e2s

warning signals

ATEX
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INMETRO
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E2S is one of the world's leading independent signalling manufacturers with more than 190 products types and an annual production volume of over 175,000 units. We specialise in the design, development and manufacture of high performance electronic sounders, PA loudspeakers, intelligent voice annunciators and beacons for industrial, marine and hazardous environments.

We design and manufacture a wide range of intrinsically safe and explosion proof units at our London facility. We believe our customers should have complete faith in our products and have made substantial investment in achieving worldwide product accreditations as well as the ISO9001: 2008 approval.

To make our products as widely available as possible and to provide local technical support, we have created a valued network of distributors and system integrators in Europe, the Middle East, Far East, Australasia, Africa and the USA.

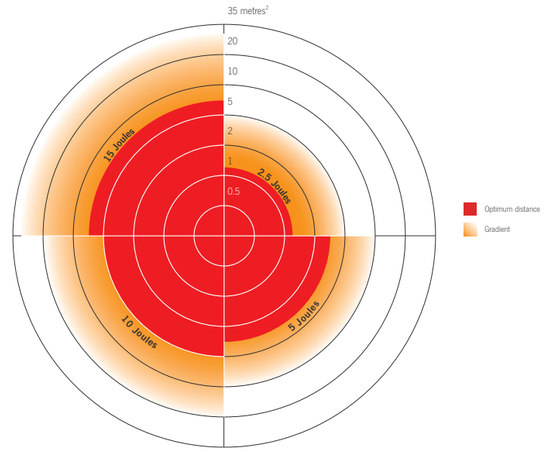
We also support and distribute our entire range of products from our US facility in Houston, Texas.

Can't find exactly what you want in the catalogue? We have a long history of manufacturing products to specific requirements including alarm tone frequencies, tone patterns, stage configurations and housing colours. Simply tell us what you need.

You can find out more at **www.e2s.com**, which contains product certification, installation instructions and advice on choosing the correct signalling device for your application. If you'd still like to know more or have any questions then please call our London, UK sales office on **+44 (0)20 8743 8880** or our Houston, US sales office on **+1 281 377 4401**

Basics of light

Beacons, flash-alarms or strobes are widely used, often to reinforce an audible warning signal. With a wide variety of luminous sources to choose from, selecting the correct one will depend on a number of factors such as the type, brightness, range, situation or operation of the beacon.



What types and modes of light are available?

- **Rotating** – An electric motor drives a parabolic reflector around the light source (halogen) on a vertical axis to create a powerful beam of light travelling through 360°.
- **Filament & halogen bulb** – Usually operated with an additional circuit, to give a steady output or more effective blinking output. Filament light bulbs are relatively low cost and give adequate performance, which can be enhanced with a prismatic lens. They have a short life, shortened further by vibration.
- **Xenon (strobe) tube** – Brilliant flashes of light, which can be enhanced through a freznel lens. The tube life is typically 5 to 8 million flashes after which light output is reduced by approximately 70%
- **L.E.D.** Unlike the filament bulb and the xenon tube, LEDs emit only one frequency of light (i.e. one colour) and cannot yet manage the brightness of a xenon tube. However, they only require a relatively low current and have a very long lifetime, giving an effective solution where an indication or status is required.
- **Flashing** – The light source flashes at regular intervals typically one to three times a second.
- **Flip Flop** – Two beacons operating together flash alternatively to give the illusion of light switching from one beacon to the other for a more effective display.
- **Synchronized** – The flash of multiple beacons set at the same rate and duration. Controlled by internal circuitry in each beacon.

Tube & Bulb life data / information

Xenon tube manufacturers all supply tube life data. E2S reports effective life until light output is less than 70%. Halogen and Incandescent Bulb life is harder to predict as there are no industry standards for measurement. Ambient conditions (e.g. voltage & vibration), duty cycles and improper handling can also significantly affect bulb life.

How bright is a light?

To compare different types of beacon, it may help to understand the three most commonly used measures of intensity.

PEAK CANDELA or PEAK CANDLEPOWER.

- A unit of luminous intensity used to measure the maximum light intensity generated by a flashing light. Not a measurement the human eye can use to judge brightness.
- Doesn't directly compare two warning lights.

CANDELA SECONDS or CANDLEPOWER SECONDS.

- Measures the actual light energy contained in a pulse of light added over a period of time.
- Used to specify the minimum requirements of light output from a flashing light.
- Flash energy is relatively accurate and fair way of comparing radically different types of lights such as incandescent rotators and xenon strobe lights.

EFFECTIVE CANDELA or EFFECTIVE CANDLEPOWER.

- Based on candela seconds.
- Equates the brightness of a flashing light source to the brightness of a steady source. So, if a flashing light has an effective candela rating of 100 then it will be visible at the same distance as a 100 candela steady source.
- Predicts the visible range of flashing lights verses steady burn light sources.

What's the best site?

All round light dispersion should be the first consideration when installing a beacon. As light travels in straight lines, the beacon will be far more effective if it's positioned in the line of sight rather than relying on reflections.

Other considerations include:

- Free air movement needed around the beacon to prevent overheating.
- Vibration should be avoided, particularly with filament bulb beacons.
- Requirement for impact protection. e.g. lens guard.

Some beacons (particularly larger types) emit the light from the side as opposed to the top of the enclosure. If these are wall mounted with the lens 90° to the wall, most of the effective light will be emitted up to the ceiling and down to the floor and not across the area to be covered. The illustration shows the benefits of correct mounting.

Beacon effectiveness & range

The diagram above illustrates the effective 360° coverage for beacons in an industrial environment. According to the inverse square law, the intensity of a beacon is reduced by 25% if the viewing distance is doubled

How much does lens colour effect the intensity of a light source?

Clear	Yellow	Amber	Red	Blue	Green
100%	86%	51%	15%	12%	15%

Please note all the above information is for guidance only and does NOT guarantee performance or coverage.

IEC 73 colours

These are the colours needed for lights and buttons to conform to the machine directive.

- **RED** – Danger Act Now
  Danger of live or unguarded moving machinery or essential equipment in protected area.
- **AMBER** – Warning, Proceed with Care
  Temperature or pressure different from normal level.
- **GREEN** – Safety Precaution: Go Ahead
  Checks complete, machine about to start.
- **BLUE** – Site Specified
  Pre-set ready or remote control.
- **CLEAR** – No specific Meaning
  Could confirm an earlier message.

Useful terms

Luminous intensity: symbol, I; unit, candela (cd). Measure of the power of a light source. Sometimes referred to as brightness.

Luminous flux: symbol, F; unit, lumen (lm). Measure of the flow or amount of light emitted from a source.

Illuminance: symbol, E; unit, lux (lx) or lm/m². Measure of the amount of light falling on a surface. It is also referred to as illumination.

Luminous efficacy: symbol, K; unit, lumen per watt (lm/W). Ratio of luminous flux to electrical power input. It could be thought of as the ' efficiency' of the light source.

Coefficient of utilization (CU): no unit. The amount of useful light will depend on the lamp output, the reflectors and/or diffusers, position, colour of walls and ceilings, etc. The lighting designer will combine all of these considerations to determine a figure for any lighting calculations.

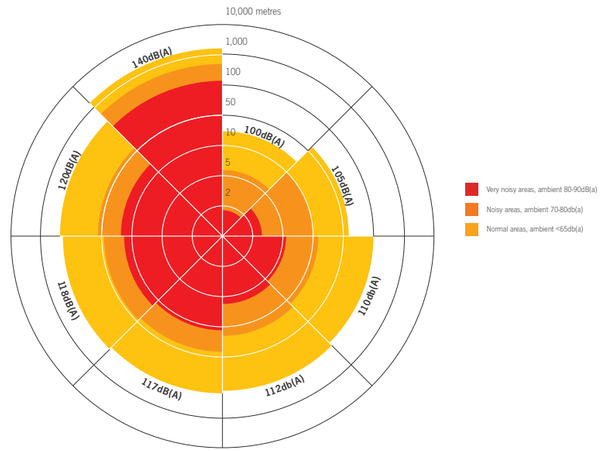
Maintenance factor (MF): Because dirt and ageing can both cause loss of light, it's useful to take a maintenance factor into account. For example, a new 80W fluorescent lamp with a lumen output of 5700lm falls to 5200lm after 4 months, and remains at that level. The light output has decreased by: 5200 / 5700 = 0.9

This value, 0.9, is the maintenance factor. It should not be allowed to fall below 0.8 by regular cleaning.

Basics of sound

E2S manufacture an extensive range of alarm horns or sounders suitable for many applications.
The efficiency of any audible signaling device depends on:

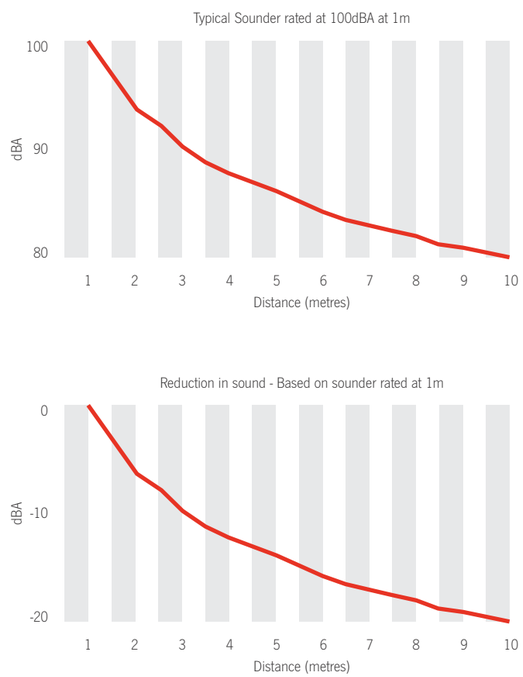
- The size and / or distance of the area to be covered
- The background noise
- The pattern & frequency of tone



How do I calculate the effective distance and coverage of an alarm sounder?

Loudness decreases as the listener gets further from the source of the sound, mainly due to "divergence". The intensity decreases because the energy is spread over a larger area. It decreases inversely with the square of the distance from the source at a rate of 6dB for each doubling of the distance. So the sound output from an alarm rated at 106dBA) will travel twice as far as a sounder rated at 100dB(A). If a sounder is rated at 100dB(A) at 1 metre, at two metres it will be 94dB(A), at 4 metres it will be 88dB(A) and so on.

Distance (metres)	Reduction (dB(A))
1	0
2 (1m doubled)	-6
4 (2m doubled)	-12
8	-18
16	-24
32	-30
64	-36
128	-42
256	-48
512	-54



How ambient background noise impacts on the effectiveness of the sounder

Note: The effective distance of a sounder is when the calculated dB(A) reaches at least 5dB(A) above the known ambient background noise. For example the effective distance of a 100dB(A)@1 metre sounder in an ambient noise of 65dB(A) is the distance at which the sounder output level reduces to 70 dB(A) i.e. 100 dB – 30 dB = 70dB. From the above table (and using the inverse square rule) a reduction of 30 dB means the sounder has an effective 70dB distance of 32 metres.

A 120dB(A) @ 1 metre sounder has a 70dB distance of approximately 300 metres i.e. ten times the effective distance and, more importantly 100 times the coverage area.

Remember

- In the open, a sounder will spread in all directions. In an enclosed space some of the sound will be reflected and increase the sound level.
- Wall-mounted sounder is positioned near a ceiling, more sound will be reflected. The same is true for a ceiling mounted sounder near a wall.
- A sounder mounted on a wall is more effective than one mounted on a pillar.
- Sounders should be sited to avoid immediate obstacles, ideally at a height of approx. 2 to 2.5 metres.
- **Synchronized** sounders will give a more effective overall effect.
- Personnel may be wearing ear protection.

Sound Output Attenuation: Frequency and Tone Pattern

Sound output is also affected by the frequency of the sound. Lower frequencies tend to travel further, penetrate structures better and are less likely to be attenuated by obstructions. A further adjustment to the range of a sounder may be made according to the frequency of the tone as shown below.

Frequency of sounder	Adjustment
Up to 500Hz	0dBA
500Hz to 1000Hz	-3dBA
1000Hz to 2000Hz	-5dBA

However

Perception of a tone is not entirely dependent on frequency and sound level. An output with differing frequencies and/or temporal pattern will have a more distinct sound. This can be useful in areas of background noise where hearing protection may be worn. Usually two-tone frequencies, intermittent, ramp-up frequencies or ramp-down frequencies are the most effective.

How many Sounders do I need?

When the area to be covered is large and / or noisy, designers often add more sounders. This could lead to an inadequate coverage, if the alarm sounders were positioned incorrectly or require the addition of more sounders to achieve the bare minimum alarm level.

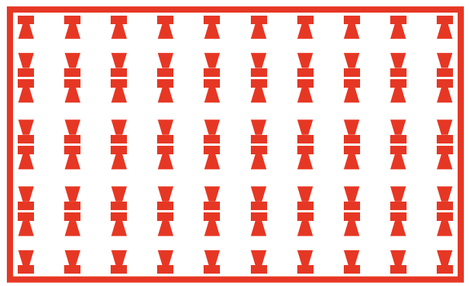
Example:
Question: A 30m by 20m room, with very little background noise (approx. 65dB(A)), is satisfactorily covered by a 100dB(A) sounder with a 70dB(A) range of approximately 30m. How many sounders would you need if heavy machinery meant the background noise was 85dB(A)?

Answer: One! If the background noise increases by 20dB, install a sounder 20dB louder i.e. a sounder rated at 120dB(A). This simple principle is often forgotten in the need to cover large and noisy areas.

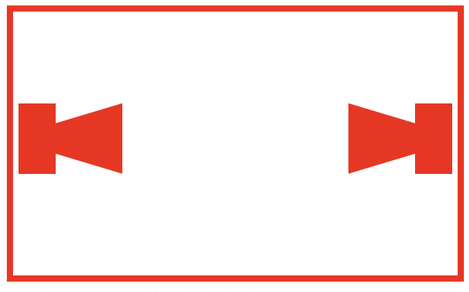
The effective *distance* of a 100 dB(A) sounder in a very noisy environment is 1.8m, the distance for a 120 dB(A) sounder is approx 18m (10 times the distance).

Note: Alarm sounders that are too loud may be dangerous and cause panic, discomfort and make communication very difficult. As guidance, the overall alarm level should be a maximum of 10 to 15 dB(A) over the ambient background noise.

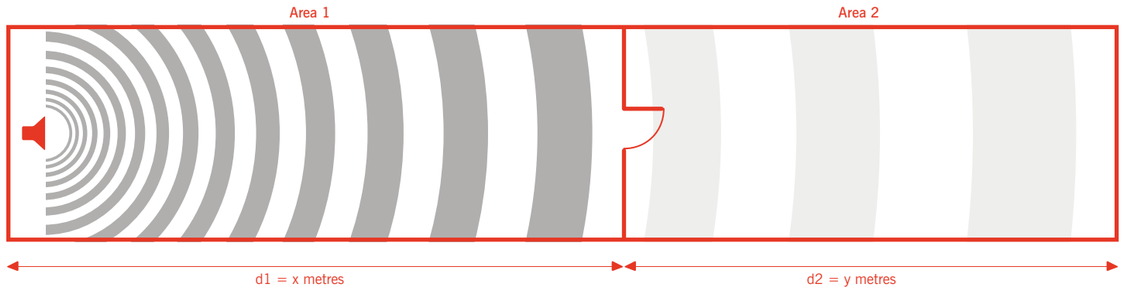
To achieve 90bB(A) in an area 50 x 30m



Either fit eighty A100 (100dB(A) at 1m) units...



...or fit just two A121 (121dB(A) at 1m) units



-20dB(A) Normal Door
-30dB(A) Fire Door

More Design Considerations

Sounders aren't generally effective at an output lower than 65 to 70dB(A) or less than 5dB above the ambient, background noise. Additional sounders or louder sounders may be necessary after calculating the maximum distance and coverage required. Any adjustment according to the output frequency should also be factored in.

Internal fire doors attenuate sound by at least 30dB, and normal doors at least 20dB. It's advisable that any sounder isn't required to be heard through more than one partition.

In the above example;
The attenuation caused by distance d1, the door & partition and distance d2 must be calculated (with an adjustment for tone frequency). The final dB(A) level should be not less than 65 to 70dB(A) or not less than 5dB above the background level in area 2.

Care should be taken not to use a sounder with too higher output in area 1 simply to achieve an acceptable level in area 2 as this may make levels in area 1, particularly close to the sounder, unacceptably loud.

Sound Output of Multiple Sounders

Two sounders together with an equal output increases the total output by 3dB. So two 100 dB(A) sounders together will provide 103dB(A) total.

Four 100dB(A) sounders will deliver 106dB(A) in total. It's important to establish the most suitable sounder at the design stage as simply adding more of the same sounders may only increase an overall alarm level by a few dB.

Disaster warning / Wide area signaling

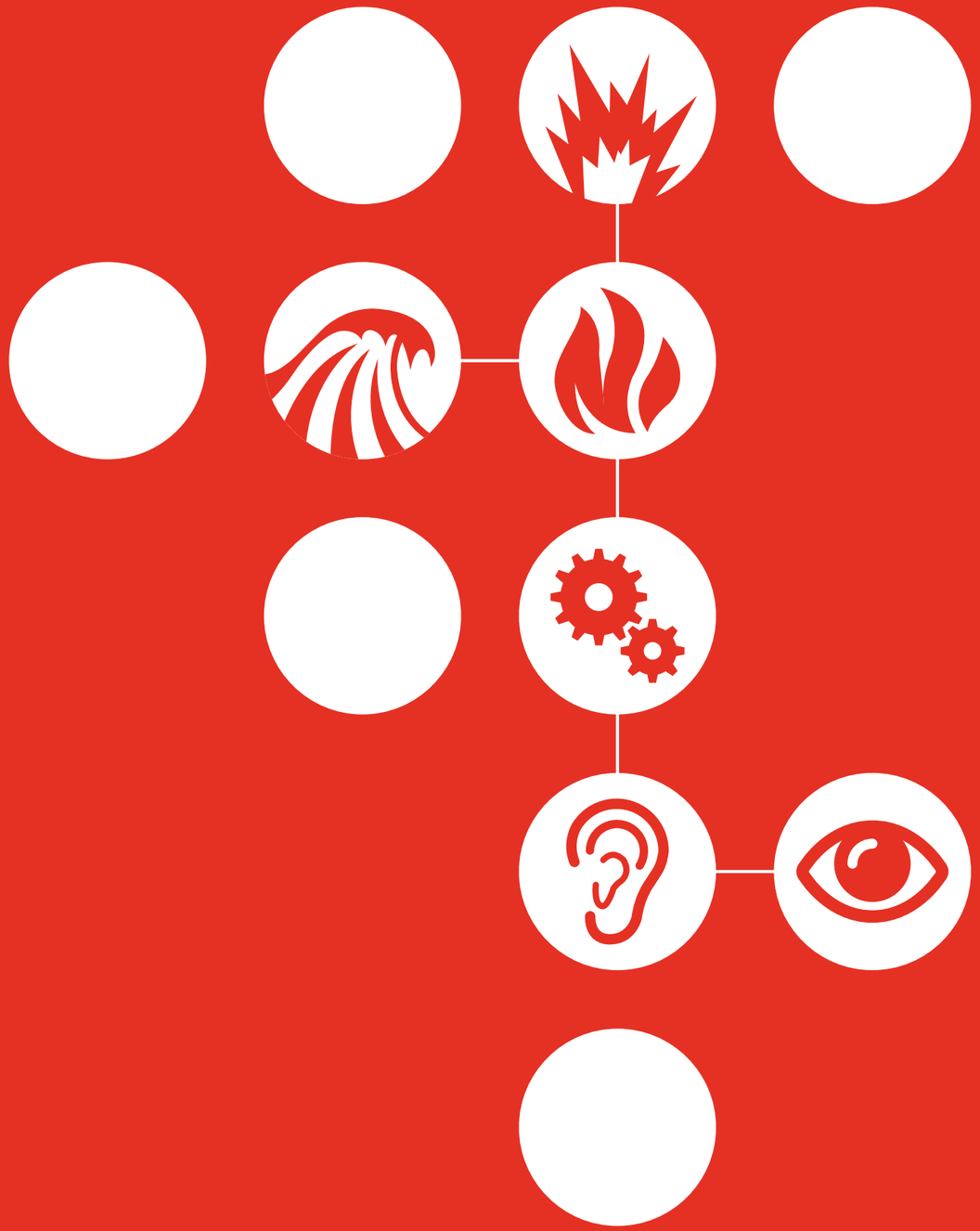
Large sounders with high outputs of typically 140dB(A) and above have additional considerations such as:

- Attenuation caused by ground effects, barriers such as buildings
- Vertical temperature gradients
- atmospheric refraction
- sound absorption in the atmosphere
- people's perception
- building construction

It is important to realise predicting coverage can only be an estimate. A combination of these factors attenuating sound in the atmosphere, is both complicated and unpredictable.

Strong winds will influence the effectiveness of the sound coverage. It will tend to make the sound travel further in the direction it is blowing, i.e. in the same direction as gas will be blown in the event of a leak.

In general, disaster warning sounders should be mounted horizontally 10 to 15 metres above the ground, preferably at the highest point on the site to be covered (although not so high that the sound travels over the top of the area). As a general guide, take the height of any obstruction within 50m and keep the sounder at least 2m higher than this for best sound coverage - ideally the source to target should be aimed or "line of sight".



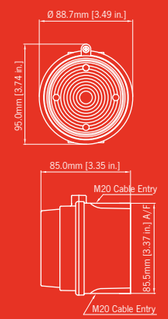
Hazardous Area Signalling

Section index

IS-mB1 IS-minialite

The IS-mB1 is a compact beacon with an array of six high output L.E.D's. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.

The IS-mB1 is suitable for all intrinsically safe signalling applications including fire, security and process control.



Part codes:

IS-mB1-R/[x]

ATEX / IECEx / FM	
II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)	
IS Class I, Zone 0, AEx ia IIC T4	
IS Class I, Division 1, Groups A, B, C, D	

GOST-R	
0ExiaIICT4 IP65 -40° to +60°C	
[x]: Lens colour:	A: Amber R: Red B: Blue G: Green C: Clear (white L.E.D.)

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed:
Uo : 28VDC Io : 660mA Po : 1.2W

Specification:

Light source:	Array of 6 high intensity L.E.D's.
L.E.D. colours:	Red, Amber, Blue, Green & Clear
Flash modes:	Double flash at 2Hz and 1Hz
Effective candela:	23cd* - measured ref. to I.E.S.
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP65
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS & PC
Housing colour:	RAL3000 Red
Fixings:	Stainless Steel
Cable entries:	2 x M20 clearance gland knockouts. Custom configurations also available.
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C

*All candela data is representative of performance with amber lens at optimum voltage.

Features:

- Input overload and reverse current protection
- End of line resistor certified
- Prismatic lens optimises L.E.D effectiveness

Approvals:

- ATEX certificate: SIRA 05ATEX2084X, EN 60079-0 : 2006,EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 06.0045X, IEC 60079-0 : 2004, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved Class 3600 1998, Class 3610 1999, Class 3810 2005
- GOST-R certificate: POCC GB.JB05.B03365

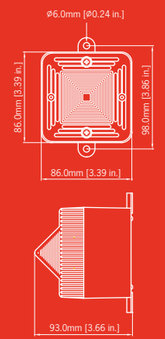
GOST-R

IS-L101L L.E.D. Beacon

Intrinsically Safe L.E.D Beacon

The IS-L101L unit is an intrinsically safe field mounting beacon which provides a bright flashing warning signal. The unit can be used independently or combined with an IS-A105N 49 alarm sounder. Combination units can utilise a common zener barrier or galvanic isolator and may be coupled together or mounted seperately.

With the IS-A105N the alarm accept function can be utilised. By closing a pair of external contacts (i.e push switch) the operator may silence the alarm for set periods between 5 seconds and 2 hours. If after the preset time the alarm condition still exists the sounder will activate again.



Part codes:

IS-L101L-R/[x]

ATEX / IECEx / FM
II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)
IS Class I, Zone 0, AEx ia IIC T4 Ta= +60°C
IS Class I, Division 1, Groups A, B, C, D T4

GOST-R
0ExiaIICT4 IP65 -40° to +60°C

[x]: Lens colour:
A: Amber
B: Blue
G: Green
R: Red

May be powered from any certified Zener barrier or galvanic isloator whose output parameters do not exceed :

Uo : 28VDC Io : 660mA Po : 1.2W

Specification:

Light source:	Array of 6 high intensity L.E.D's.
L.E.D. colours:	Red, Amber, Blue & Green
Standalone mode:	2Hz (2 double flashes per second)
Effective candela:	48cd* - measured ref. to I.E.S.
With IS-A105N:	On : 1 Hz (1 double flash per second) Silenced: 2 Hz (2 double flashes per second) (alarm accepted)
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	Stand alone: 25mA typical With IS-A105N: 35mA typical
Ingress protection:	IP66
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS & PC
Housing colour:	RAL3000 Red
Fixings:	Stainless Steel
Cable entries:	1 x M20 clearance gland knockout.
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C
Weight:	0.40Kg

*All candela data is representative of performance with amber lens at optimum voltage.

Features:

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness

Approvals:

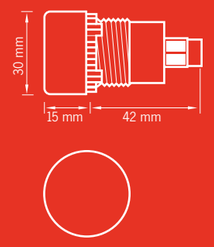
- ATEX certificate: SIRA 04ATEX2302X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 04.0039X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved: Class 3600 1998, Class 3610 1999, Class 3810 2005, IEC 60529 : 1989
- GOST-R certificate: POCC GB.JB05.B03365

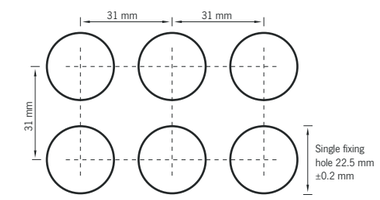
GOST-R

IS-pB1 Panel Mount Indicator

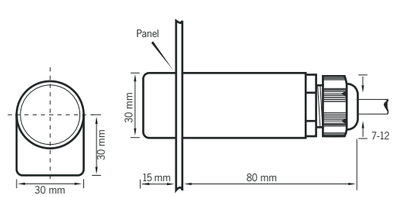
The IS-pB1 is a compact, panel mount L.E.D. indicator providing reliable cost-effective visual status indication in all hazardous areas. Each IS-pB1 contains a group of high efficiency light emitting diodes mounted behind a coloured diffuser to produce a bright, uniform output with a typical life greater than ten years.

All models contain a 20mA current regulator which maintains constant brilliance and provides protection against excess voltages.





Fixing centres for maximum packing density. Special tool may be required to tighten fixing nuts when minimum spacing is used.



Part codes:

IS-pB1 - [x]	
ATEX	II 1G Ex ia IIC T4
IECEx	Ga Ex ia IIC T4
FM	CL I: Div 1: GP A B C & D: T4 @ 60°C CL I: Div 2: GP A B C & D: T4 @ 60°C
[x]: L.E.D. colour:	A: Amber R: Red B: Blue G: Green W: White

One or two IS-pB1 lamps may be powered from any Ex ia IIC certified Zener barrier or galvanic isolator whose output safety parameters do not exceed:

Uo 30V dc	Po 1.3W at 40°C	Po 1.2W at 60°C
(e.g. 28V, 300 or 28V, 234 Zener barrier or galvanic isolator) Gas groups IIA, IIB or IIC Location Zone 0, 1 or 2		

Up to four IS-pB1 lamps may be powered from any certified Ex ia IIB Zener barrier or galvanic isolator whose output safety parameters do not exceed:

Uo 30V dc	Po 1.3W at 40°C
Gas groups IIA or IIB Location Zone 0, 1 or 2	

Accessories:

IS-pB1-LEG	Legend Plate
IS-pB1-RSA	Rear Sealing Assembly IP65

Specification:

Operating voltage:	14-30V dc
Reverse voltage:	60V max.
Current:	18 to 22mA
Output:	Typical at 150mm:
Red	190 lux
Amber	150 lux
Green	250 lux
Blue	150 lux
White	300 lux
Ingress protection:	Front IP66 - Rear IP20 - see accessories for optional IP65 rear sealing assembly.
Rating:	Continuous
Housing material:	Nylon 6
Lens material:	Polycarbonate
Mounting:	Panel mount - 22.5mm
Terminals:	Screw clamp for 1.5mm2
Operating temp:	-20 to 60°C
Storage temp:	-40 to 85°C
Relative humidity:	5 to 95% non condensing

Features:

- Two lamps may be powered from a single IIC intrinsically safe Zener barrier or galvanic isolator and up to four lamps from a IIB device.
- Red, amber, green, blue and white comply with the indicator light colour requirements specified in IEC204-1, allowing all plant conditions to be annunciated.
- Mounting is via a single industry standard 22.5mm diameter hole.

Approvals:

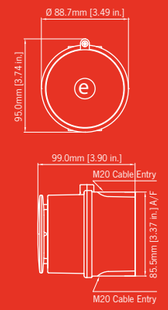
- ATEX certificate: ITS 13ATEX27822X, EN 60079-0 : 2012, EN 60079-11 : 2012, EN 60079-26 : 2007
- IECEx certificate: IECEx ITS 08.0030X, IEC 60079-0 : 2007-10, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM file: 3022662
  3610: Entity, 3611: Nonincendive

IS-mA1 IS-minialarm

The IS-mA1 is a compact, 100dB(A) alarm sounder. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.

The IS-mA1 is suitable for all intrinsically safe signalling applications including fire, security and process control.

The IS-mA1M version is also available for Group I mining environments.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

IS-mA1-R

ATEX / IECEx / FM

- II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)
- IS Class I, Zone 0, AEx ia IIC T4
- IS Class I, Division 1, Groups A, B, C, D

GOST-R

- 0ExiaIICT4 IP65 -40° to +60°C

ATEX [Group I]

IS-mA1M-R

- I M1 Ex ia I Ma (-40°C <=Ta<= +60°C)

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed:

Uo: 28VDC Io: 93mA Po: 660mW

Specification:

Nominal output:	100dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 100dB(A); Min. 90dB(A) - Tone 2
Effective range:	40m @ 1KHz
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP65
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS
Housing colour:	RAL3000 Red
Fixings:	Stainless Steel
Cable entries:	2 x M20 clearance gland knockouts. Custom configurations also available.
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C

Features:

- Input overload and reverse current protection
- End of line resistor certified
- Auto synchronised sound output
- Available with custom tone configurations and frequencies.

Approvals:

- ATEX certificate: SIRA05ATEX2084X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 06.0045X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved: Class 3600 1998, Class 3610 1999, Class 3810 2005
- VdS approved to EN54-3 (CPD 89/106/EEC)
- GOST-R certificate: POCC GB.JB05.B03365

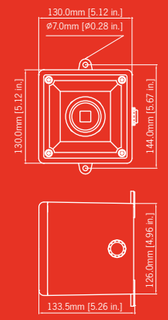
GOST-R

0786-CPD-20338

IS-A105N Alarm Sounder

The IS-A105N is a high output, 105dB(A) alarm sounder. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.

The IS-A105N is suitable for all intrinsically safe signalling applications including fire, security and process control.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

IS-A105N-[x]

ATEX / IECEx / FM

- II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)
- IS Class I, Zone 0, AEx ia IIC T4 Ta = +60°C
- IS Class I, Division 1, Groups A, B, C, D T4

GOST-R

- 0ExiaIICT4 IP66 -40° to +60°C

[x] : Housing colour: R: Red G: Grey W: White

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :

Uo : 28VDC Io : 93mA Po : 660mW

Specification:

Nominal output:	105dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 105dB(A); Min. 96dB(A) - Tone 2
Effective range:	60m @ 1KHz
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP66
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS
Housing colour:	RAL3000 Red, RAL7038 Grey and White
Fixings:	Stainless Steel
Cable entries:	2 x M20 clearance gland knockouts. Custom configurations also available.
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C
Weight :	0.75kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Input overload and reverse current protection
- Auto synchronised sound output
- Unit can be mounted using external lugs or internal BESA compatible fixing positions.
- Duplicate cable terminations (in & out for daisy-chain installations).
- Available with custom tone configurations and frequencies.

Approvals:

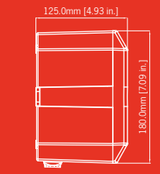
- ATEX certificate: SIRA 04ATEX2301X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 04.0038X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved: Class 3600 1998, Class 3610 1999, Class 3810 2005, IEC 60529 : 1989
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

IS-D105 Alarm Horn

Intrinsically Safe alarm horn.

The IS-D105 unit is an intrinsically safe field mounting alarm horn with ATEX & IECEx approval which provides a loud audible signal. There is a choice of 49 alarm tones with 2 remotely selectable alarm stages. The enclosure is marine grade aluminium with a phosphate and powder coat finish for durability in the harshest of environments.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

IS-D105-x

ATEX / IECEx

II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)

[x] : Enclosure colour R: Red, G: Grey

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :

Uo : 28VDC Io : 93mA Po : 660mW

Specification:

Nominal output:	105dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 105dB(A); Min. 96dB(A) - Tone 2
Effective range:	60m @ 1KHz
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP66
Rating:	Continuous
Enclosure material:	A1-Si12 Marine Grade Aluminium
Housing colour:	RAL3000 Red or RAL7038 Grey
Fixings:	Stainless Steel
Cable entries:	2 x M20
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C
Weight :	1.60kg

Features:

- Input overload and reverse current protection
- Marine grade aluminium enclosure
- Auto synchronised sound output
- External mounting lugs
- Duplicate cable terminations (in & out for daisy-chain installations).
- Available with custom tone configurations and frequencies.

Approvals:

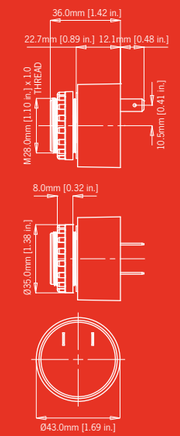
- ATEX certificate: SIRA 04ATEX2301X, ATEX certificate: SIRA 04ATEX2302X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 04.0038X, IECEx certificate: IECEx SIR 04.0039X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006

IS-pA1 Panel Mount Sounder

Intrinsically Safe Panel Mount Sounder

The IS-pA1 is a compact, panel mount 90dB(A) alarm sounder.

Producing a high frequency continuous tone, the IS-pA1 can be pulsed to produce different sounds. Utilising the supplied threaded lock nut the IS-pA1 mounts into a 28mm hole - ideal for applications in control panels where a fault indication or other process alarm is required.



Part codes:

ATEX / IECEx
IS-pA1-G
II 1G Ex ia IIB T6 Ga (-30°C <=Ta<= +60°C)

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed:

Uo : 40VDC	Io : 660mA	Po : 1.3W (T1-T4)
		Po : 0.6W (T5)
		Po : 0.3W (T6)

Specification:

Nominal output:	89.6dB(A) @ 1m +/- 3dB
No. of tones:	1 - continuous tone
Frequency:	2600Hz
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	12mA typical when powered from 24v supply Zener barrier
Ingress protection:	IP66
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS
Housing colour:	RAL7038 Grey
Mounting:	Panel mount - 28.5mm
Terminals:	Spade terminals
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C

Features:

- Input overload and reverse current protection.

Approvals:

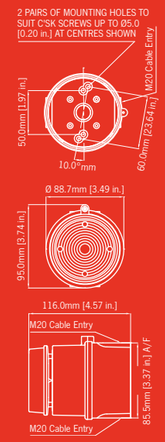
- ATEX certificate: SIRA 10ATEX2137X, EN 60079-0 : 2009, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 10.0073X, IEC 60079-0 : 2007,IEC 60079-11 : 2006, IEC 60079-26 : 2006
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

IS-mC1 IS-minialert

The IS-mC1 is a compact combined 100dB(A) alarm sounder and L.E.D. beacon - only one Zener barrier or galvanic isolator required to run both sounder & beacon or alternatively the unit can be operated as individual signals.

Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Specification:

Alarm sounder:	
Nominal output:	100dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 100dB(A); Min. 90dB(A) - Tone 2
Effective range:	40m @ 1KHz
L.E.D. Beacon:	
Light source:	Array of 6 high intensity L.E.D's.
L.E.D. colours:	Red, Amber, Blue, Green & Clear
Flash modes:	Double flash at 2Hz and 1Hz
Effective candela:	23cd* - measured ref. to I.E.S.
General:	
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Combined current:	approx: 30mA typical when powered from 24v supply via 28v 300Ohm Zener barrier.
Ingress protection:	IP65
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS & PC
Housing colour:	RAL3000 Red
Fixings:	Stainless Steel
Cable entries:	2 x M20 clearance gland knockouts. Custom configurations also available.
Terminals:	0.5 to 2.5mm^2
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C

*All candela data is representative of performance with amber lens at optimum voltage.

Part codes:

IS-mC1-R/[x]

ATEX / IECEx / FM

- II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)
- IS Class I, Division 1, Groups A, B, C, D T4
- IS Class I, Zone 0, AEx ia IIC T4 Ta = +60°C

GOST-R

- 0ExiaIICT4 IP65 -40° to +60°C

[x]: Lens colour:	A: Amber B: Blue G: Green R: Red C: Clear (white L.E.D.)

Combined or Sounder only:
May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :

Uo: 28vdc	Io: 93mA	Po: 660mW

Beacon only:
May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :

Uo: 28vdc	Io: 660mA	Po: 1.2W

Features:

- Input overload and reverse current protection
- End of line resistor certified
- Auto synchronised sound output
- Prismatic lens optimises L.E.D effectiveness
- Available with custom tone configurations and frequencies

Approvals:

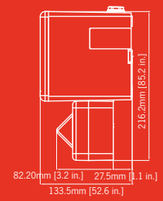
- ATEX certificate: SIRA05ATEX2084X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 06.0045X, IEC 60079-0 : 2004, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved: Class 3600 1998, Class 3610 1999 Class 3810 2005
- GOST-R certificate: POCC GB.JB05.B03365

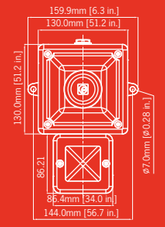
GOST-R

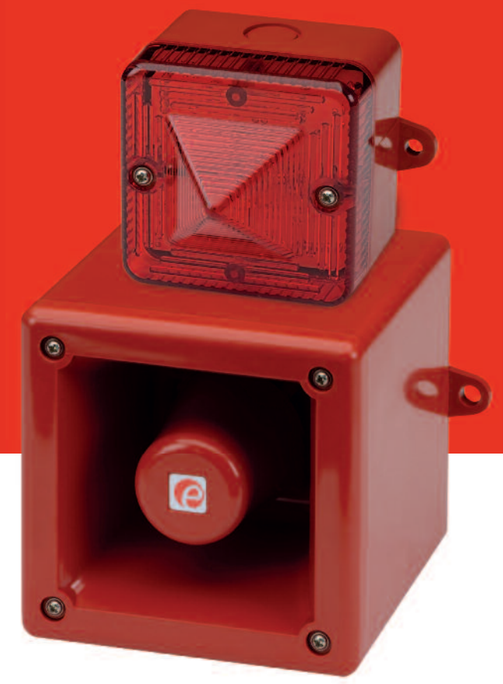
IS-A105N+IS-L101L Combination

Intrinsically Safe combination L.E.D beacon/light & alarm horn.

The IS-A105N+IS-L101L unit is an intrinsically safe field mounting combined alarm horn with L.E.D. beacon/light which provides a a loud audible and bright flashing visual signal utilising a common zener barrier or galvanic isolator. The alarm horn features an alarm accept function - by closing a pair of external contacts (i.e push switch) the operator may silence the alarm for set periods between 5 seconds and 2 hours. If after the preset time the alarm condition still exists the sounder will activate again. Certified for use in application requiring Ex ia or Class I Div 1 equipment the IS-A105N+IS-L101L is a globally accepted solution to fire or process control signalling.







Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Specification:

Sounder/horn:	
Nominal output:	105dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 105dB(A); Min. 96dB(A) - Tone 2
Effective range:	60m @ 1KHz
Beacon/light:	
Light source:	Array of 6 high intensity L.E.D's
L.E.D. colours:	Red, Amber, Blue & Green
Standalone mode:	2Hz (2 double flashes per second)
Effective candela:	48cd* - measured ref. to I.E.S.
Flash rate:	On: 1 Hz (1 double flash per second) Silenced: 2 Hz (2 double flashes per second) (alarm accepted)
General:	
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP66
Rating:	Continuous
Housing material:	UL94V0 & 5VA FR ABS
Housing colour:	RAL3000 Red
Fixings:	Stainless Steel
Cable entries:	2 x M20 clearance gland knockouts. Custom configurations also available.
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C
Weight :	1.15kg

*SPL data +/-3dB(A). Measured at optimum voltage.
*All candela data is representative of performance with amber lens at optimum voltage.

Part codes:

IS-A105N-R

IS-L101L-R/[x]

ATEX / IECEx / FM

II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)

IS Class I, Zone 0, AEx ia IIC T4 Ta = +60°C

IS Class I, Division 1, Groups A, B, C, D T4

GOST-R

0ExiaIICT4 IP65 -40° to +60°C

[x] : L.E.D. colour R: Red, A: Amber, B: Blue, G: Green

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :
Uo : 28VDC Io : 93mA Po : 1.2W

Features:

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness
- Auto synchronised sound output
- Unit can be mounted using external lugs or internal BESA compatible fixing positions.
- Duplicate cable terminations (in & out for daisy-chain installations).
- Available with custom tone configurations and frequencies.

Approvals:

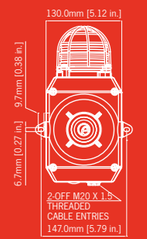
- ATEX certificate: SIRA 04ATEX2301X, ATEX certificate: SIRA 04ATEX2302X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 04.0038X, IECEx certificate: IECEx SIR 04.0039X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006
- FM approved: Class 3600 1998, Class 3610 1999, Class 3810 2005, IEC 60529 : 1989
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

IS-DL105L Combination

Intrinsically Safe combination L.E.D beacon/light & alarm horn.

The IS-DL105L unit is an intrinsically safe field mounting combined alarm horn with L.E.D. beacon/light which provides a a loud audible and bright flashing visual signal utilising a common zener barrier or galvanic isolator. The alarm horn features an alarm accept function - by closing a pair of external contacts (i.e push switch) the operator may silence the alarm for set periods between 5 seconds and 2 hours. If after the preset time the alarm condition still exists the sounder will activate again. Certified for use in application requiring Ex ia equipment to ATEX & IECEx the IS-DL105L is a globally accepted solution to fire or process control signalling.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34
Tone 46	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 47	Tone 37
Tone 47	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 46	Tone 37
Tone 48	420Hz @ 0.625 sec Australian Alert	Tone 49	Tone 5
Tone 49	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 26	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Specification:

Sounder/horn:	
Nominal output:	105dB(A) @ 1m +/- 3dB - Tone 2*
No. of tones:	49 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 105dB(A);
	Min. 96dB(A) - Tone 2
Effective range:	60m @ 1KHz

Beacon/light:	
Light source:	Array of 6 high intensity L.E.D's
L.E.D. colours:	Red, Amber, Blue & Green
Effective candela:	48cd* - measured ref. to I.E.S.
Standalone mode:	2Hz (2 double flashes per second)
Flash rate:	On : 1 Hz (1 double flash per second) Silenced: 2 Hz (2 double flashes per second) (alarm accepted)

General:	
Voltage:	16-28vdc via Zener barrier or galvanic isolator
Current:	25mA typical when powered from 24v supply via 28v 300 Ohm Zener barrier
Ingress protection:	IP66
Rating:	Continuous
Enclosure material:	A1-Si12 Marine Grade Aluminium
Housing colour:	RAL3000 Red or RAL7038 Grey
Fixings:	Stainless Steel
Cable entries:	2 x M20
Terminals:	0.5 to 2.5mm²
Operating temp:	-40° to +60°C
Storage temp:	-40° to +70°C
Relative humidity:	90% at 20°C
Weight :	2.10kg

*All candela data is representative of performance with clear lens at optimum voltage.

Part codes:

IS-DL105L-[x]/[y]

ATEX / IECEx

II 1G Ex ia IIC T4 Ga (-40°C <=Ta<= +60°C)

[x] : Enxclosure colour: R: Red, G: Grey

[y] : L.E.D. colour R: Red, A: Amber, B: Blue, G: Green

May be powered from any certified Zener barrier or galvanic isolator whose output parameters do not exceed :

Uo : 28VDC Io : 93mA Po : 1.2W

Features:

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness
- Marine grade aluminium enclosure
- Auto synchronised sound output
- External mounting lugs
- Duplicate cable terminations (in & out for daisy-chain installations).
- Available with custom tone configurations and frequencies.

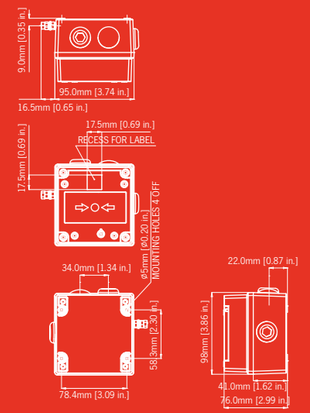
Approvals:

- ATEX certificate: SIRA 04ATEX2301X, ATEX certificate: SIRA 04ATEX2302X, EN 60079-0 : 2006, EN 60079-11 : 2007, EN 60079-26 : 2007
- IECEx certificate: IECEx SIR 04.0038X, IECEx certificate: IECEx SIR 04.0039X, IEC 60079-0 : 2007, IEC 60079-11 : 2006, IEC 60079-26 : 2006

IS-CP4A/B-BG Break Glass Call Point

The IS-CP4A-BG and IS-CP4B-BG break glass manual call points are approved for Zones 0, 1, 2, 21 & 22 requiring intrinsically safe equipment for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The IS-CP4 range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	IS-CP4A-BG IS-CP4B-BG
Terminals:	ST: Standard DR: DIN rail (only on IS-CP4B)
Lift Flap:	LF: Lift Flap NF: No Flap (default)
Duty Label:	NL: No label (default) DL: Duty Label Specify content when ordering.
Colour:	RD: Red (default) Contact sales for other colour options
E.O.L Resistor:	ExxxR: xxx: Res. value e.g.: E470R Only available on IS-CP4B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on IS-CP4B version

e.g. IS-CP4A-BG-ST-LF-NL-RD
: IS-CP4A Break glass call point with standard terminals, lift flap and no duty label. Red housing

e.g. IS-CP4B-BG-DR-NF-NL-RD-24V-E470R
: IS-CP4B Break glass call point with DIN rail terminals, no lift flap, no duty label, 24V supply voltage with a 470 Ohm end of line resistor. Red housing.

Versions:

IS-CP4A-BG

Category:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°v C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	N
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

IS-CP4B-BG

Category:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	Y
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom
	1 x M20 Left/Right
Weight:	0.8Kg

Specification:

IS-CP4A-BG:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°C Db IP66
IS-CP4B-BG:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Stainless Steel lift flap
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

- ATEX certificate: SIRA 09ATEX2287X, IEC 60079-0:2007 Ed 5, EN 60079-11:2007, EN 60079-26:2007, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0122X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-11:2006 Edition: 5, IEC 60079-26:2006 Edition: 2, IEC 61241-1:2004 Edition: 1
- GOST-R certificate: POCC GB.JB05.B03365

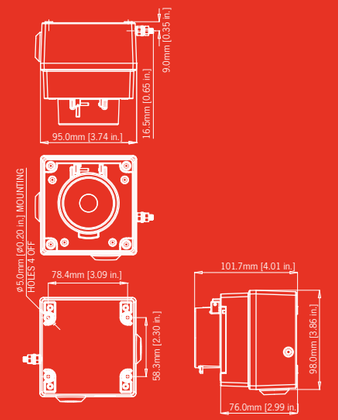
GOST-R

IS-CP4A/B-PB Push Button Call Point

The IS-CP4A-PB and IS-CP4B-PB push button manual call points are approved for Zones 0, 1, 2, 21 & 22 requiring intrinsically safe equipment for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The push button mechanism is protected by a spring loaded cover therefore the switch requires a two-action activation. The product is user resettable by rotating the push button.

The IS-CP4 range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	IS-CP4A-PB IS-CP4B-PB
Terminals:	ST: Standard DR: DIN rail (only on IS-CP4B)
Lift Flap:	LF: Lift Flap NF: No Flap (default)
Duty Label:	NL: No label (default) DL: Duty Label Specify content when ordering.
Colour:	RD: Red (default) Contact sales for other colour options
E.O.L Resistor:	ExxxR: xxx: Res. value e.g.: E470R Only available on IS-CP4B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on IS-CP4B version

e.g. IS-CP4A-PB-ST-NL-RD
: IS-CP4A Push Button call point with standard terminals and no duty label. Red housing

e.g. IS-CP4B-PB-DR-NL-RD-E470R
: IS-CP4B Push Button call point with DIN rail terminals, no duty label, with a 470 Ohm end of line resistor. Red housing.

Versions:

IS-CP4A-PB

Category:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°v C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	N
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

IS-CP4B-PB

Category:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	Y
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

Specification:

IS-CP4A-PB:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°C Db IP66
IS-CP4B-PB:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

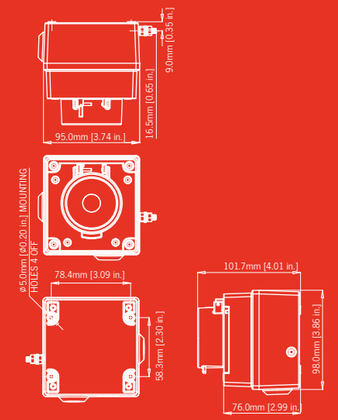
- ATEX certificate: SIRA 09ATEX2287X, IEC 60079-0:2007 Ed 5, EN 60079-11:2007, EN 60079-26:2007, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0122X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-11:2006 Edition: 5, IEC 60079-26:2006 Edition: 2, IEC 61241-1:2004 Edition: 1
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

IS-CP4A/B-PT Tool Reset Call Point

The IS-CP4A-PT and IS-CP4B-PT push button, tool resettable, manual call points are approved for Zones 0, 1, 2, 21 & 22 requiring intrinsically safe equipment for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The push button mechanism is protected by a spring loaded cover therefore the switch requires a two-action activation. The push button is user resettable via the use of the special key supplied with the unit. The IS-CP4 range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	IS-CP4A-PT IS-CP4B-PT
Terminals:	ST: Standard DR: DIN rail (only on IS-CP4B)
Lift Flap:	LF: Lift Flap NF: No Flap (default)
Duty Label:	NL: No label (default) DL: Duty Label Specify content when ordering.
Colour:	RD: Red (default) Contact sales for other colour options
E.O.L Resistor:	ExxxR: xxx: Res. value e.g.: E470R Only available on IS-CP4B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on IS-CP4B version

e.g. IS-CP4A-PT-ST-NL-RD
: IS-CP4A Tool Reset call point with standard terminals, no duty label. Red housing

e.g. IS-CP4B-PT-DR-NL-RD-E470R
: IS-CP4B Tool Reset call point with DIN rail terminals, no duty label, with a 4700hm end of line resistor. Red housing.

Versions:

IS-CP4A-PT

Category:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°v C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	N
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

IS-CP4B-PT

Category:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +55°C
Input Parameters:	Ui = 30V Ii = 500mA Pi = 1.1W Ci = 0 Li = 0
Monitoring Resistors:	Y
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

Specification:

IS-CP4A-PT:	II 1G Ex ia IIC T6 Ga II 2D Ex t IIIC T60°C Db IP66
IS-CP4B-PT:	II 1G Ex ia IIC T4 Ga II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

- ATEX certificate: SIRA 09ATEX2287X, IEC 60079-0:2007 Ed 5, EN 60079-11:2007, EN 60079-26:2007, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0122X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-11:2006 Edition: 5, IEC 60079-26:2006 Edition: 2, IEC 61241-1:2004 Edition: 1
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

BEx Plated Assemblies

The BEx range of beacons can be configured to create sets of status lights suitable for onshore and offshore applications.

Mounted onto a stainless steel backplate, E2S can offer up to 5 different components complete with the option of Exe Junction Box to make installation easier. Status lights utilise a high power L.E.D. solution which gives good light output and long life, which is important for continuous operation. Warning beacons normally use xenon strobe technology which is available in 5, 10, 15 and 21J outputs (up to 485 Cd) and which give effective warning in all conditions.

Plated assembly components:

Part Code:	Approval:	Classification:
BExBG05D 5 Joule Xenon Beacon	ATEX/IECEx	I 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +55°C II 2G Ex d IIC T6 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T115°C based on max. Ta. 70°C
	GOST-R	1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBG10D/15D 10/15 Joule Xenon Beacon	ATEX/IECEx	II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C
	GOST-R	1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBG21D 21 Joule Xenon Beacon	ATEX/IECEx	II 2G Ex d IIC T3 Ta. -50°C to +70°C II 2G Ex d IIC T4 Ta. -50°C to +55°C II 2D Ex tD A21 IP67 T200°C based on max. Ta. 70°C
	GOST-R	1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBGL1D L.E.D Array Beacon	ATEX/IECEx	II 2G Ex d IIC T4 Ta. -50° to +70°C II 2G Ex d IIC T5 Ta. -50° to +40°C II 2D Ex tD A21 IP67 T120 Ta. +70°C based on max. Ta. 70°C
	GOST-R	1ExdIICT5 Ta. -50° to +55°C 1ExdIICT4 Ta. -50° to +40°C DIP A21 Ta T4
BExS110D 110dB(A)	ATEX/IECEx	II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
Alarm Sounder	GOST-R	1ExdIICT4 Ta. -50° to +55°C
BExS120D 117dB(A)	ATEX/IECEx	II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
Alarm Sounder	GOST-R	1ExdIICT4 Ta. -50° to +55°C

Please contact the E2S sales department with your specific requirements.

The BEx range is manufactured from marine grade LM6 Aluminium Alloy which has been chromated and powder coated offering superb resistant to corrosion even under the most severe operating conditions. Standard sets are certified ATEX EX II 2G Exd IIB T4 but other options are available for higher gas groups, temperature ratings and approvals.

Features:

- Multi Function L.E.D.
  - Status Light mode
  - Flashing modes
  - Rotating modes
- Xenon Strobe
  5, 10, 15 and 21J versions
- Alarm Sounders
  110dB(A) and 117dB(A) versions
- Junction Box
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

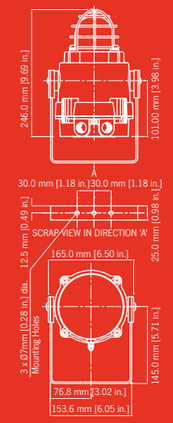
INMETRO

BExBG21 Xenon Beacon

The flameproof BExBG21 Xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExBG21 21 Joule beacons are ideal for general signalling duties whilst their robust construction makes installation in the harshest of environments possible. The BExBG21 has three distinct user selectable flash patterns and for units with DC operating voltages a second stage flash pattern can be selected remotely. Additional features include a stainless steel guard and stainless steel mounting bracket as standard.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExBG21D**	ATEX / IECEx: II 2G Ex d IIC T4 Ta. -50°C to +55°C II 2G Ex d IIC T3 Ta. -50°C to +70°C II 2D Ex tD A21 IP67 T200 based on a max. Ta. of 70°C

** = Voltage & lens colour reference:

Voltage options:	24DC, 48DC, 115AC, 230AC		
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red	-CL (Clear) -YW (Yellow)

e.g: BExBG21D115AC-AM

Current consumption:

Version:		Voltage:	Current:
24V dc		20-28V dc	1.2A
48V dc		42-54V dc	600mA
115V ac	50/60Hz	+/-10%	560mA
230V ac	50/60Hz	+/-10%	280mA

Flash patterns:

Pattern:	Type:	Stg 2 (DC)
SF	Single flash - 1Hz (both flash tubes operate together)	AF
AF	Alternate flash - 2Hz (tubes flash alternately - 0.5sec gap)	SF
DF	Double strike flash - 1Hz (first tube flash followed by second)	SF

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	21 Joules
Flash rate:	1Hz, 2Hz & double strike 1Hz
Peak Candela:	2,100,000 cd - calc. from energy (J)
Effective candela:	1,050 cd - calc. from energy (J)
Peak Candela:	110,780 cd* - measured ref. to I.E.S.
Effective candela:	485 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	DC: 2.65kg AC: 2.95kg

*All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: KEMA 0ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- Inmetro certificate: 10-IEx-0010
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

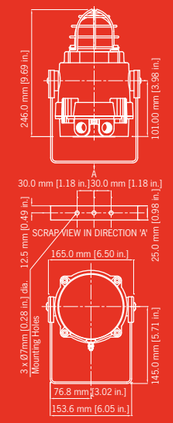
INMETRO

BExBGL1 L.E.D. Beacon

The flameproof BExBGL1 L.E.D. beacon is suitable for Zone 1, 2, 21 & 22 applications.

With an array of 32 high output L.E.D.s the BExBGL1 unit is a multi-functional beacon suitable for all signalling applications. The robust construction makes installation in the harshest of environments possible. Additional features include UV stable prismatic lens, stainless steel guard and mounting bracket as standard. Multi-function: The BExBGL1 features a total of 9 modes of operation: 4 rotating effect modes, 4 flashing modes and a steady mode for use in indicator / status applications. Based on the mode selected the user can also select two alternative L.E.D. modes remotely.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas and an ingress protection of IP66/67.



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExBGL1D**	ATEX/IECEx: II 2G Ex d IIC T4 Ta. -50° to +70°C II 2G Ex d IIC T5 Ta. -50° to +40°C II 2D Ex tD A21 IP67 T120 Ta. +70°C (based on max. Ta. 70°C)
	GOST-R: 1ExdIICT5 Ta. -50° to +55°C 1ExdIICT4 Ta. -50° to +40°C DIP A21 Ta T4

** = Voltage & lens colour reference:

Voltage options:	24DC (10-50V dc), 115AC, 230AC, 24AC		
Lens colour options:	-AM (Amber) -RD (Red)	-BL (Blue) -YW (Yellow)	-GN (Green)
e.g: BExBGL1D230AC-AM			

Current consumption:

Version:		Voltage:	Current:
24V dc		10-50V dc	400mA
48V dc		10-50V dc	230mA
24V ac	50Hz/60Hz	+/-10%	812mA
115V ac	50Hz/60Hz	+/-10%	140mA
230V ac	50Hz/60Hz	+/-10%	70mA

Flash patterns:

Stage 1: [On board]	Stage 2: [Remote]	Stage 3: [Remote]
All L.E.D's on	Alt Side Flash 1:1 2Hz	2x Flash 2Hz
Rotating: Fast 1	Rotating: Fast 2	All L.E.D's on
Rotating: Fast 2	2x Flash 2Hz	All L.E.D's on
Rotating: Slow 1	Alt Side Flash 1:1 2Hz	All L.E.D's on
Rotating: Slow 2	2x Flash 1Hz	All L.E.D's on
Double Flash 1Hz	Alt Side Flash 1:1 2Hz	All L.E.D's on
1x Flash 2Hz	Rotating: Fast 2	All L.E.D's on
2x Flash 2Hz	Rotating: Fast 2	All L.E.D's on
Alt Side Flash 1:1 2Hz	Rotating: Fast 2	All L.E.D's on

Specification:

Light source:	Array of 32 high output L.E.D.s
Effective Candela:	11cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Green, Red & Yellow
Voltages DC:	10-50V dc
Voltages AC:	24V ac; 115V ac; 230V ac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free
	LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm
	0.5w res. or diode (dc versions).
Weight :	DC:2.45kg AC: 2.75kg

*All candela data is representative of performance with red lens at optimum voltage.

Features:

- Glass dome with optically enhanced prismatic PC lens
- Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0010

GOST-R

INMETRO

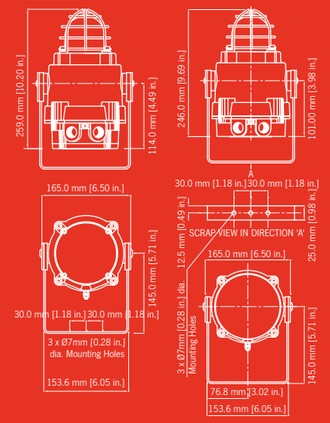
BExBG05 Xenon Beacon

The flameproof BExBG05 Xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExBG05 5 Joule beacons are ideal for general signalling duties whilst their robust construction makes installation in the harshest of environments possible. Additional features include automatic synchronisation on multi-beacon systems and stainless steel guard and mounting bracket as standard.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

Ex de version



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExBG05D**	ATEX / IECEx: II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +55°C II 2G Ex d IIC T6 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T115°C based on max. Ta. 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBG05E**	ATEX / IECEx: II 2G Ex de IIC T4 Ta. -50°C to +70°C II 2G Ex de IIC T5 Ta. -50°C to +55°C II 2G Ex de IIC T6 Ta. -50°C to +40°C II 2D Ex tD A21 IP66 T115°C based on max. Ta. 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage & lens colour reference:

Voltage options:	12DC, 24DC, 48DC, 115AC, 230AC		
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red)	-CL (Clear) -YW (Yellow)
e.g: BExBG05D115AC-AM			

Current consumption:

Version:		Voltage:	Current:
12V dc		10-14V dc	750mA
24V dc		20-28V dc	300mA
48V dc		42-54V dc	180mA
115V ac	50Hz/60Hz	+/-10%	140mA
230V ac	50Hz/60Hz	+/-10%	55mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	34,812 cd* - measured ref. to I.E.S.
Effective candela:	105 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	BG05D : IP66/67 BG05E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	DC: 2.45kg AC: 2.75kg

*All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Automatic synchronisation on multi-beacon system.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).

Approvals:

- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 60079-7 : 2003, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Inmetro certificate: 10-IEx-0010

GOST-R

INMETRO

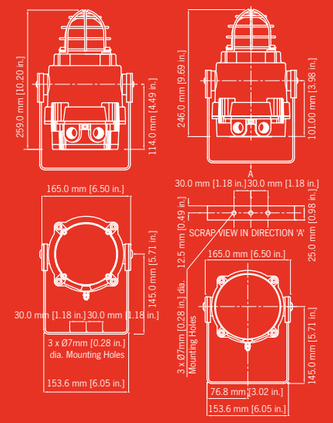
BExBG10 Xenon Beacon

The flameproof BExBG10 xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExBG10 10 Joule beacons are ideal for general signalling duties whilst their robust construction makes installation in the harshest of environments possible. Additional features include automatic synchronisation on multi-beacon systems and stainless steel guard and mounting bracket as standard.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

Ex de version



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExBG10D**	ATEX / IECEx: II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBG10E**	ATEX / IECEx: II 2G Ex de IIC T4 Ta. -50°C to +70°C II 2G Ex de IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP66 T125°C based on max.Ta 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage & lens colour reference:

Voltage options:	12DC, 24DC, 48DC, 115AC, 230AC		
Lens colour options:	-AM (Amber)	-BL (Blue)	-CL (Clear)
	-GN (Green)	-RD (Red)	-YW (Yellow)
e.g: BExBG10D115AC-AM			

Current consumption:

Version:		Voltage:	Current:
12V dc		10-14V dc	1.45A
24V dc		20-28V dc	660mA
48V dc		42-54V dc	340mA
115V ac	50Hz/60Hz	+/-10%	250mA
230V ac	50Hz/60Hz	+/-10%	110mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	10 Joules (10Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	1,000,000 cd - calc. from energy (J)
Effective candela:	500 cd - calc. from energy (J)
Peak Candela:	79,531 cd* - measured ref. to I.E.S.
Effective candela:	346 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	BG10D : IP66/67 BG10E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	DC: 2.45kg AC: 2.75kg

*All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Automatic synchronisation on multi-beacon system.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).

Approvals:

- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 60079-7 : 2003, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Inmetro certificate: 10-IEx-0010

GOST-R

INMETRO

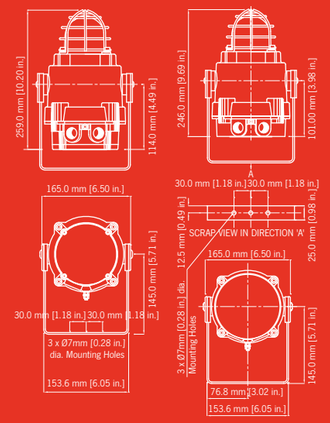
BExBG15 Xenon Beacon

The flameproof BExBG15 xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExBG15 15 Joule beacons are ideal for general signalling duties whilst their robust construction makes installation in the harshest of environments possible. Additional features include automatic synchronisation on multi-beacon systems and stainless steel guard and mounting bracket as standard.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

Ex de version



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExBG15D**	ATEX / IECEx: II 2G Ex d IIC T4 Ta. -50°C to +70°C II 2G Ex d IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP67 T125°C based on max. Ta. 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4
BExBG15E**	ATEX / IECEx: II 2G Ex de IIC T4 Ta. -50°C to +70°C II 2G Ex de IIC T5 Ta. -50°C to +40°C II 2D Ex tD A21 IP66 T125°C based on max. Ta. 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage & lens colour reference:

Voltage options:	24DC, 48DC, 115AC, 230AC		
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red)	-CL (Clear) -YW (Yellow)
e.g: BExBG15D115AC-AM			

Current consumption:

Version:		Voltage:	Current:
24V dc		20-28V dc	860mA
48V dc		42-54V dc	480mA
115V ac	50Hz/60Hz	+/-10%	360mA
230V ac	50Hz/60Hz	+/-10%	170mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	15 Joules (15Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	1,500,000 cd - calc. from energy (J)
Effective candela:	750 cd - calc. from energy (J)
Peak Candela:	94,748 cd* - measured ref. to I.E.S.
Effective candela:	444 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	BG15D : IP66/67 BG15E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	DC:2.45kg AC: 2.75kg

*All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Automatic synchronisation on multi-beacon system.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).

Approvals:

- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 60079-7 : 2003, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Inmetro certificate: 10-IEx-0010

GOST-R

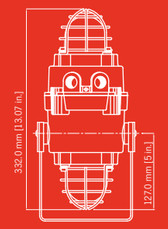
INMETRO

BExCBG05-05 Dual Xenon Beacon

The flameproof BExCBG05-05 dual xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExCBG05-05D dual 5 Joule beacons are ideal for general signalling duties whilst their robust construction makes installation in the harshest of environments possible. The beacons may be connected from a single supply for simultaneous operation or from separate supplies for independent operation. Additional features include automatic synchronisation on multi-beacon systems and stainless steel guard and mounting bracket as standard.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas and an ingress protection of IP67.



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExCBG0505D**	ATEX/IECEx: II 2G Ex d IIB T4 Ta. -50°C to +70°C II 2G Ex d IIB T5 Ta. -50°C to +55°C II 2D Ex tD A21 IP67 T115°C based on max. Ta. of +70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C DIP A21 TA T4

** = Voltage & lens colour reference:

Voltage options:	12DC, 24DC, 48DC, 115AC, 230AC		
Lens colour options: [specify two]	-A (Amber) -G (Green)	-B (Blue) -R (Red)	-C (Clear) -Y (Yellow)
e.g: BExCBG0505D115AC-A/R			

Current consumption:

Version:		Voltage:	Current:
12V dc		10-14V dc	750mA
24V dc		20-28V dc	300mA
48V dc		42-54V dc	180mA
115V ac	50Hz/60Hz	+/-10%	140mA
230V ac	50Hz/60Hz	+/-10%	55mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	5 Joules x 2 (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	2 x 500,000 cd - calc. from energy (J)
Effective candela:	2 x 250 cd - calc. from energy (J)
Peak Candela:	2 x 34,812 cd* - measured ref. to I.E.S.
Effective candela:	2 x 105 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	DC: 4.00kg AC: 4.35kg

*All candela data is representative of performance with clear lens at optimum voltage.

Features:

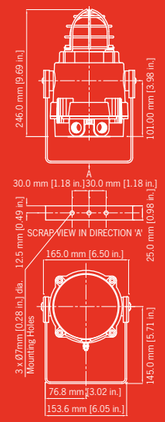
- Automatic synchronisation on multi-beacon system.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: KEMA 01ATEX2222X, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0024, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

BExTBG05 Telephone Beacon



The flameproof xenon beacons are suitable for Zone 1, 2, 21 & 22 applications.

The BExTBG05 5 Joule units are telephone initiated beacons. Their robust construction makes installation in the harshest of environments possible. Additional features include stainless steel lens guard and stainless steel mounting bracket as standard. The ring tone detect circuit senses the ringing voltage on the telephone line and switches the supply (115V ac or 230V ac) to enable the beacon until the telephone is answered.

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. All models have two M20 cable entries, large termination areas and an ingress protection of IP66/67.

Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExTBG05D**	ATEX / IECEx: II 2G Ex d IIC T4 Ta -50°C to +70°C II 2G Ex d IIC T5 Ta -50°C to +55°C II 2G Ex d IIC T6 Ta -50°C to +40°C II 2D Ex tD A21 IP67 T115°C based on max. Ta. 70°C GOST-R: 1ExdIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage & lens colour reference:

Voltage options:	115AC, 230AC		
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red)	-CL (Clear) -YW (Yellow)
e.g: BExTBG05D115AC-AM			

Current consumption:

Version:		Voltage:	Current:
115V ac	50Hz/60Hz	+/-10%	140mA
230V ac	50Hz/60Hz	+/-10%	55mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	34,812 cd* - measured ref. to I.E.S.
Effective candela:	105 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages AC:	115vac; 230vac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Tube life :	Emissions are reduced to 70% after 8 million flashes
Weight :	2.75kg

*SPL data +/-3dB(A). Measured at optimum voltage.
*Candela measurements representative of performance with clear lens at optimum voltage.

Features:

- Xenon tubes mechanically secured against shock & vibration
- Glass lens & Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Inmetro certificate: 10-IEx-0010

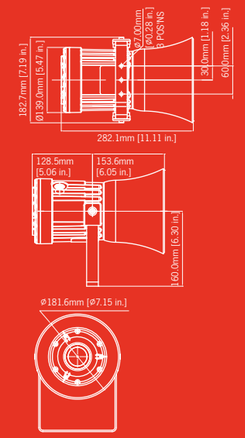
GOST-R
INMETRO

GNExS1 Alarm Sounder

The flameproof GNExS1 alarm sounder is suitable for Zone 1 & Zone 2 applications - certified to ATEX and IECEx.

Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 45 alarm tones and 4 remotely selectable stages. The alarm tone frequencies for the first 2 stages are independently selectable. The GNEx range features enclosures manufactured from GRP (glass reinforced polyester), moulded in natural red, but also available in other colours.

The re-entrant flare horn is high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.



Tone table

Stage 1	Frequency Description.	Stage 2	Stage 3	Stage 4
Tone 1	340 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 2	800/1000Hz @ 0.25 sec Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Any Stg 1 tone	Tone 5	Tone 29
Tone 4	800/1000Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 5	2400Hz Continuous	Any Stg 1 tone	Tone 20	Tone 29
Tone 6	2400/2900Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 7	2400/2900Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Any Stg 1 tone	Tone 2	Tone 38
Tone 10	2400/2900Hz @ 2Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 11	1000Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 12	800/1000Hz @ 0.875Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 13	2400Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 15	800Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 16	660Hz 150mS on, 150mS off Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 45
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Any Stg 1 tone	Tone 5	Tone 29
Tone 20	660Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 21	554Hz/440Hz @ 1Hz Alternating	Any Stg 1 tone	Tone 5	Tone 29
Tone 22	544Hz @ 0.875 sec. Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 23	800Hz @ 2Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 24	800/1000Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 25	2400/2900Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 26	Bell	Any Stg 1 tone	Tone 15	Tone 34
Tone 27	554Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 28	440Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 29	800/1000Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 30	300Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 31	660/1200Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 29
Tone 32	Two tone chime.	Any Stg 1 tone	Tone 15	Tone 45
Tone 33	745Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Any Stg 1 tone	Tone 45	Tone 37
Tone 35	420Hz @ 0.625 sec Australian Alert	Any Stg 1 tone	Tone 5	Tone 34
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Any Stg 1 tone	Tone 5	Tone 45
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Any Stg 1 tone	Tone 45	Tone 38
Tone 38	2000Hz Continuous	Any Stg 1 tone	Tone 45	Tone 37
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 17	Tone 37
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 38
Tone 41	Motor Siren - slow rise to 1200 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 42	Motor Siren - slow rise to 800 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 43	1200 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 44	Motor Siren - slow rise to 2400 Hz	Any Stg 1 tone	Tone 5	Tone 34
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Any Stg 1 tone	Tone 34	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Code:	Description:
GNExS1	S1 alarm sounder
DC024	24vdc (10-30vdc)
DC048	48vdc (35-60vdc)
AC230	230vac (100-260vac/dc)
-N	No stopping plug (default)
-B	Brass stopping plug
-S	Stainless steel stopping plug
-P	Nickel plated brass stopping plug
-1	Mounting bracket 304 stainless steel (A2) (default)
-2	Mounting bracket 316 stainless steel (A4)
-A-1	Approval to ATEX & IECEx (default)
-R	Housing colour Red (default)
-S	Other housing colour - please specify

Example:
GNExS1DC024-B-1-A-1-R
GNExS1 24vdc with brass stopping plug, 304 stainless steel mounting bracket, approved to ATEX & IECEx in a red housing.

Current consumption:

Version:	Voltage:	Current:
24V dc	10-30vdc	140mA @ 24vdc
48V dc	38-60vdc	73mA @ 48vdc
115V ac/dc 50/60Hz	100-260 vac/dc	86mA @ 115vac
230V ac/dc 50/60Hz	100-260 vac/dc	75mA @ 230vac

Current at nominal voltage

Specification:

Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA / PFEER compliant)
No. of stages:	4
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	24vdc (10-30vdc), 48vdc (38-60vdc)
Voltages AC:	230vac (100-260vac/dc)
Stage switching:	Negative or positive
Ingress protection:	IP66/67
Housing material:	GRP
Colour:	RAL3000 Red (others available on request)
Flare:	High impact UL94 V0 & 5VA FR ABS (Red)
Cable entries:	Dual M20 ISO
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.00kg AC: 3.20kg

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals.
- Independently selectable tones for 1st & 2nd stages.
- Safety-integrity suitability: SIL2

Approvals:

- ATEX certificate: SIRA 13ATEX1139X
  EN 60079-0 : 2012, EN 60079-1 : 2007
- IECEx certificate: IECEx SIR 13.0029X
  IEC 60079-0 : 2011 (Ed6), IEC 60079-1 : 2007 (Ed6)

Coding:

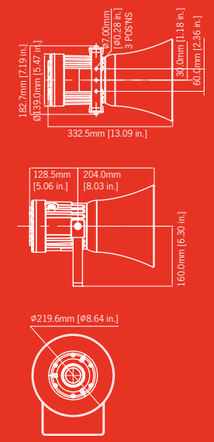
- II 2G Ex d IIC T4 Ta. -60° to +50°C
- II 2G Ex d IIC T3 Ta. -60° to +70°C
- II 2G Ex d IIB T6 Ta. -60° to +50°C
- II 2G Ex d IIB T5 Ta. -60° to +65°C
- II 2G Ex d IIB T4 Ta. -60° to +70°C

GNExS2 Alarm Sounder

The flameproof GNExS2 alarm sounder is suitable for Zone 1 & Zone 2 applications - certified to ATEX and IECEx.

Sound level ouputs are up to 123dB(A) at 1 metre with a choice of 45 alarm tones and 4 remotely selectable stages. The alarm tone frequencies for the first 2 stages are independently selectable. The GNEx range features enclosures manufactured from GRP (glass reinforced polyester), moulded in natural red, but also available in other colours.

The re-entrant flare horn is high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.



Tone table

Stage 1	Frequency Description.	Stage 2	Stage 3	Stage 4
Tone 1	340 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 2	800/1000Hz @ 0.25 sec Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Any Stg 1 tone	Tone 5	Tone 29
Tone 4	800/1000Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 5	2400Hz Continuous	Any Stg 1 tone	Tone 20	Tone 29
Tone 6	2400/2900Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 7	2400/2900Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Any Stg 1 tone	Tone 2	Tone 38
Tone 10	2400/2900Hz @ 2Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 11	1000Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 12	800/1000Hz @ 0.875Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 13	2400Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 15	800Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 16	660Hz 150mS on, 150mS off Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 45
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Any Stg 1 tone	Tone 5	Tone 29
Tone 20	660Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 21	554Hz/440Hz @ 1Hz Alternating	Any Stg 1 tone	Tone 5	Tone 29
Tone 22	544Hz @ 0.875 sec. Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 23	800Hz @ 2Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 24	800/1000Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 25	2400/2900Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 26	Bell	Any Stg 1 tone	Tone 15	Tone 34
Tone 27	554Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 28	440Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 29	800/1000Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 30	300Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 31	660/1200Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 29
Tone 32	Two tone chime.	Any Stg 1 tone	Tone 15	Tone 45
Tone 33	745Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Any Stg 1 tone	Tone 45	Tone 37
Tone 35	420Hz @ 0.625 sec Australian Alert	Any Stg 1 tone	Tone 5	Tone 34
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Any Stg 1 tone	Tone 5	Tone 45
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Any Stg 1 tone	Tone 45	Tone 38
Tone 38	2000Hz Continuous	Any Stg 1 tone	Tone 45	Tone 37
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 17	Tone 37
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 38
Tone 41	Motor Siren - slow rise to 1200 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 42	Motor Siren - slow rise to 800 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 43	1200 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 44	Motor Siren - slow rise to 2400 Hz	Any Stg 1 tone	Tone 5	Tone 34
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Any Stg 1 tone	Tone 34	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Code:	Description:
GNExS2	S2 alarm sounder
DC024	24vdc (10-30vdc)
DC048	48vdc (35-60vdc)
AC230	230vac (100-260vac)
-N	No stopping plug (default)
-B	Brass stopping plug
-S	Stainless steel stopping plug
-P	Nickel plated brass stopping plug
-1	Mounting bracket 304 stainless steel (A2) (default)
-2	Mounting bracket 316 stainless steel (A4)
-A-1	Approval to ATEX & IECEx (default)
-R	Housing colour Red (default)
-S	Other housing colour - please specify

Example:
GNExS2DC024-B-1-A-1-R
GNExS2 24vdc with brass stopping plug, 304 stainless steel mounting bracket, approved to ATEX & IECEx in a red housing.

Current consumption:

Version:	Voltage:	Current:
24V dc	10-30vdc	811mA @ 24vdc
48V dc	38-60vdc	434mA @ 48vdc
115V ac 50/60Hz	100-230vac	297mA @ 115vac
230V ac 50/60Hz	100-230vac	196mA @ 230vac

Current at nominal voltage

Specification:

Maximum output:	123dB(A) @ 1 metre
Nominal output:	117dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA / PFEER compliant)
No. of stages:	4
Volume control:	Max. 117dB(A); Min. 108dB(A) - Tone 2
Effective range:	200m @ 1KHz
Voltages DC:	24vdc (10-30vdc), 48vdc (38-60vdc)
Voltages AC:	230vac (100-260vac)
Stage switching:	Negative or positive
Ingress protection:	IP66/67
Housing material:	GRP
Colour:	RAL3000 Red (others available on request)
Flare:	High impact UL94 V0 & 5VA FR ABS (Red)
Cable entries:	Dual M20 ISO
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.35kg AC: 3.55kg

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals.
- Independently selectable tones for 1st & 2nd stages.

Approvals:

- ATEX certificate: SIRA 13ATEX1139X
  EN 60079-0 : 2012, EN 60079-1 : 2007
- IECEx certificate: IECEx SIR 13.0029X
  IEC 60079-0 : 2011 (Ed6), IEC 60079-1 : 2007 (Ed6)

Coding:

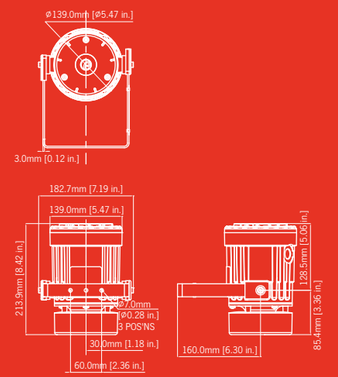
- II 2G Ex d IIC T4 Ta. -60° to +50°C
- II 2G Ex d IIC T3 Ta. -60° to +58°C
- II 2G Ex d IIB T6 Ta. -60° to +50°C
- II 2G Ex d IIB T5 Ta. -60° to +58°C

GNExS1-R Omni-directional Alarm Sounder

The flameproof GNExS1-R alarm sounder with a unique radial horn. Suitable for Zone 1 & Zone 2 applications - certified to ATEX and IECEx.

The unique radial horn on the compact GNExS1-R distributes the warning signal omni-directionally. Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 45 alarm tones and 4 remotely selectable stages. The alarm tone frequencies for the first 2 stages are independently selectable. The GNEx range features enclosures manufactured from GRP (glass reinforced polyester), moulded in natural red, but also available in other colours.

The omni-directional flare horn is high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.



Tone table

Stage 1	Frequency Description.	Stage 2	Stage 3	Stage 4
Tone 1	340 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 2	800/1000Hz @ 0.25 sec Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Any Stg 1 tone	Tone 5	Tone 29
Tone 4	800/1000Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 5	2400Hz Continuous	Any Stg 1 tone	Tone 20	Tone 29
Tone 6	2400/2900Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 7	2400/2900Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Any Stg 1 tone	Tone 2	Tone 38
Tone 10	2400/2900Hz @ 2Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 11	1000Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 12	800/1000Hz @ 0.875Hz Alternating	Any Stg 1 tone	Tone 5	Tone 45
Tone 13	2400Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 15	800Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 16	660Hz 150mS on, 150mS off Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 45
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Any Stg 1 tone	Tone 5	Tone 45
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Any Stg 1 tone	Tone 5	Tone 29
Tone 20	660Hz Continuous	Any Stg 1 tone	Tone 5	Tone 34
Tone 21	554Hz/440Hz @ 1Hz Alternating	Any Stg 1 tone	Tone 5	Tone 29
Tone 22	544Hz @ 0.875 sec. Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 23	800Hz @ 2Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 24	800/1000Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 34
Tone 25	2400/2900Hz @ 50Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 26	Bell	Any Stg 1 tone	Tone 15	Tone 34
Tone 27	554Hz Continuous	Any Stg 1 tone	Tone 5	Tone 29
Tone 28	440Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 29	800/1000Hz @ 7Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 45
Tone 30	300Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 31	660/1200Hz @ 1Hz Sweeping	Any Stg 1 tone	Tone 5	Tone 29
Tone 32	Two tone chime.	Any Stg 1 tone	Tone 15	Tone 45
Tone 33	745Hz @ 1Hz Intermittent	Any Stg 1 tone	Tone 5	Tone 29
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Any Stg 1 tone	Tone 45	Tone 37
Tone 35	420Hz @ 0.625 sec Australian Alert	Any Stg 1 tone	Tone 5	Tone 34
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Any Stg 1 tone	Tone 5	Tone 45
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Any Stg 1 tone	Tone 45	Tone 38
Tone 38	2000Hz Continuous	Any Stg 1 tone	Tone 45	Tone 37
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Any Stg 1 tone	Tone 17	Tone 37
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Any Stg 1 tone	Tone 27	Tone 38
Tone 41	Motor Siren - slow rise to 1200 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 42	Motor Siren - slow rise to 800 Hz	Any Stg 1 tone	Tone 5	Tone 29
Tone 43	1200 Hz Continuous	Any Stg 1 tone	Tone 5	Tone 45
Tone 44	Motor Siren - slow rise to 2400 Hz	Any Stg 1 tone	Tone 5	Tone 34
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Any Stg 1 tone	Tone 34	Tone 37

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Code:	Description:
GNExS1R	S1 alarm sounder with radial horn
DC024	24vdc (10-30vdc)
DC048	48vdc (35-60vdc)
AC230	230vac (100-260vac/dc)
-N	No stopping plug (default)
-B	Brass stopping plug
-S	Stainless steel stopping plug
-P	Nickel plated brass stopping plug
-1	Mounting bracket 304 stainless steel (A2) (default)
-2	Mounting bracket 316 stainless steel (A4)
-A-1	Approval to ATEX & IECEx (default)
-R	Housing colour Red (default)
-S	Other housing colour - please specify

Example:
GNExS1RDC024-B-1-A-1-R
GNExS1 24vdc with brass stopping plug, 304 stainless steel mounting bracket, approved to ATEX & IECEx in a red housing.

Current consumption:

Version:	Voltage:	Current:
24V dc	10-30vdc	140mA @ 24vdc
48V dc	38-60vdc	73mA @ 48vdc
115V ac/dc 50/60Hz	100-260 vac/dc	86mA @ 115vac
230V ac/dc 50/60Hz	100-260 vac/dc	75mA @ 230vac

Specification:

Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA / PFEER compliant)
No. of stages:	4
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	24vdc (10-30vdc), 48vdc (38-60vdc)
Voltages AC:	230vac (100-260vac/dc)
Stage switching:	Negative or positive
Ingress protection:	IP66/67
Housing material:	GRP
Colour:	RAL3000 Red (others available on request)
Flare:	High impact UL94 V0 & 5VA FR ABS (Red)
Cable entries:	Dual M20 ISO
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.35kg AC: 3.55kg

Features:

- Omni-directional sound output.
- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals.
- Independently selectable tones for 1st & 2nd stages.
- Safety-integrity suitability: SIL2

Approvals:

- ATEX certificate: SIRA 13ATEX1139X
  EN 60079-0 : 2012, EN 60079-1 : 2007
- IECEx certificate: IECEx SIR 13.0029X
  IEC 60079-0 : 2011 (Ed6), IEC 60079-1 : 2007 (Ed6)

Coding:

- II 2G Ex d IIC T4 Ta. -60° to +50°C
- II 2G Ex d IIC T3 Ta. -60° to +70°C
- II 2G Ex d IIB T6 Ta. -60° to +50°C
- II 2G Ex d IIB T5 Ta. -60° to +65°C
- II 2G Ex d IIB T4 Ta. -60° to +70°C

BExS110 / BExDS110 Alarm Sounders

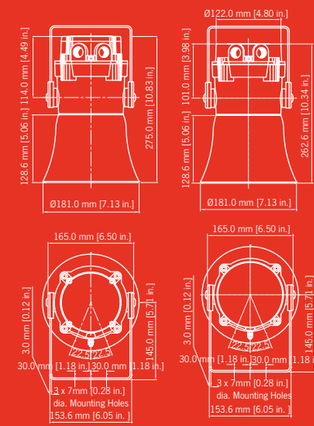
The flameproof BExS110 alarm sounders are suitable for Zone 1 & Zone 2 applications and the BExDS110 sounders also for Zone 21 & 22.

Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated.

The re-entrant flare horns are high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

For fire applications the BExS110D 24V dc siren is CPD EN89/106/EEC compliant (EN54-3 tested).

Ex de version



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Current consumption:

Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	265mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+10/-10%	110mA
230V ac	50/60Hz	+10/-10%	56mA

Part codes:

Part Code:	Classification:
BExS110D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExS110E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C
BExDS110D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4
BExDS110E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP66 T115 based on a max. Ta. of 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version
Add '-M' to part number for MED approved version (24V dc only)

Specification:

Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative or positive
Ingress protection:	S110D : IP66/67 S110E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExS110 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDS110 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.00kg AC: 3.20kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 99ATEX6312, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 60079-7 : 2003, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- VdS certificate: G206011
- CPD certificate: 0786-CPD-20225
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009
- Marine Equipment Directive (MED) Certificate: 19 702 - 11 HH

GOST-R
G206011
0786-CPD-20225

BExS120 / BExDS120 Alarm Sounders

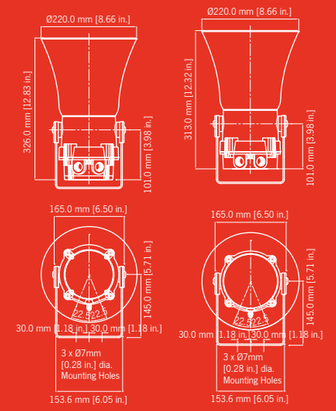
The flameproof BExS120 alarm sounders are suitable for Zone 1 & Zone 2 applications and the BExDS120 sounders also for Zone 21 & 22.

Sound level ouputs are up to 123dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated.

The re-entrant flare horns are high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

For fire applications the BExS120D 24V dc siren is CPD EN89/106/EEC compliant (EN54-3 tested).

Ex de version



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Current consumption:

Version:		Voltage:	Current:
12V dc		+/-25%	850mA
24V dc		+/-25%	800mA
48V dc		+/-25%	4200mA
115V ac	50/60Hz	+10/-10%	180mA
230V ac	50/60Hz	+10/-10%	90mA

Part codes:

Part Code:	Classification:
BExS120D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExS120E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C
BExDS120D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 TaT4
BExDS120E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP66 T115 based on a max. Ta. of 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version

Specification:

Maximum output:	121dB(A) @ 1 metre
Nominal output:	117dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 117dB(A); Min. 108dB(A) - Tone 2
Effective range:	200m @ 1KHz
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative or positive
Ingress protection:	S120D : IP66/67 S120E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExS120 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDS120 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.20kg AC: 3.40kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 99ATEX6312, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 60079-7 : 2003, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- VdS certificate: G206011
- CPD certificate: 0786-CPD-20225
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009

GOST-R

G206011

0786-CPD-20225

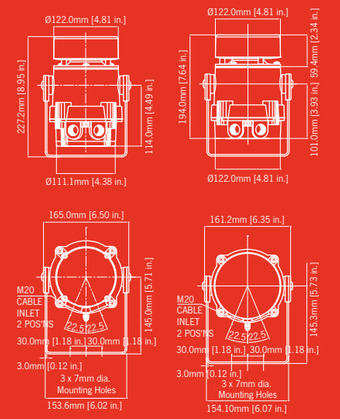
BExS110-R Omni-directional Alarm Sounders

The flameproof BExS110-R alarm sounder is suitable for Zone 1 & Zone 2 applications and the BExDS110-R sounder also for Zone 21 & 22.

Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. The unique radial horn on the compact BExS110-R distributes the warning signal omni-directionally. The radial horn is manufactured from high impact, fire retardant ABS.

All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

Ex de version



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Current consumption:

Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	365mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+10/-10%	110mA
230V ac	50/60Hz	+10/-10%	56mA

Part codes:

Part Code:	Classification:
BExS110DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExS110ER**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C
BExDS110DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4
BExDS110ER**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP66 T115 based on a max. Ta. of 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version

Specification:

Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative or positive
Ingress protection:	S110D : IP66/67 S110E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExS110 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDS110 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode within Exd enclosure (dc versions).
Weight :	DC: 3.00kg AC: 3.20kg

Features:

- Omni-directional sound output.
- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- IN & OUT terminals (Ex de version only).
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 99ATEX6312,
  EN 60079-0 : 2006, EN 60079-1 : 2007,
  EN 60079-7 : 2003, EN 61241-0 : 2006,
  EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003,
  IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6),
  IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1),
  IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009

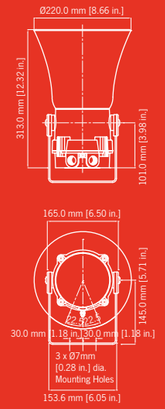
GOST-R

INMETRO

BExH120 / BExDH120 ‘Hootronic’ Siren

The flameproof BExH120 ‘Hootronic’ Siren is suitable for Zone 1 & 2 applications. The BExH120D authentically reproduces the traditional sounds of electro-mechanical devices whilst providing a significantly higher level of performance and reliability. The BExDH120 variant is also suitable for Zone 21 & 22.

The E2S Hootronic series of products faithfully reproduce the sounds made by legacy electro-mechanical signalling devices but in a modern, reliable and cost effective way. With output levels of up to 117.5dB(A) at 1 metre the BExH120 surpasses legacy electro-mechanical devices in performance and effectiveness, it is also continuously rated, requires zero maintenance and the signal quality will not degrade with age.



Assemblies:
The products from the BEx range are available as multiple unit assemblies with and without junction boxes. See the BExP data sheet for further info.

Part codes:

Part Code:	Classification:
BExH120D**-G Grey Housing & horn	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50 to +70°C II 2G Ex d IIC T4 Ta. -50 to +55°C
BExH120D**-R Red Housing & Horn	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50 to +70°C II 2G Ex d IIC T4 Ta. -50 to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
BExDH120D**-G Grey Housing & Black Horn	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
BExDH120D**-R Red Housing & Black Horn	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
** = Voltage reference:	
Options:	24DC, 115AC, 230AC

Current consumption:

Voltage:		Max. I/P Volts:	Current:
24V dc		30V dc	400mA
115V ac	50/60Hz	126.5V ac	130mA
230V ac	50/60Hz	253V ac	65mA

Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Industrial Claxon	Tone 3	Tone 5
Tone 2	High Frequency Mechanical Siren	Tone 1	Tone 5
Tone 3	Medium Frequency Mechanical Siren	Tone 1	Tone 5
Tone 4	Electro Mechanical Buzzer	Tone 2	Tone 5
Tone 5	Mechanical Bell	Tone 1	Tone 2

Country specific or custom tone configurations and alarm frequencies are available upon request.

Specification:

Nominal output:	117.5dB(A) @ 1m +/- 3dB - Tone 4.
No. of tones:	5
No. of stages:	3
Volume control:	Yes
Effective range:	200m @ 1KHz
Voltages DC:	24vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion
Colour:	RAL3000 Red or RAL7038 Grey (others available on request)
BExH120 flare:	High impact UL94 V0 & 5VA FR ABS
BExDH120 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug included)
Terminals:	0.5 to 4.0mm² cables.
Weight :	DC: 3.20kg AC: 3.40kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- Sound level ouputs up to 117.5dB(A) at 1 metre with a choice of 5 alarm sounds combining the signalling power of mutliple electro-mechanical products in one unit:
  1. Industrial Claxon
  2. High Frequency Mechanical Siren
  3. Medium Frequency Mechanical Siren
  4. Electro Mechanical Buzzer
  5. Mechanical Bell

Approvals:

- ATEX certificate: KEMA 99ATEX6312, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009
- GOST-R certificate: POCC GB.JB05.B03365

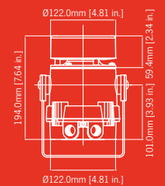
GOST-R

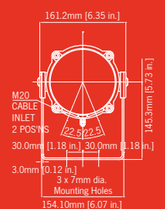
INMETRO

BExH120-R Signalling Bell

The flameproof BExH120-R 'Belltronic' Signalling Bell is suitable for Zone 1 & 2 applications. The BExH120-R authentically reproduces the traditional sound of a electro-mechanical bell whilst providing a significantly higher level of performance and reliability. The BExDH120-R variant is also suitable for Zone 21 & 22.

With output levels of up to 106dB(A) at 1 metre the BExH120-R surpasses legacy electro-mechanical bells in performance and effectiveness, it is also continuously rated, requires zero maintenance and the signal quality will not degrade with age.





Part codes:

Part Code:	Classification:
BExH120DR**-G Grey Housing & Red Gong	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50 to +70°C II 2G Ex d IIC T4 Ta. -50 to +55°C
BExH120DR**-R Red Housing & Red Gong	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50 to +70°C II 2G Ex d IIC T4 Ta. -50 to +55°C
BExDH120DR**-G Grey Housing & Black Gong	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
BExDH120DR**-R Red Housing & Black Gong	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C

** = Voltage reference:

Options:	24DC, 115AC, 230AC

Current consumption:

Voltage:		Current:
24V dc		400mA
115V ac	50/60Hz	130mA
230V ac	50/60Hz	65mA

Specification:

Nominal output:	106dB(A) @ 1m +/- 3dB
Volume control:	Yes
Voltages DC:	24vdc
Voltages AC:	115vac; 230vac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion
Colour:	RAL3000 Red or RAL7038 Grey (others available on request)
BExH120-R flare:	High impact UL94 V0 & 5VA FR ABS
BExDH120-R flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Weight :	DC: 3.20kg AC: 3.40kg

Features:

- Digitally stored mechanical bell sound.
- Continuously rated.
- Maintenance free.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: KEMA 99ATEX6312, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

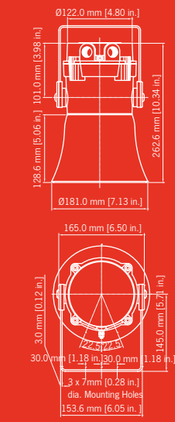
INMETRO

BExTS110 / BExDTS110 Telephone Sounders

The flameproof BExTS110 telephone initiated sounders are suitable for Zone 1 & Zone 2 applications and the BExDTS110 version also for Zone 21 & 22.

Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones. The ring-tone circuit senses the ringing voltage on the telephone line and swtiches the supply onto signal until the telephone is answered. The sound can be continuous or it can follow the telephone ring (selectable option).

The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated. The re-entrant flare horns are high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas and an ingress protection of IP66/67.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Part Code:	Classification:
BExTS110D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExDTS110D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4

** = Voltage reference:

Options:	115AC, 230AC

Current consumption:

Version:		Voltage:	Current:
115V ac	50Hz/60Hz	+/-10%	110mA
230V ac	50Hz/60Hz	+/-10%	56mA

Specification:

Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
Effective range:	100m @ 1KHz
Voltages AC:	115vac; 230vac
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExTS110 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDTS110 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug included)
Terminals:	0.5 to 4.0mm² cables.
Weight :	3.20kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- Telephone line ringing voltage switches power (115vac or 230vac) to enable sounder to operate.

Approvals:

- ATEX certificate: KEMA 99ATEX6312, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009

GOST-R

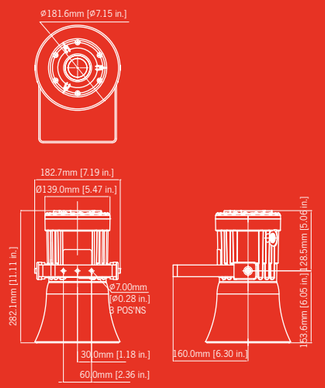
INMETRO

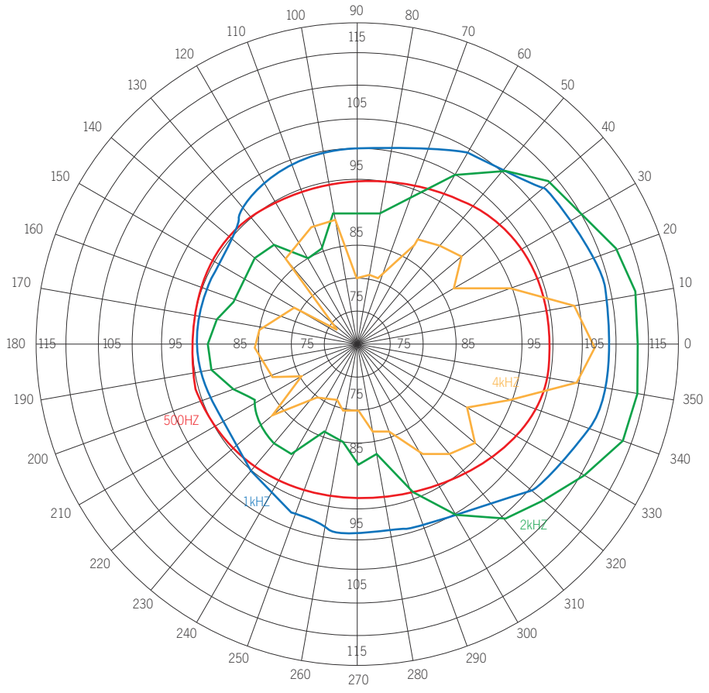
GNExL1 PA Loudspeaker

The flameproof GNExL1 PA loudspeaker is suitable for Zone 1 & Zone 2 applications.

The GNEx range features enclosures manufactured from GRP (glass reinforced polyester), moulded in natural red, but also available in other colours.

The re-entrant flare horn is high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.





Part codes:

Code:	Description:
GNExL1	15W PA Loudspeaker
V100	70/100V line transformer
R008	8 Ohm low impedance
R016	16 Ohm low impedance
-N	No stopping plug (default)
-B	Brass stopping plug
-S	Stainless steel stopping plug
-P	Nickel plated brass stopping plug
-1	Mounting bracket 304 stainless steel (A2) (default)
-2	Mounting bracket 316 stainless steel (A4)
-A-1	Approval to ATEX & IECEx (default)
-R	Housing colour Red (default)
-S	Other housing colour - please specify

Example:
GNExL1V100-B-1-A-1-R
GNExL1 70/100V lne transformer version with brass stopping plug, 304 stainless steel mounting bracket, approved to ATEX & IECEx in a red housing.

Specification:

SPL:	102dB +/-3dB @ 1w @ 1m - Pink 113dB +/-3dB @ 15w (rated) @ 1m
Rated power:	15 Watts RMS
70v line tappings:	15w / 7.5w / 3w / 1w
100v line tappings:	15w / 7.5w / 3w / 1w
Low impedence:	8 Ohm or 16 Ohm
Dispersion:	120° @ 1kHz & 32° @ 4kHz
Frequency range:	400Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer) 470µF Capacitor (Low impedance)
Ingress protection:	IP66/67
Housing material:	GRP
Colour:	RAL3000 Red (others available on request)
BExL15 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
Cable entries:	Dual M20 ISO
Terminals:	0.5 to 4.0mm² cables.
Weight :	70/100V line: 3.8kg Low imp.: 3.45kg

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals

Approvals:

- ATEX certificate: SIRA 13ATEX1139X
  EN 60079-0 : 2012, EN 60079-1 : 2007
- IECEx certificate: IECEx SIR 13.0029X
  IEC 60079-0 : 2011 (Ed6), IEC 60079-1 : 2007 (Ed6)

Coding:

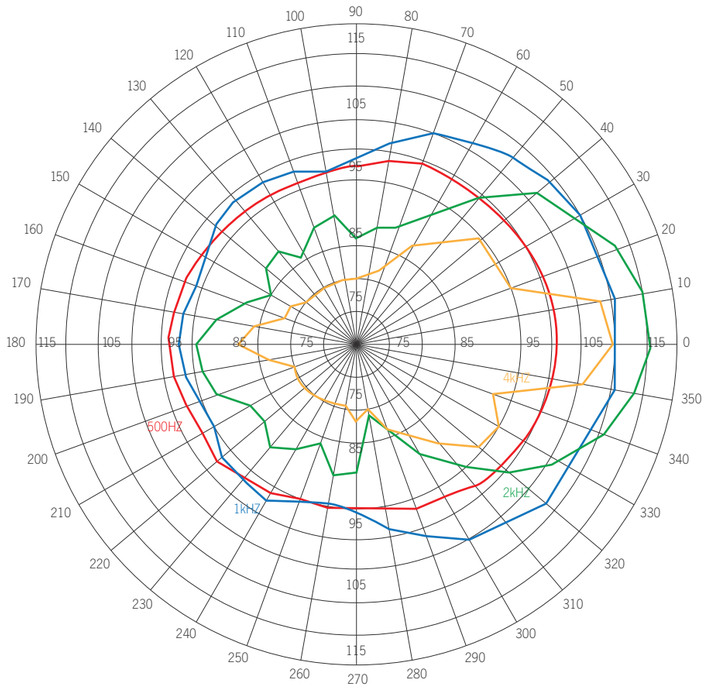
- II 2G Ex d IIC T4 Ta. -60° to +50°C
- II 2G Ex d IIC T3 Ta. -60° to +70°C
- II 2G Ex d IIB T6 Ta. -60° to +50°C
- II 2G Ex d IIB T5 Ta. -60° to +65°C
- II 2G Ex d IIB T4 Ta. -60° to +70°C

GNExL2 PA Loudspeaker

The flameproof GNExL2 PA loudspeaker is suitable for Zone 1 & Zone 2 applications.

The GNEx range features enclosures manufactured from GRP (glass reinforced polyester), moulded in natural red, but also available in other colours.

The re-entrant flare horn is high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals and an ingress protection of IP66/67.



Part codes:

Code:	Description:
GNExL2	25W PA Loudspeaker
V100	70/100V line transformer
R008	8 Ohm low impedance
R016	16 Ohm low impedance
-N	No stopping plug (default)
-B	Brass stopping plug
-S	Stainless steel stopping plug
-P	Nickel plated brass stopping plug
-1	Mounting bracket 304 stainless steel (A2) (default)
-2	Mounting bracket 316 stainless steel (A4)
-A-1	Approval to ATEX & IECEx (default)
-R	Housing colour Red (default)
-S	Other housing colour - please specify

Example:
GNExL2V100-B-1-A-1-R
GNExL2 70/100V lne transformer version with brass stopping plug, 304 stainless steel mounting bracket, approved to ATEX & IECEx in a red housing.

Specification:

SPL:	105dB +/-3dB @ 1w @ 1m - Pink
	119dB +/-3dB @ 25w (rated) @ 1m
Rated power:	25 Watts RMS
70v line tappings:	25w / 12.5w / 6w / 2w tappings
100v line tappings:	25w / 12.5w / 6w / 2w tappings
Low impedence:	8 Ohm or 16 Ohm
Dispersion:	130° @ 1kHz & 32° @ 4kHz
Frequency range:	300Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer) 470µF Capacitor (Low impedance)
Ingress protection:	IP66/67
Housing material:	GRP
Colour:	RAL3000 Red (others available on request)
Horn flare:	High impact UL94 V0 & 5VA FR ABS (Red)
Cable entries:	Dual M20 ISO
Terminals:	0.5 to 4.0mm² cables.
Weight :	70/100V line: 4.3kg Low imp.: 3.95kg

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals

Approvals:

- ATEX certificate: SIRA 13ATEX1139X
  EN 60079-0 : 2012, EN 60079-1 : 2007
- IECEx certificate: IECEx SIR 13.0029X
  IEC 60079-0 : 2011 (Ed6), IEC 60079-1 : 2007 (Ed6)

Coding:

- II 2G Ex d IIC T4 Ta. -60° to +50°C
- II 2G Ex d IIC T3 Ta. -60° to +65°C
- II 2G Ex d IIB T6 Ta. -60° to +50°C
- II 2G Ex d IIB T5 Ta. -60° to +65°C

BExL15 / BExDL15 PA Loudspeakers

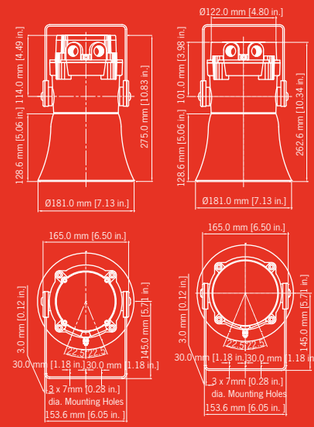
The flameproof BExL15 PA loudspeakers are suitable for Zone 1 & Zone 2 applications and the BExDL15 sounders also for Zone 21 & 22.

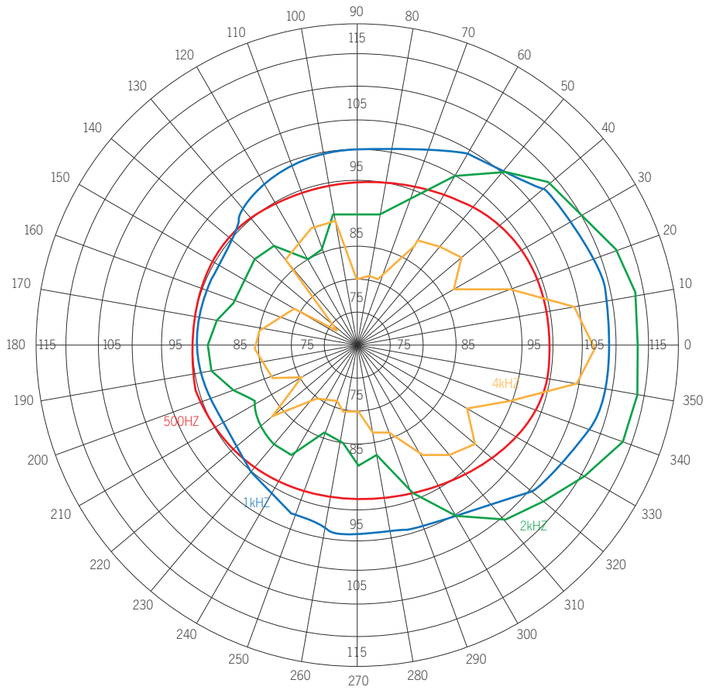
The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated.

The re-entrant flare horns are high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

An independent test report is available on request, or online, detailing the performance of the BEx loudspeaker range.

Ex de version





Part codes:

Part Code:	Classification:
BExL15D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExL15E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C
BExDL15D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4
BExDL15E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP66 T115 based on a max. Ta. of 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

**** = type reference:

Options:	70V	70V Line transformer
	100V	100V Line transformer
	8R	8 Ohm low impedance
	16R	16 Ohm low impedance

e.g: BExL15D100V

Specification:

SPL:	102dB +/-3dB @ 1w @ 1m - Pink 113dB +/-3dB @ 15w (rated) @ 1m
Rated power:	15 Watts RMS
70v line tappings:	15w / 7.5w / 3w / 1w (z=336.67 Ohms /653.33 Ohms / 1.6k Ohms / 4.9k Ohms)
100v line tappings:	15w / 7.5w / 3w / 1w (z=666.87 Ohms /1.34k Ohms / 3.34k Ohms / 10k Ohms)
Low impedence:	8 Ohm or 16 Ohm
Dispersion:	120° @ 1kHz & 32° @ 4kHz
Frequency range:	400Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer) 470µF Capacitor (Low impedance)
Ingress protection:	L15D : IP66/67 L15E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExL15 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDL15 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Weight :	70/100V line: 3.45kg Low imp.: 3.10kg

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals (Ex de version only).

Approvals:

- ATEX certificate: KEMA 99ATEX6312,
  EN 60079-0 : 2006, EN 60079-1 : 2007,
  EN 60079-7 : 2003, EN 61241-0 : 2006,
  EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003,
  IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6),
  IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1),
  IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009

GOST-R

INMETRO

BExL25 / BExDL25 PA Loudspeakers

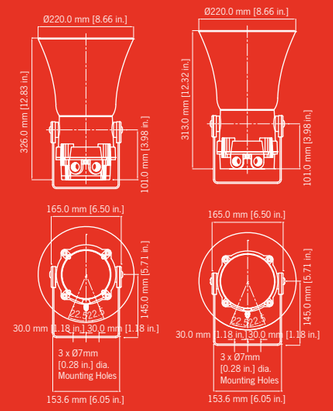
The flameproof BExL25 PA loudspeakers are suitable for Zone 1 & Zone 2 applications and the BExDL25 sounders also for Zone 21 & 22.

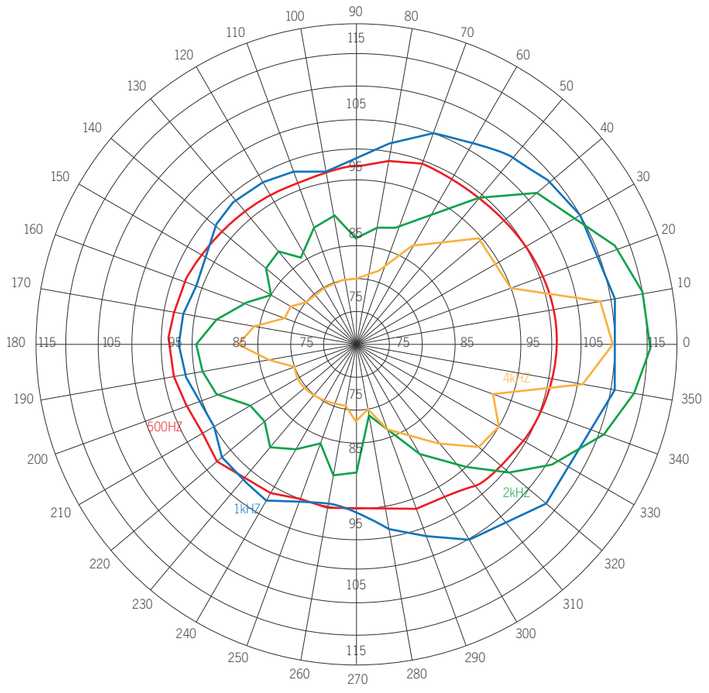
The BEx range features enclosures manufactured from corrosion proof, marine grade copper free LM6 aluminium which is phosphated and powder coated.

The re-entrant flare horns are high impact, fire retardant ABS. All models have two M20 cable entries, large termination areas containing in & out terminals (Ex de version only) and an ingress protection of IP66/67 (Ex d) and IP66 (Ex de).

An independent test report is available on request, or online, detailing the performance of the BEx loudspeaker range.

Ex de version





Part codes:

Part Code:	Classification:
BExL25D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C
BExL25E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C
BExDL25D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C II 2G Ex d IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP67 T115 based on a max. Ta. of 70°C
	GOST-R: 1ExdIICT4 Ta. -50° to +55°C T100°C DIP A21 Ta T4
BExDL25E**	ATEX / IECEx: II 2G Ex de IIB T4 Ta. -50° to +70°C II 2G Ex de IIC T4 Ta. -50° to +55°C II 2D Ex tD A21 IP66 T115 based on a max. Ta. of 70°C
	GOST-R: 2ExdeIICT4 Ta. -50° to +55°C DIP A21 Ta T4

**** = type reference:

Options:	70V	70V Line transformer
	100V	100V Line transformer
	8R	8 Ohm low impedance
	16R	16 Ohm low impedance

e.g: BExL25D100V

Specification:

SPL:	105dB +/-3dB @ 1w @ 1m - Pink 119dB +/-3dB @ 25w (rated) @ 1m
Rated power:	25 Watts RMS
70v line tappings:	25w / 12.5w / 6w / 2w tappings (z=196 Ohms /392 Ohms / 816.67 Ohms / 2.45k Ohms)
100v line tappings:	25w / 12.5w / 6w / 2w tappings (z=400 Ohms /800 Ohms / 1.67k Ohms / 5k Ohms)
Low impedence:	8 Ohm or 16 Ohm
Dispersion:	130° @ 1kHz & 32° @ 4kHz
Frequency range:	300Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer) 470µF Capacitor (Low impedance)
Ingress protection:	L25D : IP66/67 L25E : IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish - anti-corrosion.
Colour:	RAL3000 Red (others available on request)
BExL25 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDL25 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Weight :	70/100V line: 3.95kg Low imp.: 3.56kg

Features:

- Very large termination area.
- Ratchet adjustable stainless steel ‘U’ bracket.
- IN & OUT terminals (Ex de version only).

Approvals:

- ATEX certificate: KEMA 99ATEX6312,
  EN 60079-0 : 2006, EN 60079-1 : 2007,
  EN 60079-7 : 2003, EN 61241-0 : 2006,
  EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0003,
  IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6),
  IEC 60079-7 : 2001 (Ed3), IEC 61241-0 : 2004 (Ed1),
  IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1
- Inmetro certificate: 10-IEx-0009

GOST-R

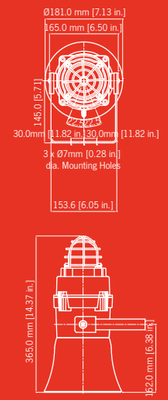
INMETRO

BExCS110-05 / BExDCS110-05

Combination Alarm

The flameproof BExCS110-05 combination alarm sounders and Xenon beacons are suitable for Zone 1 & Zone 2 applications and the BExDCS110-05 versions also for Zone 21 & 22.

Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. Sounder & beacon may be connected from a single supply for simultaneous operation or from separate supplies for independent operation.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Part codes:

Part Code:	Classification:
BExCS11005D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C
BExDCS11005D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. –50°C to. +70°C II 2D Ex tD A21 IP67 T115°C based on max Ta. of +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C DIP A21 Ta T5

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version

Current consumption:

Alarm Sounder Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	265mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+/-10%	110mA
230V ac	50/60Hz	+/-10%	56mA

Xenon Beacon Version:		Voltage:	Current:
12V dc		10-14V	750mA
24V dc		20-28V	300mA
48V dc		42-54V	180mA
115V ac	50/60Hz	+/-10%	140mA
230V ac	50/60Hz	+/-10%	55mA

Specification:

Sounder/Horn:	
Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative or positive
Beacon:	
Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	34,812 cd* - measured ref. to I.E.S.
Effective candela:	105 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Tube life :	Emissions are reduced to 70% after 8 million flashes
General:	
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated
BExCS110-05 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDCS110-05 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Weight :	DC: 4.80kg AC: 5.00kg

*Candela measurements representative of performance with clear lens at optimum voltage.

Features:

- Automatic synchronisation on multi-beacon & sounder systems.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Ratchet adjustable stainless steel 'U' bracket.
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 01ATEX2223X, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0025, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365

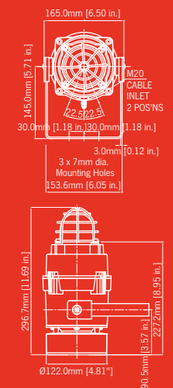
GOST-R

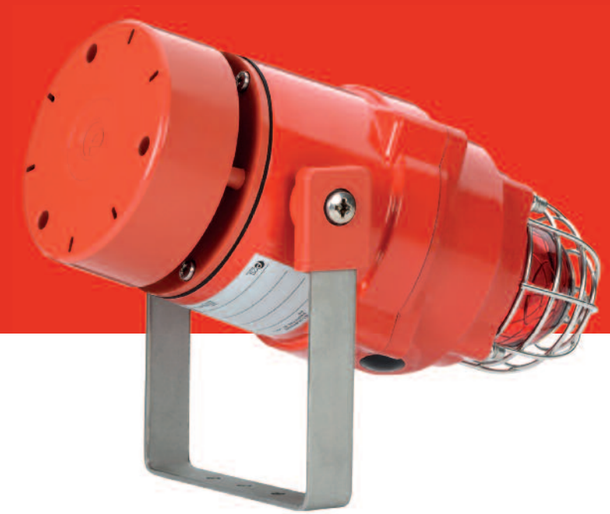
BExCS110-05-R / BExDCS110-05-R

Omni-directional Alarm Sounder & Xenon Combination

The flameproof BExCS110-05-R combination alarm sounder and Xenon beacon with omni-directional horn is suitable for Zone 1 & Zone 2 applications and the BExDCS110-05-R version also for Zone 21 & 22.

The unique radial horn on the compact BExCS110-05-R distributes the audible warning signal omni-directionally allowing the visual signal to be orientated optimally. Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. Sounder & beacon may be connected from a single supply for simultaneous operation or from separate supplies for independent operation.





Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Part codes:

Part Code:	Classification:
BExCS11005DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C
BExDCS11005DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. –50°C to. +70°C II 2D Ex tD A21 IP67 T115°C based on max Ta. of +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C DIP A21 Ta T5

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version

Current consumption:

Alarm Sounder Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	265mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+/-10%	110mA
230V ac	50/60Hz	+/-10%	56mA

Xenon Beacon Version:		Voltage:	Current:
12V dc		10-14V	750mA
24V dc		20-28V	300mA
48V dc		42-54V	180mA
115V ac	50/60Hz	+/-10%	140mA
230V ac	50/60Hz	+/-10%	55mA

Specification:

Sounder/Horn:	
Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Stage switching:	Negative or positive
Beacon:	
Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	34,812 cd* - measured ref. to I.E.S.
Effective candela:	105 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Tube life :	Emissions are reduced to 70% after 8 million flashes
General:	
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6
Housing finish:	Phosphated & powder coated
BExCS110-05 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDCS110-05 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Weight :	DC: 4.80kg AC: 5.00kg

*Candela measurements representative of performance with clear lens at optimum voltage.

Features:

- Omni-directional sound output.
- Automatic synchronisation on multi-beacon & sounder systems.
- Beacons can be set to 'flip-flop' alternating mode with other units on multi-beacon systems.
- Xenon tubes mechanically secured against shock & vibration
- Ratchet adjustable stainless steel 'U' bracket.
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 01ATEX2223X, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0025, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365

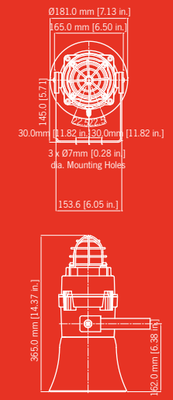
GOST-R

BExCS110-L1 / BExDCS110-L1

Sounder & L.E.D

The flameproof BExCS110-L1 combination alarm sounders and high output L.E.D. beacons are suitable for Zone 1 & Zone 2 applications. The BExDCS110-L1 is suitable for Zone 1, 2, 21 & 22 applications.

The BExCS110-L1 features sound level ouputs of up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. The beacon contains an array of 32 high output, multi-function L.E.D.s. with a total of 9 modes of operation - 4 rotating effect modes, 4 flashing modes and a steady mode for use in indicator / status applications. Based on the mode selected the user can also select two alternative L.E.D. modes remotely.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Flash patterns:

Mode: Stage 1:	[on board]	Stage 2: [Remote]	Stage 3: [Remote]
1	All L.E.D's on	Mode: 9	Mode: 6
2	Rotating: Slow1	Mode: 9	Mode: 1
3	Single Strike Flash: 2Hz	Mode: 7	Mode: 1
4	Rotating: Fast 1	Mode: 3	Mode: 1
5	Rotating: Slow 2	Mode: 6	Mode: 1
6	Double Strike Flash: 1Hz	Mode: 7	Mode: 1
7	Rotating: Fast 2	Mode: 8	Mode: 1
8	Double Strike Flash: 2Hz	Mode: 9	Mode: 1
9	Alternate Side Flash: 2Hz	Mode: 7	Mode: 1

Part codes:

Part Code:	Classification:
BExCS110L1D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C
BExDCS110L1D**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. –50°C to. +70°C II 2D Ex tD A21 IP67 T115°C based on max Ta. of +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C DIP A21 Ta T5

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC
Add '-P' to part number for Programmable version	

Current consumption:

Alarm Sounder Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	265mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+/-10%	110mA
230V ac	50/60Hz	+/-10%	56mA

L.E.D. Beacon Version:		Voltage:	Current:
12V dc		10-50V	750mA
24V dc		10-50V	400mA
48V dc		10-50V	210mA
115V ac	50/60Hz	+/-10%	135mA
230V ac	50/60Hz	+/-10%	65mA

Specification:

Sounder/Horn:	
Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12V dc; 24V dc; 48V dc
Voltages AC:	115V ac; 230V ac
Stage switching:	Negative or positive
L.E.D. Beacon:	
Light source:	Array of 32 high output L.E.D.s
Effective Candela:	11cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Green, Red & Yellow
Voltages DC:	10-50V dc
Voltages AC:	115V ac; 230V ac
General:	
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated
BExCS110-L1 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDCS110-L1 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug included)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Weight :	5.00kg

*Candela measurements representative of performance with red lens at optimum voltage.

Features:

- Glass dome with optically enhanced prismatic PC lens
- Stainless Steel guard
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- The sounder & beacon may be connected from a single supply for simultaneous operation or from separate supplies for independent operation
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

Approvals:

- ATEX certificate: KEMA 01ATEX2223X, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0025, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1

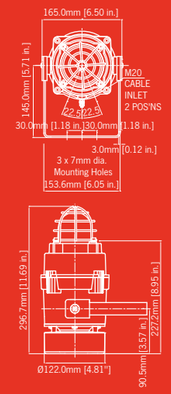
GOST-R

BExCS110L1-R / BExDCS110-L1-R

Omni-directional Alarm Sounder & L.E.D. Combination

The flameproof BExCS110-L1-R combination omni-directional alarm sounder and high output L.E.D. beacon is suitable for Zone 1 & Zone 2 applications. The BExDCS110-L1-R is suitable for Zone 1, 2, 21 & 22 applications.

The unique radial horn on the compact BExCS110-L1-R distributes the audible warning signal omni-directionally allowing the visual signal to be orientated optimally. Sound level ouputs are up to 117dB(A) at 1 metre with a choice of 32 alarm tones and 3 remotely selectable stages. The beacon contains an array of 32 high output, multi-function L.E.D.s. with a total of 9 modes of operation - 4 rotating effect modes, 4 flashing modes and a steady mode for use in indicator / status applications.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	Continuous 1000Hz Toxic Gas Alarm	Tone 31	Tone 11
Tone 2	Alternating 800/1000Hz at 0.25s intervals	Tone 17	Tone 5
Tone 3	Slow Whoop 500/1200Hz at 0.3Hz with 0.5s gap repeated	Tone 2	Tone 5
Tone 4	Sweeping 800/1000 at 1Hz	Tone 6	Tone 5
Tone 5	Continuous at 2400Hz	Tone 3	Tone 27
Tone 6	Sweeping 2400/2900Hz at 7Hz	Tone 7	Tone 5
Tone 7	Sweeping 2400/2900Hz at 1Hz	Tone 10	Tone 5
Tone 8	Siren 500/1200/500Hz at 0.3Hz	Tone 2	Tone 5
Tone 9	Sawtooth 1200/500Hz at 1Hz	Tone 15	Tone 2
Tone 10	Alternating 2400/2900Hz at 2Hz	Tone 7	Tone 5
Tone 11	Intermittent 1000Hz at 0.5Hz General alarm	Tone 31	Tone 1
Tone 12	Alternating 800/1000Hz at 0.875Hz	Tone 4	Tone 5
Tone 13	Intermittent 2400Hz at 1Hz	Tone 15	Tone 5
Tone 14	Intermittent 800Hz 0.25s on 1s off	Tone 4	Tone 5
Tone 15	Continuous at 800Hz	Tone 2	Tone 5
Tone 16	Intermittent 660Hz 150mS on, 150mS off	Tone 18	Tone 5
Tone 17	Alternating 544Hz (100mS)/440Hz(400mS)	Tone 2	Tone 27
Tone 18	Intermittent 660Hz 1.8s on, 1.8s off	Tone 2	Tone 5
Tone 19	1400Hz to 1600Hz sweep up over 1s - 1600Hz to 1400Hz sweep down over 0.5s	Tone 2	Tone 5
Tone 20	Continuous 660Hz	Tone 2	Tone 5
Tone 21	Alternating 554/440Hz at 1Hz	Tone 2	Tone 5
Tone 22	Intermittent 554Hz at 0.875Hz	Tone 2	Tone 5
Tone 23	800Hz pulsing at 2Hz	Tone 6	Tone 5
Tone 24	Sweeping 800/1000Hz at 50Hz	Tone 29	Tone 5
Tone 25	Sweeping 2400/2900Hz at 50Hz	Tone 29	Tone 5
Tone 26	Simulated bell sound	Tone 2	Tone 1
Tone 27	Continuous 554Hz	Tone 26	Tone 5
Tone 28	Continuous 440Hz	Tone 2	Tone 5
Tone 29	Sweeping 800/1000Hz at 7Hz	Tone 7	Tone 5
Tone 30	420Hz repeating 0.625s on, 0.625s off Australian alert signal	Tone 32	Tone 5
Tone 31	1200/500Hz at 1 Hz Prepare to Abandon Platform	Tone 11	Tone 1
Tone 32	Sweeping 500/1200Hz 3.75s on, 0.25s off 15Hz	Tone 26	Tone 1

Country specific or custom tone configurations and alarm frequencies are available upon request.

Flash patterns:

Mode: Stage 1:	[on board]	Stage 2: [Remote]	Stage 3: [Remote]
1	All L.E.D's on	Mode: 9	Mode: 6
2	Rotating: Slow1	Mode: 9	Mode: 1
3	Single Strike Flash: 2Hz	Mode: 7	Mode: 1
4	Rotating: Fast 1	Mode: 3	Mode: 1
5	Rotating: Slow 2	Mode: 6	Mode: 1
6	Double Strike Flash: 1Hz	Mode: 7	Mode: 1
7	Rotating: Fast 2	Mode: 8	Mode: 1
8	Double Strike Flash: 2Hz	Mode: 9	Mode: 1
9	Alternate Side Flash: 2Hz	Mode: 7	Mode: 1

Part codes:

Part Code:	Classification:
BExCS110L1DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. -50° to +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C
BExDCS110L1DR**	ATEX / IECEx: II 2G Ex d IIB T4 Ta. –50°C to. +70°C II 2D Ex tD A21 IP67 T115°C based on max Ta. of +70°C
	GOST-R: 1ExdIIBT4 Ta. -50° to +55°C DIP A21 Ta T5

** = Voltage reference:

Options:	12DC, 24DC, 48DC, 115AC, 230AC

Add '-P' to part number for Programmable version

Current consumption:

Alarm Sounder Version:		Voltage:	Current:
12V dc		+/-25%	195mA
24V dc		+/-25%	265mA
48V dc		+/-25%	130mA
115V ac	50/60Hz	+/-10%	110mA
230V ac	50/60Hz	+/-10%	56mA

L.E.D. Beacon Version:		Voltage:	Current:
12V dc		10-50V	750mA
24V dc		10-50V	400mA
48V dc		10-50V	210mA
115V ac	50/60Hz	+/-10%	135mA
230V ac	50/60Hz	+/-10%	65mA

Specification:

Sounder/Horn:	
Maximum output:	117dB(A) @ 1 metre
Nominal output:	110dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	32 (UKOOA / PFEER compliant)
No. of stages:	3
Volume control:	Max. 110dB(A); Min. 72dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	12V dc; 24V dc; 48V dc
Voltages AC:	115V ac; 230V ac
Stage switching:	Negative or positive
L.E.D. Beacon:	
Light source:	Array of 32 high output L.E.D.s
Effective Candela:	11cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Green, Red & Yellow
Voltages DC:	10-50V dc
Voltages AC:	115V ac; 230V ac
General:	
Ingress protection:	IP66/67
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated
BExCS110-L1 flare:	High impact UL94 V0 & 5VA FR ABS (Red)
BExDCS110-L1 flare:	Anti-Static High impact ABS (Black)
Cable entries:	Dual M20 ISO (one stopping plug inc)
Terminals:	0.5 to 4.0mm² cables.
Line monitoring :	Min. 500 Ohm 2w, or 3k3 Ohm 0.5w res. or diode (dc versions).
Weight :	5.00kg

*Candela measurements representative of performance with red lens at optimum voltage.

Features:

- Omni-directional sound output.
- Glass dome with optically enhanced prismatic PC lens.
- Stainless Steel guard.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- The sounder & beacon may be connected from a single supply for simultaneous operation or from separate supplies for independent operation.
- 'Programmable' version available:
  - 45 alarm tones
  - 4 remotely selectable stages
  - Any tone can be assigned to any stage
  - User configurable continuous frequency tone

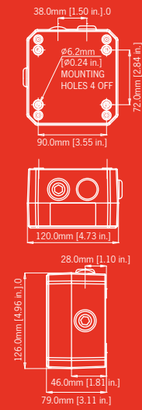
Approvals:

- ATEX certificate: KEMA 01ATEX2223X, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0025, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B03365
- Safety-integrity suitability: SIL1

GOST-R

GNExCP6A-BG Break Glass Call Point

The GNExCP6A manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6A
Version:	BG: Break Glass
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black

e.g: GNExCP6A-BG-S-N-N-N-RD
: GNExCP6A call point - Break Glass type - Single Pole switch - Nylon stopping plugs - No LIft flap - No duty label required - Red colour housing

Versions:

GNExC6PA

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight:	0.8Kg

Specification:

GNExCP6A:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.
Test:	Test key facility
Weight:	1.2Kg

For applications requiring monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6B-BG version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- Metalised polyester or stainless steel “Duty” label.

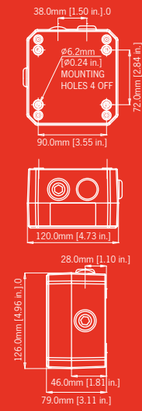
Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1

GNExCP6B-BG Break Glass Call Point

The GNExCP6B manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. All types are available with EOL or series resistors, diode or Zener diodes or an L.E.D. indicator and also with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6B
Version:	BG: Break Glass
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black
Nominal Voltage dc:	48 / 24 / 12 / 06
EOL Module:	ExxxR: Resistor e.g.470 Ohm = E470R ED1: Diode IN4007: ED1 ExxxZ: Zener e.g. 5.1V = E5V1Z
Series Module:	SxxxR: Resistor e.g. 2.2K Ohm = S2K2R ED1: Diode IN4007: ED1 SxxxZ: Zener e.g.12V = S12VZ L.E.D.: LED

e.g.: GNExCP6B-BG-S-N-S-L-N-RD-24-E470R-S10KR
: GNExCP6B call point - Break Glass type - Single Pole switch - Nylon stopping plugs - Standard terminals - Lift flap - No duty label - Red housing - 24V - 470R E.O.L resistor - 10K Series resistor

* Note: When ordering GNExCP6B units with DPCO double pole switches, DIN Rail type terminals must be specified. Please contact sales to discuss available configurations of EOL or series resistors and diodes when using DPCO.

Versions:

The GNExCP6B call point can contain a maximum of two resistor or diode E.O.L. or series modules. The L.E.D. indicator can be combined with an EOL resistor or diode.

Resistors:

Nominal Voltage:	Max Voltage:	Min. Series Value:	Max Current:
48V	56V	1K8	0.75A
24V	28V	470R	1.00A
12V	15V	120R	1.00A
6V	9V	47R	1.00A

Zener Diodes:

Zener Voltage:	Max Input Volt.:	Max Current:
3.3V	56V dc	230mA
4.7V	56V dc	162mA
5.1V	56V dc	149mA
5.6V	56V dc	136mA
6.2V	56V dc	122mA
6.8V	56V dc	112mA
10V	56V dc	76mA
12V	56V dc	63mA

Diodes:

Max Voltage:	Max Current:
<56V dc	0.75A
<50V dc	1.00A

Specification:

GNExCP6B:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T80°C Db IP66
Ambient:	Ta = -40°C to +50°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² / 8 x 2.5mm²
Test:	Test key facility
Weight:	1.2Kg

For applications that do not require monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6A-BG version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- DIN rail mounted terminal blocks: 8 x 2.5mm².
- Metalised polyester or stainless steel “Duty” label.
- Series and/or End of Line resistors, diodes & Zener diodes
- Indicator L.E.D..

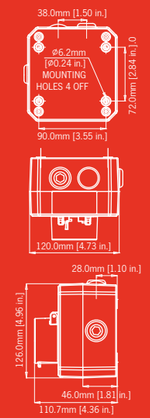
Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1

GNExCP6A-PB Push Button Call Point

The GNExCP6A manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6A
Version:	PB: Push Buttons
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black

e.g: GNExCP6A-BG-S-N-N-N-RD
: GNExCP6A call point - Break Glass type - Single Pole switch - Nylon stopping plugs - No LIft flap - No duty label required - Red colour housing

Versions:

GNExC6PA

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right

Specification:

GNExCP6A:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.
Weight:	1.3Kg

For applications requiring monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6B-PB version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- Metalised polyester or stainless steel “Duty” label.

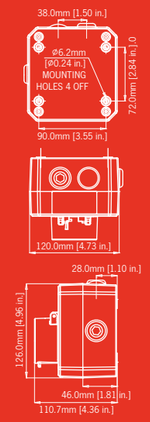
Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1

GNExCP6B-PB Push Button Call Point

The GNExCP6B manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. All types are available with EOL or series resistors, diode or Zener diodes or an L.E.D. indicator and also with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6B
Version:	PB: Push Button
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black
Nominal Voltage dc:	48 / 24 / 12 / 06
EOL Module:	ExxxR: Resistor e.g.470 Ohm = E470R ED1: Diode IN4007: ED1 ExxxZ: Zener e.g. 5.1V = E5V1Z
Series Module:	SxxxR: Resistor e.g. 2.2K Ohm = S2K2R ED1: Diode IN4007: ED1 SxxxZ: Zener e.g.12V = S12VZ L.E.D.: LED

e.g.: GNExCP6B-PB-S-N-S-N-RD-24-E470R-S10KR
: GNExCP6B call point - Push Button type - Single Pole switch - Nylon stopping plugs - Standard terminals - No duty label - Red housing - 24V - 470R E.O.L resistor - 10K Series resistor

* Note: When ordering GNExCP6B units with DPCO double pole switches, DIN Rail type terminals must be specified. Please contact sales to discuss available configurations of EOL or series resistors and diodes when using DPCO.

Versions:

The GNExCP6B call point can contain a maximum of two resistor or diode E.O.L. or series modules. The L.E.D. indicator can be combined with an E.O.L. resistor or diode.

Resistors:

Nominal Voltage:	Max Voltage:	Min. Series Value:	Max Current:
48V	56V	1K8	0.75A
24V	28V	470R	1.00A
12V	15V	120R	1.00A
6V	9V	47R	1.00A

Zener Diodes:

Zener Voltage:	Max Input Volt.:	Max Current:
3.3V	56V dc	230mA
4.7V	56V dc	162mA
5.1V	56V dc	149mA
5.6V	56V dc	136mA
6.2V	56V dc	122mA
6.8V	56V dc	112mA
10V	56V dc	76mA
12V	56V dc	63mA

Diodes:

Max Voltage:	Max Current:
<56V dc	0.75A
<50V dc	1.00A

Specification:

GNExCP6B:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T80°C Db IP66
Ambient:	Ta = -40°C to +50°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² / 8 x 2.5mm²
Weight:	1.3Kg

For applications that do not require monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6A-PB version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- DIN rail mounted terminal blocks: 8 x 2.5mm².
- Metalised polyester or stainless steel "Duty" label.
- Series and/or End of Line resistors, diodes & Zener diodes
- Indicator L.E.D.

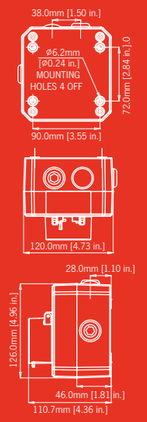
Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1

GNExCP6A-PT Tool Reset Call Point

The GNExCP6A manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6A
Version:	PT: Tool Reset
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black

e.g: GNExCP6A-BG-S-N-N-N-RD
: GNExCP6A call point - Break Glass type - Single Pole switch - Nylon stopping plugs - No LIft flap - No duty label required - Red colour housing

Versions:

GNExC6PA

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right

Specification:

GNExCP6A:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
Ambient:	Ta = -40°C to +55°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.
Weight:	1.3Kg

For applications requiring monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6B-PT version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- Metalised polyester or stainless steel “Duty” label.

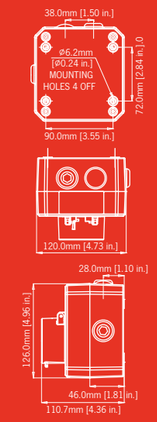
Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1

GNExCP6B-PT Tool Reset Call Point

The GNExCP6B manual call points are available as break glass, push button or tool reset versions. They are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. All types are available with EOL or series resistors, diode or Zener diodes or an L.E.D. indicator and also with either single or double pole change over switches. All versions are certified to ATEX and IECEx standards.



Part Codes:

Type:	GNExCP6B
Version:	PT: Tool Reset
Switch Type:	S: SPCO D: DPCO
Stopping plug Type:	N: Nylon B: Brass S: St/St
Lift Flap:	N: No flap L: Lift flap
Duty Label:	N: Not required P: Metalisedpolyester (self adhesive) S: St/St
Body Colour:	RD: Red BL: Blue GN: Green YW: Yellow RW: Red/White YB: Yellow/Black BK: Black
Nominal Voltage dc:	48 / 24 / 12 / 06
EOL Module:	ExxxR: Resistor e.g.470 Ohm = E470R ED1: Diode IN4007: ED1 ExxxZ: Zener e.g. 5.1V = E5V1Z
Series Module:	SxxxR: Resistor e.g. 2.2K Ohm = S2K2R ED1: Diode IN4007: ED1 SxxxZ: Zener e.g.12V = S12VZ L.E.D.: LED

e.g.: GNExCP6B-PT-S-N-S-N-RD-24-E470R-S10KR
: GNExCP6B call point - Tool Reset type - Single Pole switch - Nylon stopping plugs - Standard terminals - No duty label - Red housing - 24V - 470R E.O.L resistor - 10K Series resistor

* Note: When ordering GNExCP6B units with DPCO double pole switches, DIN Rail type terminals must be specified. Please contact sales to discuss available configurations of EOL or series resistors and diodes when using DPCO.

Versions:

The GNExCP6B call point can contain a maximum of two resistor or diode E.O.L. or series modules. The L.E.D. indicator can be combined with an E.O.L. resistor or diode.

Resistors:

Nominal Voltage:	Max Voltage:	Min. Series Value:	Max Current:
48V	56V	1K8	0.75A
24V	28V	470R	1.00A
12V	15V	120R	1.00A
6V	9V	47R	1.00A

Zener Diodes:

Zener Voltage:	Max Input Volt.:	Max Current:
3.3V	56V dc	230mA
4.7V	56V dc	162mA
5.1V	56V dc	149mA
5.6V	56V dc	136mA
6.2V	56V dc	122mA
6.8V	56V dc	112mA
10V	56V dc	76mA
12V	56V dc	63mA

Diodes:

Max Voltage:	Max Current:
<56V dc	0.75A
<50V dc	1.00A

Specification:

GNExCP6B:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T80°C Db IP66
Ambient:	Ta = -40°C to +50°C
Ingress protection:	IP66
Housing material:	GRP - glass reinforced polyester (UV stable)
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² / 8 x 2.5mm²
Weight:	1.3Kg

For applications that do not require monitoring resistors, diodes or inidcator L.E.D.'s please see the GNExCP6A-PT version.

Options:

- Alternative housing colours are available to meet specific requirements.
- Single or double pole c/o switch.
- DIN rail mounted terminal blocks: 8 x 2.5mm².
- Metalised polyester or stainless steel “Duty” label.
- Series and/or End of Line resistors, diodes & Zener diodes
- Indicator L.E.D.

Approvals:

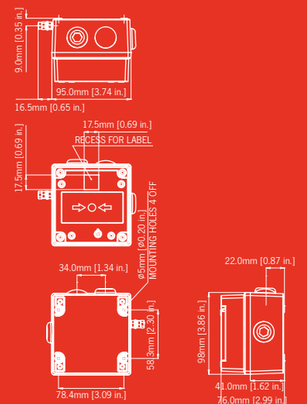
- ATEX certificate: Sira 09ATEX3286X,
  IEC 60079-0:2007 Ed 5, EN 60079-1:2004,
  EN 60079-7:2007, IEC 60079-18:2009 Ed 3,
  EN 61241-1:2004

- IECEx certificate: IECEx SIR 09.0121X,
  IEC 60079-0:2007-10 Edition: 5,
  IEC 60079-1:2003 Edition: 5,
  IEC 60079-18:2009 Edition: 3,
  IEC 60079-7:2006-07 Edition: 4,
  IEC 61241-1:2004 Edition: 1

BExCP3A/B-BG Break Glass Call Point

The BExCP3A-BG and BExCP3B-BG break glass manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The BEx range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	BExCP3A-BG BExCP3B-BG
Terminals:	ST: Standard DR: DIN Rail
Lift Flap:	NF: No flap (default) LF: Lift flap
Duty Label:	NL: No Label (default) DL: Duty Label Specify content when ordering
Colour:	RD: Red Contact sales for other colour options
Nominal Voltage:	48V / 24V / 12V / 6V System Voltage only required on BExCP3B version
EOL Resistor:	ExxxR: xxx Res. value e.g.: E470R Only available on BExCP3B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on BExCP3B version

e.g. BEx-CP3A-BG-ST-LF-NL-RD
: BEx-CP3A Break glass call point with standard terminals, lift flap and no duty label. Red housing

e.g. BEx-CP3B-BG-DR-NF-NL-RD-24V-E470R
: BEx-CP3B Break glass call point with DIN rail terminals, no lift flap, no duty label, 24V supply voltage with a 470 Ohm end of line resistor. Red housing.

Versions:

BExCP3A-BG

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

BExCP3B-BG

Category:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +50°C
Voltage:	56V dc Max. Rating: <50V: 1.0A >50V: 0.75A
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

Nominal Voltage:	Max Voltage:	Min. E.O.L. Series Value:
48V	56V	1K8
24V	28V	470R
12V	15V	120R
6V	9V	47R

Specification:

BExCP3A-BG:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
BExCP3B-BG:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C (+50°C for BExCP3B)
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Stainless Steel lift flap
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1
- Inmetro certificate: 10-IEx-0011X
- GOST-R certificate: POCC GB.JB05.B03365
- Complies with design requirements of EN54-11

GOST-R

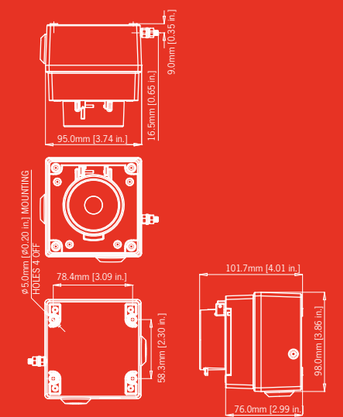
INMETRO

BExCP3A/B-PB Push Button Call Point

The BExCP3A-PB and BExCP3B-PB push button manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The push button mechanism is protected by a spring loaded cover therefore the switch requires a two-action activation. The product is user resettable by rotating the push button.

The BEx range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	BExCP3A-PB BExCP3B-PB
Terminals:	ST: Standard DR: DIN Rail
Lift Flap:	NF: No flap (default) LF: Lift flap
Duty Label:	NL: No Label (default) DL: Duty Label Specify content when ordering
Colour:	RD: Red Contact sales for other colour options
Nominal Voltage:	48V / 24V / 12V / 6V System Voltage only required on BExCP3B version
EOL Resistor:	ExxxR: xxx Res. value e.g.: E470R Only available on BExCP3B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on BExCP3B version

e.g. BExCP3A-PB-ST-NL-RD
: BEx-CP3A Push Button call point with standard terminals and no duty label. Red housing

e.g. BExCP3B-PB-DR-NL-RD-24V-E470R
: BEx-CP3B Push Button call point with DIN rail terminals, no duty label, 24V supply voltage with a 470 Ohm end of line resistor. Red housing.

Versions:

BExCP3A-PB

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

BExCP3B-PB

Category:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +50°C
Voltage:	56V dc Max. Rating: <50V: 1.0A >50V: 0.75A
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

Nominal Voltage:	Max Voltage:	Min. E.O.L. Series Value:
48V	56V	1K8
24V	28V	470R
12V	15V	120R
6V	9V	47R

Specification:

BExCP3A-PB:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
BExCP3B-PB:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C (+50°C for BExCP3B)
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1
- Inmetro certificate: 10-IEx-0011X
- GOST-R certificate: POCC GB.JB05.B03365

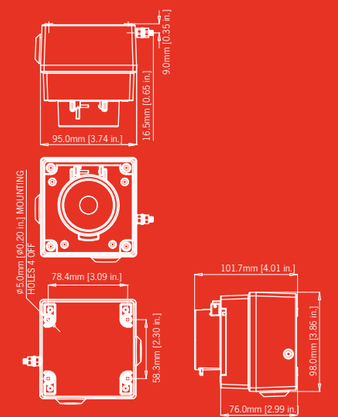
GOST-R

INMETRO

BExCP3A/B-PT Tool Reset Call Point

The BExCP3A-PT and BExCP3B-PT push button, tool resettable manual call points are approved for Zone 1, 2, 21 and 22 hazardous areas for the control of fire and gas alarm systems. Available with and without monitoring resistors all versions are certified to ATEX and IECEx standards.

The push button mechanism is protected by a spring loaded cover therefore the switch requires a two-action activation. The push button is user resettable via the use of the special key supplied with the unit. The BEx range features enclosures manufactured from corrosion proof, marine grade, copper free LM6 (A413) aluminium which is phosphated and powder coated.



Part Codes:

Type:	BExCP3A-PT BExCP3B-PT
Terminals:	ST: Standard DR: DIN Rail
Lift Flap:	NF: No flap (default) LF: Lift flap
Duty Label:	NL: No Label (default) DL: Duty Label Specify content when ordering
Colour:	RD: Red Contact sales for other colour options
Nominal Voltage:	48V / 24V / 12V / 6V System Voltage only required on BExCP3B version
EOL Resistor:	ExxxR: xxx Res. value e.g.: E470R Only available on BExCP3B version
Series Resistor:	SxxxR: xxx: Res. value e.g.: S2K2R Only available on BExCP3B version

e.g. BExCP3A-PT-ST-NL-RD
: BEx-CP3A Tool Reset call point with standard terminals and no duty label. Red housing

e.g. BExCP3B-PT-DR-NL-RD-24V-E470R
: BEx-CP3B Tool Reset call point with DIN rail terminals, no duty label, 24V supply voltage with a 470 Ohm end of line resistor. Red housing.

Versions:

BExCP3A-PT

Category:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66 Ta = -40°C to +55°C
Voltage:	250V ac Max. 50V dc Max.
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm²
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

BExCP3B-PT

Category:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66 Ta = -40°C to +50°C
Voltage:	56V dc Max. Rating: <50V: 1.0A >50V: 0.75A
Switch rating:	5.0A Max. 1.0A Max.
Monitoring Resistors:	No
Terminals:	6 x 4mm² or 8 x 2.5mm² DIN rail
Cable entries:	2 x M20 Top/Bottom 1 x M20 Left/Right
Weight: 0.8Kg	

Nominal Voltage:	Max Voltage:	Min. E.O.L. Series Value:
48V	56V	1K8
24V	28V	470R
12V	15V	120R
6V	9V	47R

Specification:

BExCP3A-PT:	II 2G Ex e d IIC T6 Gb II 2D Ex t IIIC T60°C Db IP66
BExCP3B-PT:	II 2G Ex e d mb IIC T4 Gb II 2D Ex t IIIC T70°C Db IP66
Ambient:	Ta = -40°C to +55°C (+50°C for BExCP3B)
Ingress protection:	IP66
Housing material:	Marine grade copper free LM6 Aluminium
Housing finish:	Phosphated & powder coated finish: anti-corrosion.
Colour:	RAL3000 Red (others available on request)
Cable entries:	2 x M20 clearance top and 1 x M20 clearance side. Back box can be rotated to give 2 x bottom and 1 x side entries.
Stopping plugs:	2 x Ex e nylon plugs as standard Brass and stainless steel plugs optional
Terminals:	6 x 4.0mm² cables.

Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm²
- Metalised Polyester “Duty” label.
- Series and/or End of Line resistors.

Approvals:

- ATEX certificate: Sira 09ATEX3286X, IEC 60079-0:2007 Ed 5, EN 60079-1:2004, EN 60079-7:2007, IEC 60079-18:2009 Ed 3, EN 61241-1:2004
- IECEx certificate: IECEx SIR 09.0121X, IEC 60079-0:2007-10 Edition: 5, IEC 60079-1:2003 Edition: 5, IEC 60079-18:2009 Edition: 3, IEC 60079-7:2006-07 Edition: 4, IEC 61241-1:2004 Edition: 1
- Inmetro certificate: 10-IEx-0011X
- GOST-R certificate: POCC GB.JB05.B03365

GOST-R

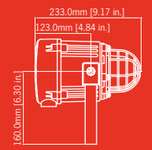
INMETRO

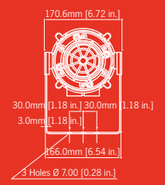
E2xB05 Xenon Strobe Beacon

The hazardous area E2xB05 Xenon strobe beacon is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

The E2xB05 is a 5 Joule Xenon strobe beacon with a 1Hz (60 fpm) flash rate.

The E2x range features enclosures manufactured from lightweight, high performance PPS which, with its corrosion proof properties, is suitable for the harshest of environments.





Part codes:

Part Code:	Classification:
ATEX version:	
E2xB05EG**	II 3G EEx nA nL IIC T2 (Tamb -20°C to +55°C) II 3G EEx nA nL IIC T3 (Tamb -20°C to +40°C)
UL version:	
E2xB05UL**	Class I, Div 2, Grps A,B,C,D T2D (215°C) at +55°C Class I, Div 2, Grps A,B,C,D T3 (200°C) at +40°C Class II, Div 2, Grps F & G T5 (100°C) at +55°C Class II, Div 2, Grps F & G T6 (85°C) at +40°C Class III, Div 1, T5 (100°C) at +55°C Class III, Div 1, T6 (85°C) at +40°C

** = Voltage & lens colour reference:

Voltage options: 12DC, 24DC, 48DC, 115AC, 230AC			
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red)	-CL (Clear) -YW (Yellow)
e.g: E2xB05EG115AC-AM			
Replacement Xenon flash tube: FTASSYE2X			

Current consumption:

Version:		Voltage:	Current:
12V dc		10-14V dc	520mA
24V dc		20-28V dc	275mA
48V dc		42-58V dc	145mA
115V ac	50/60Hz	+/-10%	80mA
230V ac	50/60Hz	+/-10%	30mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	31,950 cd* - measured ref. to I.E.S.
Effective candela:	101 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	12vdc; 24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable gland entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	1.48kg

* All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Stainless Steel dome guard as standard
- Xenon tube mechanically secured against vibration & shock.
- User replaceable Xenon tube assembly.

Approvals:

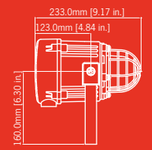
- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E245313

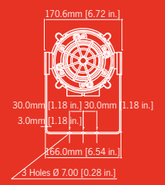
E2xB10 Xenon Strobe Beacon

The hazardous area E2xB10 Xenon strobe beacon is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

The E2xB10 is a 10 Joule Xenon strobe beacon with a 1Hz (60 fpm) flash rate.

The E2x range features enclosures manufactured from lightweight, high performance PPS which, with its corrosion proof properties, is suitable for the harshest of environments.





Part codes:

Part Code:	Classification:
ATEX version:	
E2xB10EG**	II 3G EEx nA nL IIC T2 (Tamb -20°C to +55°C)
UL version:	
E2xB10UL**	Class I, Div 2, Grps A,B,C,D T2A (280°C) at +55°C Class II, Div 2, Grps F & G T4A (120°C) at +55°C Class II, Div 2, Grps F & G T5 (100°C) at +40°C Class III, Div 1, T4A (120°C) at +55°C Class III, Div 1, T5 (100°C) at +40°C

** = Voltage & lens colour reference:

Voltage options:	24DC, 48DC, 115AC, 230AC		
Lens colour options:	-AM (Amber) -GN (Green)	-BL (Blue) -RD (Red)	-CL (Clear) -YW (Yellow)
e.g: E2xB10EG230AC-RD			
Replacement Xenon flash tube: FTASSYE2X			

Current consumption:

Version:		Voltage:	Current:
24V dc		20-28V dc	560mA
48V dc		42-58V dc	260mA
115V ac	50/60Hz	+/-10%	185mA
230V ac	50/60Hz	+/-10%	107mA

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Specification:

Energy:	10 Joules (10Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	1,000,000 cd - calc. from energy (J)
Effective candela:	500 cd - calc. from energy (J)
Peak Candela:	57,270 cd* - measured ref. to I.E.S.
Effective candela:	255 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
Voltages DC:	24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable gland entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	1.48kg

* All candela data is representative of performance with clear lens at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Stainless Steel dome guard as standard
- Xenon tube mechanically secured against vibration/shock.
- User replaceable Xenon tube assembly.

Approvals:

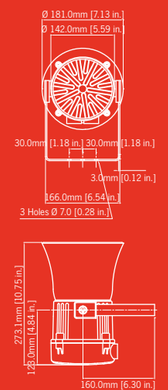
- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E245313

E2xS112 Alarm Sounder/Horn

The hazardous area E2xS112 alarm sounder is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

With a nominal sound level output of 116dB(A) at 1 metre and a choice of 45 alarm tones and 3 remotely selectable stages the E2xS112 alarm sounder horn is suitable for all general signalling duties.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Part Code:	Classification:
ATEX version:	
E2xS112EG**	II 3G EEx nA nL IIC T4 (Tamb -20°C to +55°C)
UL version:	
E2xS112UL**	Class I, Div 2, Grps A,B,C,D T3C (160°C) at +55°C Class I, Div 2, Grps A,B,C,D T4 (135°C) at +40°C Class II, Div 2, Grps F & G T6 (85°C) at +55°C Class III, Div 1, T6 (85°C) at +55°C

** = Voltage reference:

Options:	24DC, 48DC, 115AC, 230AC
e.g: E2xS112UL24DC	

Current consumption:

Version:		Voltage:	Current:
24V dc		10-30vdc	284mA
48V dc		38-58vdc	146mA
115V ac	50/60Hz	+/-10%	104mA
230V ac	50/60Hz	+/-10%	54mA

Specification:

Maximum output:	116dB(A) @ 1 metre
Nominal output:	113dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 113dB(A); Min. 105dB(A) - Tone 2
Effective range:	100m @ 1KHz
Voltages DC:	24vdc (10-30vdc); 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	DC: 2.5kg AC: 3.00kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

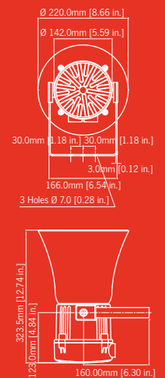
- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764

E2xS121 Alarm Sounder/Horn

The hazardous area E2xS121 alarm sounder is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

With a maximum sound level output of 121dB(A) at 1 metre and a choice of 45 alarm tones and 3 remotely selectable stages the E2xS121 alarm sounder horn is suitable for all signalling applications with high ambient noise levels.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34

Country specific or custom tone configurations and alarm frequencies are available upon request.

Part codes:

Part Code:	Classification:
ATEX version:	
E2xS121EG**	II 3G EEx nA nL IIC T4 (Tamb -20°C to +55°C)
UL version:	
E2xS121UL**	Class I, Div 2, Grps A,B,C,D T3C (160°C) at +55°C Class I, Div 2, Grps A,B,C,D T4 (135°C) at +40°C Class II, Div 2, Grps F & G T6 (85°C) at +55°C Class III, Div 1, T6 (85°C) at +55°C

** = Voltage reference:

Options:	24DC, 48DC, 115AC, 230AC

Current consumption:

Version:		Voltage:	Current:
24V dc		10-30vdc	280mA
48V dc		38-58vdc	215mA
115V ac	50/60Hz	+/-10%	142mA
230V ac	50/60Hz	+/-10%	76mA

Specification:

Maximum output:	121dB(A) @ 1 metre
Nominal output:	117dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 117dB(A); Min. 111dB(A) - Tone 2
Effective range:	200m @ 1KHz
Voltages DC:	24vdc (10-30vdc); 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable gland entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	DC: 2.75kg AC: 3.25kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

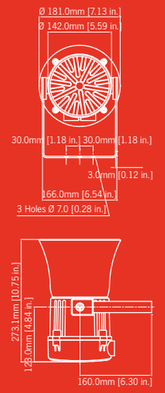
- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764

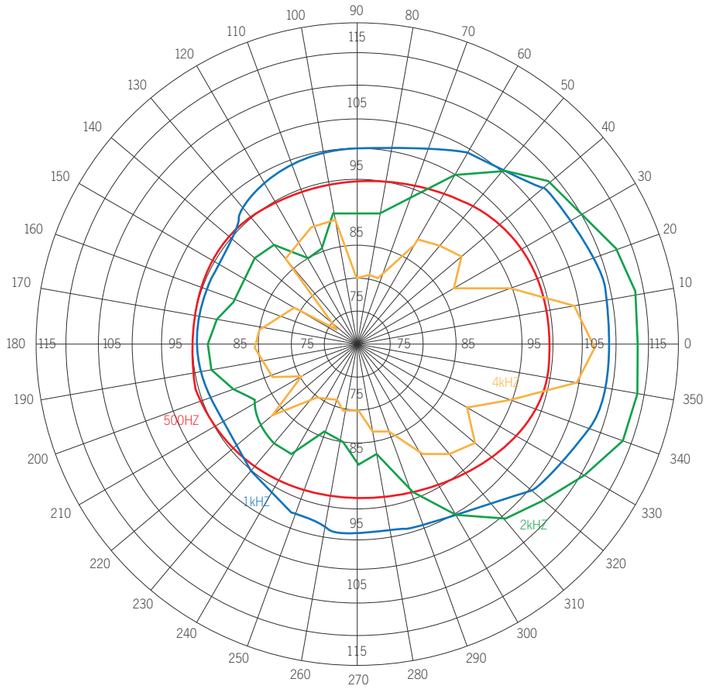
E2xL15 PA Loudspeakers

The hazardous area E2xL15 PA loudspeaker is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

The E2xL15 is available with either a 70V or 100V line transformer or as a low impedance loudspeaker.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.





Part codes:

Part Code:	Classification:
ATEX version:	
E2xL15EG**	II 3G EEx nA IIC T4 (Tamb -20°C to +55°C)
UL version:	
E2xL15UL**	Class I, Div 2, Grps A,B,C,D T4 (135°C) at +55°C Class I, Div 2, Grps A,B,C,D T4A (120°C) at +40°C Class II, Div 2, Grps F & G T6 (85°C) at +55°C Class III, Div 1, T6 (85°C) at +40°C

** = Type reference:

Options:	70V	70V Line transformer
	100V	100V Line transformer
	8R	8 Ohm low impedance
	16R	16 Ohm low impedance

e.g: E2xL15UL100V

Specification:

SPL:	108dB +/-3dB @ 1w @ 1m (Pink) 118dB +/-3dB @ 15w @ 1m (Rated)
Rated power:	15 Watts RMS
70v line tappings:	15w / 7.5w / 3w / 1w (z=336.67 Ohms / 653.33 Ohms / 1.6k Ohms / 4.9k Ohms)
100v line tappings:	15w / 7.5w / 3w / 1w (z=666.87 Ohms /1.34k Ohms / 3.34k Ohms / 10k Ohms)
Low impedence:	8 Ohm (I/P: 10.95V) or 16 Ohm (I/P: 15.49V)
Dispersion:	120° @ 1kHz & 32° @ 4kHz
Frequency range:	400Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer)
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	Low impedance: 2.5kg Transformer: 3.00kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Transformer type fitted with thermal fuse
- Complies with BS5839 part 8

Approvals:

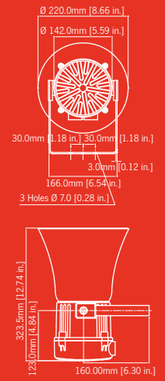
- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764

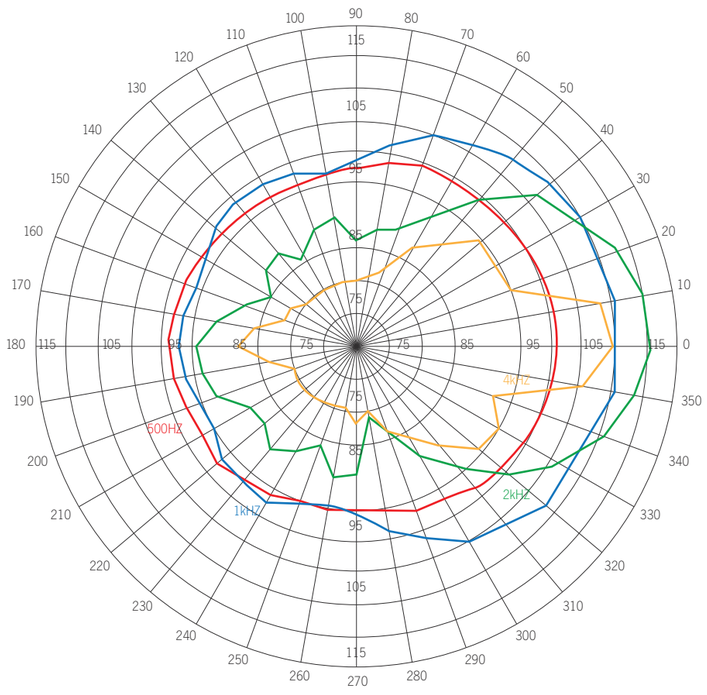
E2xL25 PA Loudspeakers

The hazardous area E2xL25 PA loudspeaker is UL approved for Class I Div 2 applications.

The E2xL25 is available with either a 70V or 100V line transformer or as a low impedance loudspeaker.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.





Part codes:

Part Code:	Classification:
UL version:	
E2xL25UL**	Class I, Div 2, Grps A,B,C,D T2C (230°C) at +55°C Class I, Div 2, Grps A,B,C,D T2D (215°C) at +40°C Class II, Div 2, Grps F & G T5 (100°C) at +55°C Class II, Div 2, Grps F & G T6 (85°C) at +40°C Class III, Divs 1 & 2, T5 (100°C) at +55°C Class III, Divs 1 & 2, T6 (85°C) at +40°C

** = Type reference:

Options:	70V	70V Line transformer
	100V	100V Line transformer
	8R	8 Ohm low impedance
	16R	16 Ohm low impedance

e.g: E2xL25UL100V

Specification:

SPL:	111dB +/-3dB @ 1w @ 1m - Pink 124dB +/-3dB @ 25w (rated) @ 1m
Rated power:	25 Watts RMS
70v line tappings:	25w / 12.5w / 6w / 2w tappings (z=196 Ohms / 392 Ohms / 816.67 Ohms / 2.45k Ohms)
100v line tappings:	25w / 12.5w / 6w / 2w tappings (z=400 Ohms / 800 Ohms / 1.67k Ohms / 5k Ohms)
Low impedence:	8 Ohm or 16 Ohm
Dispersion:	130° @ 1kHz & 32° @ 4kHz
Frequency range:	300Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer)
Ingress protection:	UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable gland entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	Low impedance: 2.75kg Transformer: 3.25kg

*SPL data +/-3dB(A). Measured at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Transformer type fitted with thermal fuse
- Complies with BS5839 part 8

Approvals:

- UL File ref: E230764

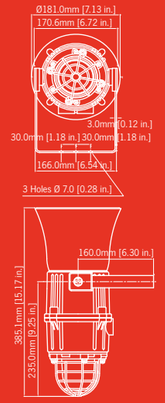
E2xCS112-5

Combined Alarm Sounder and Xenon Strobe Beacon

The hazardous area E2xCS112-5 combined alarm sounder and Xenon strobe beacon is ATEX certified for Zone 2 and also UL approved for Class I Div 2 applications.

The E2xCS112-5 combines a 116dB(A) alarm sounder with a 5 Joule Xenon strobe beacon providing a complete audio-visual signalling solution whilst reducing the installation time and costs associated with multiple unit installations.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.



Tone table:

Stage 1	Frequency Description.	Stage 2	Stage 3
Tone 1	340 Hz Continuous	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	Tone 6	Tone 5
Tone 5	2400Hz Continuous	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	Tone 4	Tone 5
Tone 15	800Hz Continuous	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s -NFC48-265	Tone 2	Tone 5
Tone 20	660Hz Continuous	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	Tone 29	Tone 5
Tone 26	Bell	Tone 2	Tone 15
Tone 27	554Hz Continuous	Tone 26	Tone 5
Tone 28	440Hz Continuous	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	Tone 7	Tone 5
Tone 30	300Hz Continuous	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	Tone 26	Tone 5
Tone 32	Two tone chime.	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac.	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	Tone 9	Tone 45
Tone 38	2000Hz Continuous	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	Tone 38	Tone 34

Country specific or custom tone configurations and alarm frequencies are available upon request.

Effective Candela lens colour factor:

Amber	Blue	Clear	Green	Red	Yellow
0.51	0.12	1.00	0.49	0.15	0.86

Part codes:

Part Code:	Classification:
ATEX version:	
E2xCS1125EG**	II 3G EEx nA nL IIC T2 (Tamb -20°C to +55°C) II 3G EEx nA nL IIC T3 (Tamb -20°C to +40°C)
UL version:	
E2xCS1125UL**	Class I, Div 2, Grps A,B,C,D T2D (215°C) at +55°C Class I, Div 2, Grps A,B,C,D T3 (200°C) at +40°C Class II, Div 2, Grps F & G T6 (85°C) at +40°C Class II, Div 2, Grps F & G T5 (85°C) at +55°C Class III, Div 1, T6 (85°C) at +40°C Class III, Div 1, T5 (100°C) at +55°C

** = Voltage & lens colour reference:

Voltage options:	12DC, 24DC, 48DC, 115AC, 230AC
Lens colour options:	-AM (Amber) -BL (Blue) -CL (Clear) -GN (Green) -RD (Red) -YW (Yellow)

Replacement Xenon flash tube: FTASSYE2X

Current consumption:

	Alarm Sounder		Xenon Beacon	
Version:	**Voltage:**	**Current:**	**Voltage:**	**Current**
24V dc	10-30V dc	284mA	20-28V dc	275mA
48V dc	38-58V dc	146mA	42-58V dc	145mA
115V ac 50/60Hz	+/-10%	104mA	+/-10%	80mA
230V ac 50/60Hz	+/-10%	54mA	+/-10%	30mA

Specification:

Alarm Sounder:	
Maximum output:	116dB(A) @ 1 metre
Nominal output:	113dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 113dB(A); Min. 105dB(A) - Tone 2
Effective range:	100m @ 1KHz
Beacon:	
Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	500,000 cd - calc. from energy (J)
Effective candela:	250 cd - calc. from energy (J)
Peak Candela:	31,950 cd* - measured ref. to I.E.S.
Effective candela:	101 cd* - measured ref. to I.E.S.
Lens colours:	Amber, Blue, Clear, Green, Red & Yellow
General:	
Voltages DC:	24vdc; 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2"NPT cable gland entry
Terminals (ATEX):	0.5 to 4.0mm² - In & Out
Weight :	DC: 3.00Kg AC: 3.50kg

*Candela measurements representative of performance with clear lens at optimum voltage.

Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Stainless Steel dome guard as standard
- Xenon tube mechanically secured against vibration/shock.
- User replaceable Xenon tube assembly.
- Automatic synchronisation on multi-sounder system.

Approvals:

- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764