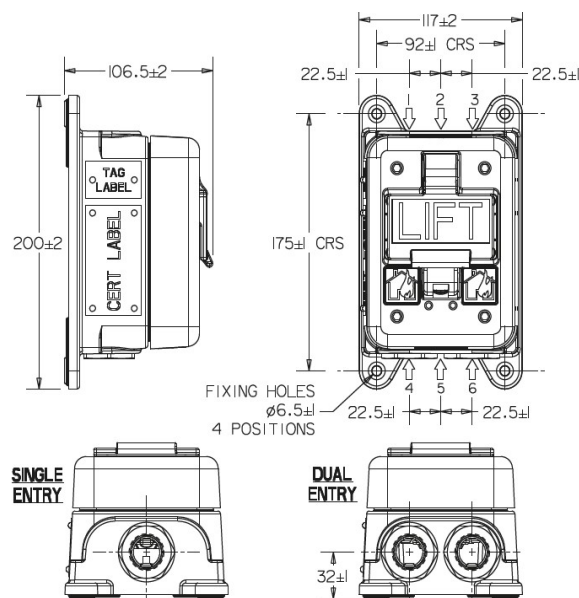
## Certifications

<b>UL Haz Locs</b>	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
<b>UL Ord Locs</b>	UL Listing no. S8117. Fire alarm boxes UL for USA and Canada
<b>IECEX Ex d</b>	Cert. no. IECEX ITS.11.0021X Certified to: IEC60079-0, IEC60079-1, IEC60079-31 Ex d IIC T6 Gb, Ex tb IIIC T85°C Db. IP66
<b>ATEX Ex d</b>	Cert. no. ITS11ATEX17308X Certified to: EN60079-0, EN60079-1, EN60079-31 Ex II 2 GD, Ex d IIC T6 Gb, Ex tb IIIC T85°C Db. IP66
<b>SIL</b>	SIL 1 certification to IEC 61508. Cert number: Sira FSP 19005

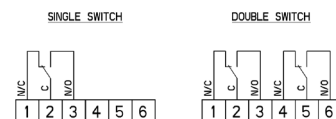
## Specifications

<b>Material</b>	Body/covers/handles: GRP (glass reinforced polyester) UL Class I, Div. 1 inner cover: 316 (ANC4B) stainless steel Fixings: stainless steel grade 316
<b>Finish</b>	Cover: natural red Body: natural black Handles: natural white Cover may be painted to customer's requirements
<b>Voltage</b>	0-50Vdc, 0-254Vac
<b>Switch rating</b>	1 or 2 c/o switches, 254V, 3A max
<b>Weight</b>	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
<b>Certified temp</b>	ATEX & IECEX: -55°C to +70°C UL Class I, Divs. 1 & 2, UW: -50°C to +70°C
<b>Ingress protection</b>	NEMA 4X & 6. IP66 & IP67
<b>Entries</b>	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 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
<b>Terminals</b>	6 x 2.5mm <sup>2</sup> as standard (Contact MEDC for options)
<b>Earth continuity</b>	Earth continuity is provided by internal plate
<b>Duty labels</b>	'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
<b>Tag label</b>	Worded to customers requirements
<b>Resistors</b>	Various configurations available, 470 Ohms minimum
<b>Diodes</b>	Various configurations available

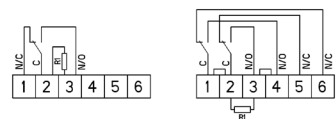
## General arrangement drawing (all dimensions in mm)



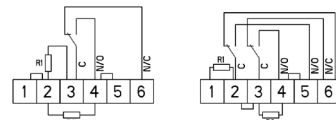
Standard wiring - switch only



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	Certification	Entries	Switches	Options	Finish																																																						
PH1																																																											
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\*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

\*Please specify  
†Only select if non standard option is required

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

# SM87BG & SM87PB manual call point range

Ex d, Ex ia, weatherproof



## Overview

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.

## Features

- Zone 0, Zone 1 and Zone 2 use\*
- ATEX certified
- UL listed for USA and Canada (SM87PBL only). Class I, Div 1, Groups C & D
- ULC certified (SM87PBL only) for Class I, Zone 1 Groups C & D
- CSA certified
- IECEx certified
- Brazilian (INMETRO) certified
- Russian Fire certified
- PESO certified (Ex d only)
- SIL 2 certified (SM87PB only)
- IP66 and IP67
- DNV type approval (IEC 60945) (SM87PB only)
- Certified temperature: -55°C to +70°C\*
- Stainless steel or marine grade alloy
- Robust yet lightweight
- Easy to maintain

\*Model dependent



## Certifications

<b>ATEX Ex d</b>	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 T85°C/T100°C Db. IP66/IP67
<b>ATEX Ex ia</b>	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
<b>IECEx Ex d</b>	Cert. no. IECEx BAS 09.0060 Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
<b>IECEx Ex ia</b>	Cert. no. IECEx BAS 10.0033X Certified to: IEC60079-0, IEC60079-11, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
<b>UL</b>	Listing no. E186629 UL listed to Class 1, Div 1. Groups C & D. (SM87PBL)
<b>ULC</b>	Cert. no. 20091023-E320282 ULC certified for Class I, Zone 1 Groups C & D (SM87PBL)
<b>CSA Explosion proof</b>	Class 1, Div 1 & 2. Group D Ex d IIC T5/T6 Gb
<b>CSA Intrinsically safe</b>	Class 1, Div 1 & 2. Groups A-D
<b>INMETRO Ex d</b>	Ex db IIC T5/T6 Gb
<b>Type Approvals</b>	DNV (IEC 60945) (Stainless Steel SM87PB only)
<b>SIL</b>	SM87PB only - SIL2 Certification to IEC61508. Cert no. 20151118-4786827453
<b>CCC</b>	Ex d IIC T5/T6 Gb, Ex td A21 IP66/IP67 T85°C/T100°C

## Specifications

<b>Material</b>	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy
<b>Finish</b>	Paint finish as standard or to customer specification
<b>Voltage</b>	Ex d 24V a.c./d.c. Ex ia 28V
<b>Rating</b>	2A
<b>Switches</b>	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)
<b>Optional indicator</b>	A red high intensity LED can be fitted for alarm indication As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA
<b>Certified temp</b>	Ex d* -55°C to +70°C. Ex ia* -55°C to +60°C UL -20°C to +55°C (LED version only) -40°C to +70°C, -20°C to +55°C (LED version only) CSA Explosion proof - Class 1, Div 1 & 2. -50°C to +55°C CSA - Ex d IIC -55°C to +70°C CSA Intrinsically safe - Class 1, Div 1 & 2 -50°C to +40°C *Note: includes ATEX, IECEx & INMETRO versions
<b>Weight</b>	3.8 kg. steel (approx.) or 2.5 kg. alloy (approx.)
<b>Ingress protection</b>	IP66 & IP67. SM87PB IP68 (35m for 40 hours)
<b>Entries</b>	Up to 4 x M20 or M25 ISO Ex d/Ex ia Up to 4 x ½" or ¾" NPT UL Stainless steel version comes with two entries as standard. Units ordered with a single entry ordering code are supplied with 2x entries inc. plug on the opposite side
<b>Terminals</b>	Will accept up to 1.5mm² cable
<b>Resistor values</b>	470R minimum (d.c. & I.S. units only)

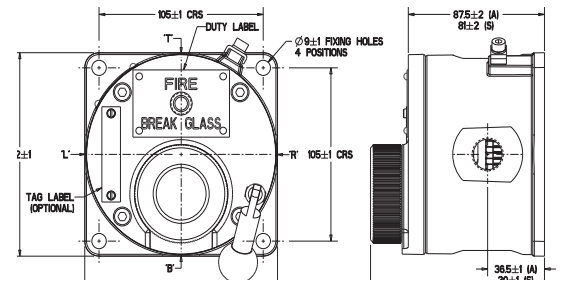
## Ordering requirements

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

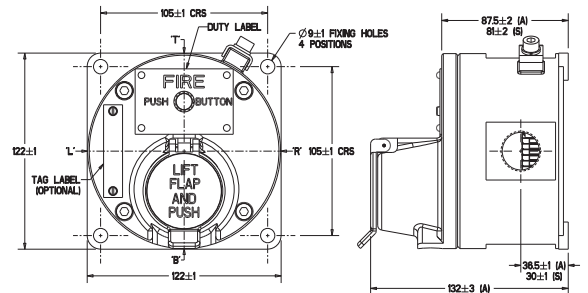
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## General arrangement drawing (all dimensions in mm)

Break glass



Push button



Both the Ex ia units and the Ex d 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

## 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.**





# Certification and Specification

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

<b>Certification:</b>	ATEX: Ex II 2 GD Ex d IIB T4/T5 Gb, Ex tb IIIC T100°C/T135°C Db. IECEX: Ex d IIB T4/T5 Gb, Ex tb IIIC T100°C/T135°C Db cULus: Class I, Div. 2, Groups C & D.
<b>Voltage:</b>	24V d.c., 110V a.c., 240V a.c.
<b>Beacon:</b>	Standard: XB11 (Xenon 5J). Option: Filament (10W). Fluorescent ( $\leq 10W$ ).
<b>Sounder:</b>	Standard: DB3 (long flare) $\leq 115dB(A)$ at 1 metre. Option: DB3 (short flare) $\leq 108dB(A)$ at 1 metre.
<b>Dimensions (mm):</b>	420 (height) x 220 (width) x 337 (depth).
<b>Options:</b>	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.

<b>Certification:</b>	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.
<b>Voltage:</b>	24V d.c., 110V a.c., 240V a.c.
<b>Beacon:</b>	Standard: SM87 (Xenon 5J). Option: Filament (10W). Fluorescent ( $\leq 10W$ ). LED ( $\leq 192cd$ ).
<b>Sounder:</b>	Standard: DB1 HP $\leq 110dB(A)$ at 1 metre. Option: DB1 P $\leq 106dB(A)$ at 1 metre.
<b>Dimensions (mm):</b>	351 (height) x 228 (width) x 205 (depth).
<b>Options:</b>	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.

<b>Certification:</b>	ATEX: Ex II 2 GD Ex d IIC T4/T5 Gb, Ex tb IIIC T100°C/T135°C Db. IECEX: Ex d IIC T4/T5 Gb, Ex tb IIIC T100°C/T135°C Db cULus: Class I, Div. 2, Groups C & D.
<b>Voltage:</b>	24V d.c., 110V a.c., 240V a.c.
<b>Beacon:</b>	LM25 or stainless steel.
<b>Sounder:</b>	Corrosion-free GRP.
<b>Beacon:</b>	Standard: SM87 HXB (Xenon 5J). Option: Filament (10W). Fluorescent ( $\leq 10W$ ). LED ( $\leq 192cd$ ).
<b>Sounder:</b>	Standard: DB3 (long flare) $\leq 115dB(A)$ at 1 metre. Option: DB3 (short flare) $\leq 108dB(A)$ at 1 metre (also available close coupled). DB3 (short flare close coupled) $\leq 108dB(A)$ at 1 metre
<b>Dimensions (mm):</b>	420 (height) x 220 (width) x 337 (depth).
<b>Options:</b>	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
DB3+SM87HXB	LM25 or Stainless Steel	ATEX, IECEX, UL	see above	Red Amber	specify



Close coupled version shown. Other options available.

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

<b>Applications:</b>	Harsh Industrial & Marine Environments.
<b>Voltage:</b>	24V d.c., 110V a.c., 240V a.c.
<b>Beacon:</b>	Standard: XB13 (Xenon 10J).
<b>Sounder:</b>	Standard: DB12 $\leq 110dB(A)$ at 1 metre. Standard: DB15 $\leq 115dB(A)$ at 1 metre.
<b>Dimensions (mm):</b>	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		





# DB3B sounders range up to 122dB

Ex d(e), weatherproof



## Overview

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 +85°C the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

Capable of producing 122dB @ 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 a 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
- UL certified for USA and Canada
  - Class I, Div 2, Groups A-D
  - Class I, Zone 1
  - Class II, Div 2, Groups F & G
  - Zone 21
  - Class III, Div. 1
  - Fire alarm and general use
- CCC certified
- CCOE certified
- Chinese Compulsory Certification for Fire systems (CCCF) certified
- INMETRO certified
- SIL 2 certified
- EN54-3 certified and LPCB approved
- Certified temperature: -55°C to +85°C (model dependent)
- IP66 & IP67/NEMA 4X & 6 (EN54-3, IP33C)
- Optional Ex e terminal chamber
- Up to 122dB 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. EN54-3 between 11V and 57.6V absolute
- 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



Short flare version



ATEX IECEx



Powering Business Worldwide

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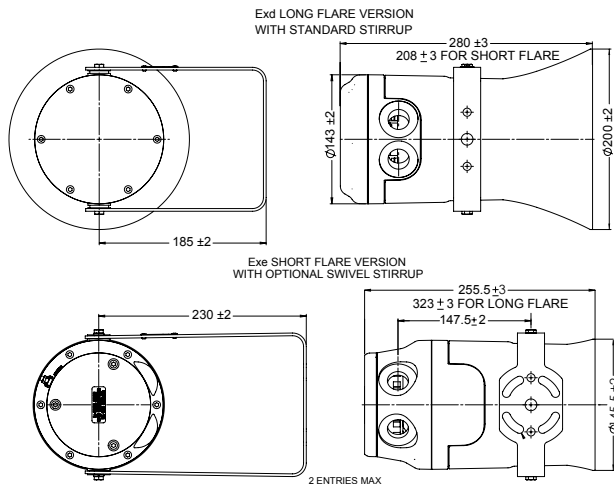
Certifications	
ATEX Ex d Gas	Cert. no. Baseefa13ATEX0229X. Certified to: EN60079-0,1 Ex II 2G, Ex db IIC T4/T5/T6 Gb
ATEX Ex d Gas & Dust	Cert. no. Baseefa13ATEX0231X. Certified to: EN60079-0,1,31 Ex II 2GD, Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
ATEX Ex de Gas	Cert. no. Baseefa13ATEX0232X. Certified to: EN60079-0,1,7 Ex II 2G, Ex db eb IIC T4/T5/T6 Gb
ATEX Ex de Gas & Dust	Cert. no. Baseefa13ATEX0233X. Certified to: EN60079-0,1,7,31 Ex II 2GD, Ex db eb IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEX Ex d Gas	Cert. no. IECEX BAS 13.0112X. Certified to: IEC60079-0,1 Ex db IIC T4/T5/T6 Gb
IECEX Ex d Gas & Dust	Cert. no. IECEX BAS 13.0113X. Certified to: IEC60079-0,1,31 Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEX Ex de Gas	Cert. no. IECEX BAS 13.0114X. Certified to: IEC60079-0,1,7 Ex db eb IIC T4/T5/T6 Gb
IECEX Ex de Gas & Dust	Cert. no. IECEX BAS 13.0115X. Certified to: EN60079-0,1,7,31 Ex db eb IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
UL Haz Locs	UL certified for USA and Canada, fire alarm or general use, listing no. E203310 Class I, Div 2. Groups A-D. Class I, Zone 1, Ex db IIC / AEx db IIC T4/T5/T6 Gb Class II, Div 2. Groups F&G. Zone 21 Ex tb IIIC / AEx tb IIIC T135°C/T100°C/T85°C Db Class III Div 1
UL Ord Locs	UL certified for USA and Canada, fire alarm or general use, listing no. S8116
Russian Fire Approval	All TR CU certified units are Russian Fire Approved
CCC Ex d Gas	Ex d IIC T4/T5/T6 Gb
CCC Ex d Gas & Dust	Ex d IIC T4/T5/T6 Gb, Ex tD A21 IP6X T135°C/T100°C/T85°C
CCCF	Chinese Compulsory Certification for Fire systems (CCCF) Ex d only
INMETRO Ex d Gas	Ex db IIC T4/T5/T6 Gb
INMETRO Ex d Gas and Dust	Ex db IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
INMETRO Ex de Gas	Ex db eb IIC T4/T5/T6 Gb
INMETRO Ex de Gas and Dust	Ex db eb IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
SIL	SIL2 certified to IEC61508. Cert number FSP 22008
EN54-3	Certified to EN54-3, LPCB approved. Ambient Temperature -25°C to +70°C
Specifications	
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 (EN54-3: 11-57.6V) 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 must be limited to 26Vdc
Weight	Ex d/UL - 4.6kg, Ex de - 5.4kg. Based on long flare DC unit
Ingress protection	IP66 & IP67, NEMA 4X & 6. (IPx7 & NEMA 6 on terminal chamber only) EN54-3 certified product approved to IP33C
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	AC: 4 x 1.5mm <sup>2</sup> (loop in/out power), 3 x 2.5mm <sup>2</sup> (tone selection) (standard unit only) DC: 8 x 2.5mm <sup>2</sup> (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
Relative Humidity	99% Non-condensing

## 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	Ex atmosphere	Voltage	Labels	Entries	Options	Finish																																																																																																																								
DB3B																																																																																																																															
<table><tr><th>Certification</th><th>Code</th></tr><tr><td>ATEX Exd</td><td>D</td></tr><tr><td>ATEX Exd EN54-3</td><td>54D</td></tr><tr><td>ATEX Ex de</td><td>E</td></tr><tr><td>IECEX Ex d</td><td>DJ</td></tr><tr><td>IECEX Ex de</td><td>EJ</td></tr><tr><td>UL</td><td>UL</td></tr><tr><td>UL (ordinary locations)</td><td>UW</td></tr><tr><td>Dual ATEX/UL</td><td>AU</td></tr><tr><td>Dual IECEX/UL</td><td>JU</td></tr><tr><td>CCC Ex d</td><td>Q†</td></tr><tr><td>CCC/CCCF Ex d</td><td>QF</td></tr><tr><td>INMETRO Ex d</td><td>DM</td></tr><tr><td>INMETRO Ex de</td><td>EM</td></tr><tr><td>Weatherproof</td><td>W</td></tr><tr><td>Weatherproof EN54-3</td><td>54W</td></tr></table> <p>†Not suitable for use in China on fire alarm system</p>		Certification	Code	ATEX Exd	D	ATEX Exd EN54-3	54D	ATEX Ex de	E	IECEX Ex d	DJ	IECEX Ex de	EJ	UL	UL	UL (ordinary locations)	UW	Dual ATEX/UL	AU	Dual IECEX/UL	JU	CCC Ex d	Q†	CCC/CCCF Ex d	QF	INMETRO Ex d	DM	INMETRO Ex de	EM	Weatherproof	W	Weatherproof EN54-3	54W	<table><tr><th>Ex atmosphere</th><th>Code</th></tr><tr><td>None</td><td>N*</td></tr><tr><td>IIC Gas</td><td>G</td></tr><tr><td>IIC &amp; IIIC gas and dust</td><td>GD‡</td></tr></table> <p>*If weatherproof or UL (ordinary locations), select N for Ex Atmosphere ‡EN54 must be IIC &amp; IIIC gas and dust</p>		Ex atmosphere	Code	None	N*	IIC Gas	G	IIC & IIIC gas and dust	GD‡	<table><tr><th>Voltage</th><th>Code</th></tr><tr><td>12-48Vdc</td><td>048‡</td></tr><tr><td>110Vac</td><td>110</td></tr><tr><td>120Vac</td><td>120*</td></tr><tr><td>220Vac</td><td>220</td></tr><tr><td>230Vac</td><td>230</td></tr><tr><td>240Vac</td><td>240*</td></tr><tr><td>254Vac</td><td>254†</td></tr></table> <p>*Complies with UL regulated power supply requirements †Not available in UL ‡For EN54 select 12-48Vdc. Actual rating 11-57.6Vdc</p>		Voltage	Code	12-48Vdc	048‡	110Vac	110	120Vac	120*	220Vac	220	230Vac	230	240Vac	240*	254Vac	254†	<table><tr><th>Labels</th><th>Code</th></tr><tr><td>None</td><td>N</td></tr><tr><td>Duty</td><td>D*</td></tr><tr><td>Tag</td><td>T*</td></tr></table> <p>*Please specify</p>		Labels	Code	None	N	Duty	D*	Tag	T*	<table><tr><th>Entries</th><th>Code</th></tr><tr><td>1 x M20</td><td>1B*</td></tr><tr><td>2 x M20</td><td>2B</td></tr><tr><td>2 x M20</td><td>2BP</td></tr><tr><td>inc 1 x plug</td><td></td></tr><tr><td>1 x ½" NPT</td><td>1C*</td></tr><tr><td>2 x ½" NPT</td><td>2C*</td></tr><tr><td>2 x ½" NPT</td><td>2CP*</td></tr><tr><td>inc 1 x plug</td><td></td></tr></table> <p>*Not available in Ex e</p>		Entries	Code	1 x M20	1B*	2 x M20	2B	2 x M20	2BP	inc 1 x plug		1 x ½" NPT	1C*	2 x ½" NPT	2C*	2 x ½" NPT	2CP*	inc 1 x plug		<table><tr><th>Options</th><th>Code</th></tr><tr><td>None</td><td>N</td></tr><tr><td>Swivel bracket</td><td>B†</td></tr><tr><td>EOL</td><td>E*</td></tr><tr><td>Earth cont</td><td>G†‡</td></tr><tr><td>Alternative tone activation</td><td>M**‡</td></tr><tr><td>Volt free activation (remote)</td><td>R**‡</td></tr><tr><td>Short flare</td><td>S†</td></tr><tr><td>Custom tones (not std 28)</td><td>TA‡</td></tr></table> <p>*Specify value (min 470Ω) please note voltage limitation **These options cannot be selected together †Ex e only    ΔSpecify details ‡ Not available for EN54</p>		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)	TA‡	<table><tr><th>Finish</th><th>Code</th></tr><tr><td>Natural black</td><td>N†</td></tr><tr><td>Natural red</td><td>R</td></tr><tr><td>Yellow</td><td>Y</td></tr><tr><td>Grey</td><td>G</td></tr><tr><td>Blue</td><td>B</td></tr><tr><td>Special</td><td>S*</td></tr></table> <p>*Please specify †Short flare painted black</p>		Finish	Code	Natural black	N†	Natural red	R	Yellow	Y	Grey	G	Blue	B	Special	S*
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## General arrangement drawing (all dimensions in mm)



### 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
	Alternative tone activation (Option M)	2	*Common +ve with 2 -ve supplies	2 x DIP switches
			Common -ve with 3 +ve supplies	3 x DIP switches
		3	*Common -ve with 2 +ve supplies	2 x DIP switches
AC	Alternative tone activation (remote) (Option R)	2	Common +ve with 3 -ve supplies	3 x DIP switches
		1-5	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone preselected for subsequent stages
	Standard	1	Apply power	1 x DIP switch
AC	Alternative tone activation (remote) (Option R)	1-2	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone preselected for the 2nd stage

Restrictions apply to permissible connections for EN54-3 certified product. See technical manual for details

\*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

Operating temperature for DC units -40°C **Contact MEDC for DC low temperature options.** \* Higher maximum temperatures not on TRCU certified units

Max output (dB) 1400Hz @ 1m	Short GD	Long GD	Short G	Long G
	113dB	116dB	119dB	122dB

For CCC/CCCF certified units use the following code DB3BQFG048. \_ \_ \_ R. For Labels and Entries select any option as required. For Options select either (N) None or (E) EOL as required

Tolerance +/-3dB. EN54-3; see technical manual (TM264) for SPL  
Please see the technical manual for tone specific (TM264) values

# DB4B loudspeaker range up to 25 watts

Ex d(e), weatherproof



## Overview

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 +85°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, 1W @ 1m is 110dB whilst at 1m the 25W unit produces 124dB, the 15W unit 122dB and the 8W unit 119dB.

## Features

- Ex d / Ex de IIC/IIIC T3/T4/T5/T6  
Ex d IIC/AEx d IIC Gb
- ATEX certified
- IECEx certified
- UL certified for USA and Canada  
Class I, Div 2, Groups A-D  
Class I, Zone 1  
Class II, Div 2, Groups F & G  
Zone 21  
Class III, Div. 1
- TR CU certified
- CCC certified
- INMETRO certified
- CCOE certified
- SIL 2 certified
- DNV GL type approved (IEC60945)  
(Long Flare, Ex d only)
- Certified temperature -55°C to +85°C\*
- IP66 & IP67/ NEMA 4X & 6
- Optional Ex e terminal chamber
- 124dB at 25W, 1m\*
- 8W, 15W & 25W versions
- Power tapping, via integral transformer
- Frequency response 350Hz - 8kHz
- Ex enclosure - glass reinforced polyester
- Flare - high impact thermoplastic polyester
- Internal earth stud fitted as standard
- 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

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.



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No liability is accepted for any consequence of use.

Certifications	
ATEX Ex d Gas	Cert. no. Baseefa13ATEX0229X. Certified to: EN60079-0,1 Ex II 2G, Ex db IIC T3/T4/T5/T6 Gb
ATEX Ex d Gas & Dust	Cert. no. Baseefa13ATEX0231X. Certified to: EN60079-0,1,31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
ATEX Ex de Gas	Cert. no. Baseefa13ATEX0232X. Certified to: EN60079-0,1,7 Ex II 2G, Ex db eb IIC T3/T4/T5/T6 Gb
ATEX Ex de Gas & Dust	Cert. no. Baseefa13ATEX0233X. Certified to: EN60079-0,1,7,31 Ex II 2GD, Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEx Ex d G	Cert. no. IECEx BAS 13.0112X. Certified to: IEC60079-0,1 Ex db IIC T3/T4/T5/T6 Gb
IECEx Ex d Gas & Dust	Cert. no. IECEx BAS 13.0115X. Certified to: IEC60079-0,1,31 Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEx Ex de Gas	Cert. no. IECEx BAS 13.0114X. Certified to: IEC60079-0,1,7 Ex db eb IIC T3/T4/T5/T6 Gb
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UL Haz Locs	UL certified for USA and Canada, listing no. E203310 Class 1, Div 2. Groups A-D. Class 1 Zone 1, Ex db IIC / AEx db IIC T3/T4/T5/T6 Gb Class II, Div 2. Groups F&G. Zone 21 Ex tb IIIC / AEx tb IIIC T200°C/T135°C/T100°C/T85°C Db Class III, Div1
UL Ord Locs	UL certified for USA and Canada, listing no. S8847
TR CU Ex d Gas	1Ex d IIC T4/T5/T6 Gb
TR CU Ex d Gas & Dust	1Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db
TR CU Ex de Gas	1Ex de IIC T4/T5/T6 Gb
TR CU Ex de Gas & Dust	1Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db
Russian Fire Approval	All TR CU certified units are Russian Fire Approved
CCC Ex d Gas	Ex d IIC T3/T4/T5/T6 Gb
CCC Ex d Gas & Dust	Ex d IIC T3/T4/T5/T6 Gb, ExtD A21 IP6X T200°C/T135°C/T100°C/T85°C/
INMETRO Ex d Gas	Ex db IIC T3/T4/T5/T6 Gb
INMETRO Ex d Gas & Dust	Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
INMETRO Ex de Gas	Ex db eb IIC T3/T4/T5/T6 Gb
INMETRO Ex de Gas & Dust	Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
SIL	SIL 2 certification to IEC61508. Cert number 20151119-4786827453
Type approval	DNV GL (IEC60945)

Specifications	
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
Rated power	8W, 15W or 25W
Frequency range	Frequency response 350Hz to 8kHz 8W and 15W units are available for use @ 200Hz
Weight	Ex d/UL - 5.0kg, Ex de - 5.8kg. Based on long flare with transformer
Ingress protection	IP66 & IP67, NEMA 4X & 6. (IPx7 & NEMA 6 on terminal chamber only)
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 2.5mm <sup>2</sup> (4mm <sup>2</sup> solid conductor)/ 12AWG. Ex de - 8 x 4.0mm <sup>2</sup>
Mounting arrangement	Stainless steel bracket with ratchet facility, optional swivel bracket available
Labels	Optional duty and tag labels available
Dispersion angle	Long flare (short in brackets), -6dB, 1kHz = 140° (240°), 4kHz = 40° (50°)
Driver impedance	8Ω
SPL 1W/1m (sensitivity)	IIC long flare, 1kHz - 106dB, 1.4kHz - 110dB

Certified temperature:

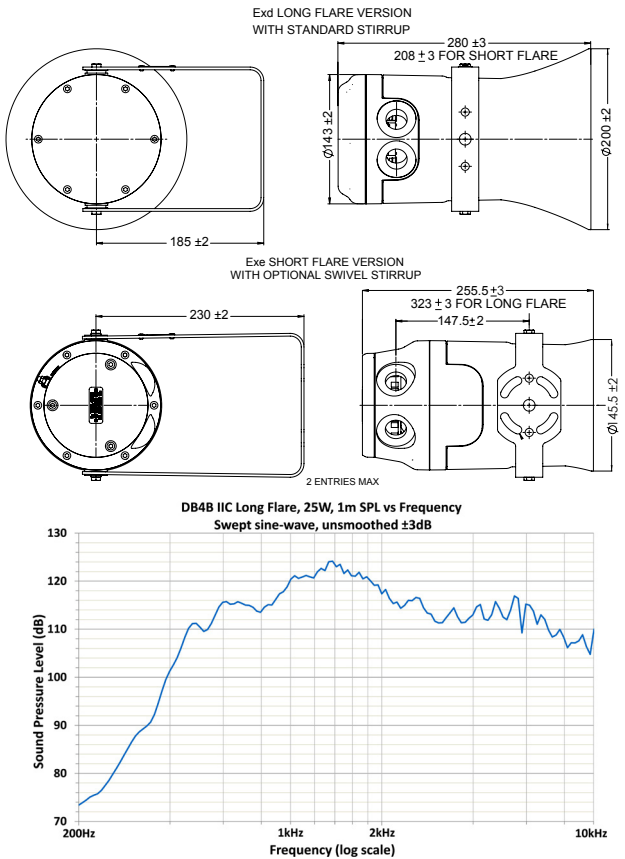
Protection type	Minimum temp	Maximum temp			
	All units	8W unit	15W unit	25W unit	
Ex d/UL	-55°C	+70°C/+85°C*	+65°C/+85°C*	+55°C/+70°C*	* Higher maximum temperatures not on TRCU certified units
Ex de	-50°C				

## 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	Certification	Ex atmosphere	Wattage	Transformer	Labels	Entries	Options	Finish																																																																																																												
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### General arrangement drawing (all dimensions in mm)



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	12.5
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

Sound pressure level at 1m (dB):

Values in dB @ 1m (Unsmoothed, peak values)		8W		15W		25W	
IIC Gas	1.0kHz	115	112	117	114	120	117
IIC Gas	1.4kHz	119	116	122	119	124	122
IIC & IIIC Gas & Dust	1.0kHz	110	107	112	109	115	112
IIC & IIIC Gas & Dust	1.4kHz	114	111	117	114	119	116

The data is based on a swept sine wave.  
Tolerance +/- 3dB

