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.

Features:

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

Approvals:

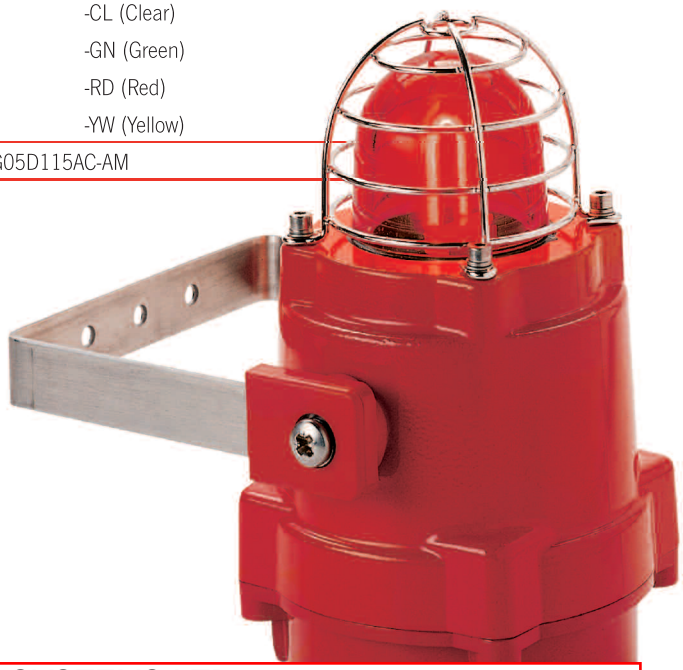
- ATEX certificate: KEMA 00ATEX2006, EN 60079-0 : 2006, EN 60079-1 : 2007, EN 61241-0 : 2006, EN 61241-1 : 2004
- IECEx certificate: IECEx KEM 10.0002, IEC 60079-0 : 2004 (Ed4), IEC 60079-1 : 2007 (Ed6), IEC 61241-0 : 2004 (Ed1), IEC 61241-1 : 2004 (Ed1)
- GOST-R certificate: POCC GB.JB05.B02205
- Inmetro certificate: 10-IEx-0010

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)
	-BL (Blue)
	-CL (Clear)
	-GN (Green)
	-RD (Red)
	-YW (Yellow)
e.g:	BExTBG05D115AC-AM



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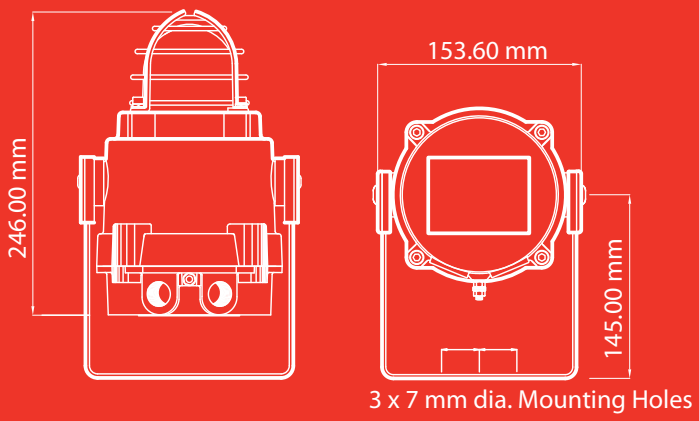

Specification:

Energy:	5 Joules (5Ws)
Flash rate:	1Hz (60 fpm)
Peak Candela:	34,812 cd
Effective Intensity cd:	105 cd*
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 included)
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

Current consumption:

Version:		Voltage range:	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

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

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.

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INSTRUCTION MANUAL (ATEX / IECEx)
BExTBG05D Flameproof Flashtel
For use in Flammable Gas and Dust

1) Introduction

The BExTBG05D is a flameproof Flashtel which is certified to meet the requirements of the ATEX directive 94/9/EC and IECEx scheme. The Flashtel produces a visual warning signal when triggered by a telephone ringing signal and can be used in hazardous areas where potentially flammable gas and dust atmospheres may be present. The BExTBG05D has a flash energy level of 5 joules and can be used in Zone 1 and Zone 2 areas with gases in groups IIA, IIB and IIC and Temperature Classifications of T1, T2, T3 andT4. The unit can also be used in a temperature classification T5, if the upper ambient temperature is restricted to +55ºC and T6 if the upper ambient temperature is restricted to +40ºC. The unit can be used in Zone 21 and Zone 22 areas for combustible dusts and has an IP rating of IP 67 and a surface temperature rating of T110ºC or T95ºC if the upper ambient temperature is restricted to +55ºC and T85ºC if the upper ambient temperature is restricted to +40ºC.

2) Marking

All units have a rating label, which carries the following important information:-

Unit Type No. BExTBG05D

Input Voltage: 230V or 115V

Codes: Ex d IIC T4 for Ta –50ºC to +70ºC
Ex d IIC T5 for Ta –50ºC to +55ºC
Ex d IIC T6 for Ta –50ºC to +40ºC
Ex tD A21 IP67 T115ºC based on max. Ta of +70ºC

Certificate No's KEMA 00ATEX2006
IECEx KEM 10.0002

Epsilon x Equipment Group and Category: **II 2G/D**

CE Marking Notified Body No. **0518**

"Warnings" DO NOT OPEN WHEN AN EXPLOSIVE GAS OR DUST ATMOSPHERE IS PRESENT

COVER BOLTS CLASS A4-80

USE HEAT RESISTING CABLES AND CABLE GLANDS (Rated 110ºC) AT AMB. TEMPERATURES OVER 40ºC

Year of Construction / Serial No. i.e. 10 / 1DTB1300001

3) Type Approval Standards

The Flashtel has EC Type Examination and IECEx certificates issued by KEMA and has been approved to the following standards:-

EN60079-0:2006	IEC60079-0:2004 (Ed4)	General Requirements
EN60079-1:2007	IEC60079-1:2007 (Ed6)	Flameproof Enclosure 'd'
EN61241-0:2006	IEC61241-0:2004 (Ed1)	Dust General Requirements
EN61241-1:2004	IEC60079-1:2004 (Ed1)	Dust Enclosures tD

4) Installation Requirements

The Flashtel must be installed in accordance with the latest issues of the relevant parts of the EN60079 standards or the equivalent IEC standards – Selection, Installation and maintenance of electrical apparatus for use in potentially explosive atmospheres (other than mining applications or explosive processing and manufacture):-

EN60079-14:2008 IEC60079-14:2007 (Ed4)	Electrical Installations in Hazardous Areas (other than mines)
EN60079-10:2003 IEC60079-10:2008 (Ed1)	Classification of Hazardous Areas

The installation of the units must also be in accordance with any local codes that may apply and should only be carried out by a competent electrical engineer who has the necessary training.

5) Zones, Gas Group, Category, IP Rating and Temperature Classification

The BExTBG05D beacons have been certified Ex d IIC T4 for Ta –50ºC to +70ºC, Ex d IIC T5 for Ta –50ºC to +55ºC and Ex d IIC T6 for Ta –50ºC to +40ºC for gas and IP67 T115ºC based on max. Ta of +70ºC for dust. This means that the units can be installed in locations with the following conditions:-

Area Classification Gas:

Zone 1	Explosive gas air mixture likely to occur in normal operation.
Zone 2	Explosive gas air mixture not likely to occur, and if it does, it will only exist for a short time.

Gas Groupings:

Group IIA	Propane
Group IIB	Ethylene
Group IIC	Hydrogen and Acetylene

Temperature Classification:

T1	400° C
T2	300° C
T3	200° C
T4	135° C

T5	100° C	Amb. +55ºC
T6	85° C	Amb. +40ºC

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Area Classification Dust:

Zone 21	Explosive dust air mixture likely to occur in normal operation.
Zone 22	Explosive dust air mixture not likely to occur, and if it does, it will only exist for a short time.

IP Rating: IP67 T110ºC Ta ≤ +70ºC
T95ºC Ta ≤ +55ºC
T85ºC Ta ≤ +40ºC

Equipment Category: 2G/D

Ambient Temperature Range: -50ºC to +70ºC
(T5 = +55ºC)
(T6 = +40ºC)

6) Flashtel Location and Mounting

The location of the Flashtel should be made with due regard to the area over which the signal must be visible. It should only be fixed to services that can carry the weight of the unit.

The Flashtel should be securely bolted to a suitable surface using the 7mm diameter boltholes in the stainless steel U shaped mounting bracket (see figure 1). The required angle can be achieved by loosening the two large bracket screws in the side of the unit, which allow adjustment of the beacon in steps of 18°. On completion of the installation the two large bracket adjustment screws on the side of the unit must be fully tightened to ensure that the unit cannot move in service.

SAFETY WARNING:

The flashdome guard must not be removed from the unit at any time.

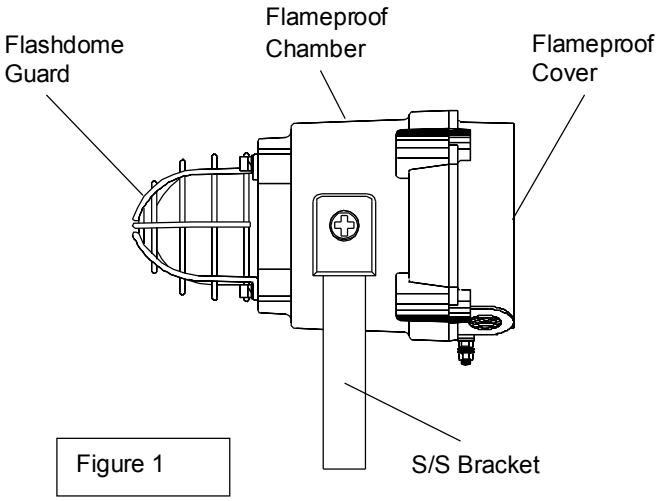

Figure 1

7) Access to the Flameproof Enclosure

In order to connect the electrical supply cable and the telephone line cable to the Flashtel it is necessary to remove the flameproof cover to gain access to the flameproof chamber. To achieve this remove the four M6 hexagon socket head screws (see figure 2) and withdraw the flameproof cover taking extreme care not to damage the flameproof joints in the process.

Note the four **M6 screws are Class A4-80 stainless steel and only screws of this category can be used on the Flashtel.** It is therefore important that these screws and their spring washers are kept in a safe place during installation.

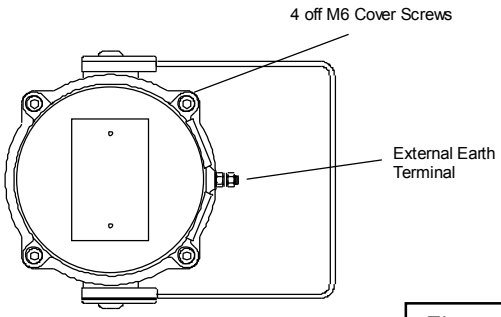

Figure 2

On completion of the cable wiring installation the flameproof joints should be inspected to ensure that they are clean and that they have not been damaged during installation. Also check that the earth bonding wire between the two casting sections is secure and the 'O' ring seal is in place. When replacing the flameproof cover casting ensure that it is square with the flameproof chamber casting before inserting. Carefully push the cover in place allowing time for the air to be expelled. Only after the cover is fully in place should the four M6 Stainless Steel A4-80 cover bolts and their spring washer be inserted and tightened down. If the cover jams while it is being inserted, carefully remove it and try again. Never use the cover bolts to force the cover into position.

8) Power Supply Selection

It is important that a suitable power supply is used to run the Flashtel. The following table shows the input current taken by the Flashtel:-

Unit Type	Nominal I/P Voltage	Input Current	Max. I/P Volts
BExTBG05D	230V AC	55mA	253V
BExTBG05D	115V AC	140mA	126V

The input current will vary according to the voltage input level. The current levels shown above are for nominal input voltage.

The above table also shows the maximum voltages at which the Flashtel can be operated.

9) Cable Selection

SAFETY WARNING: If the BExTBG05D Flashtels are used at high ambient temperatures, i.e. over +40ºC, then the cable entry temperature may exceed +70ºC and therefore suitable heat resisting cables must be used, with a rated service temperature of at least 110ºC.

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BExTBG05D Flashtel Cover Internal View

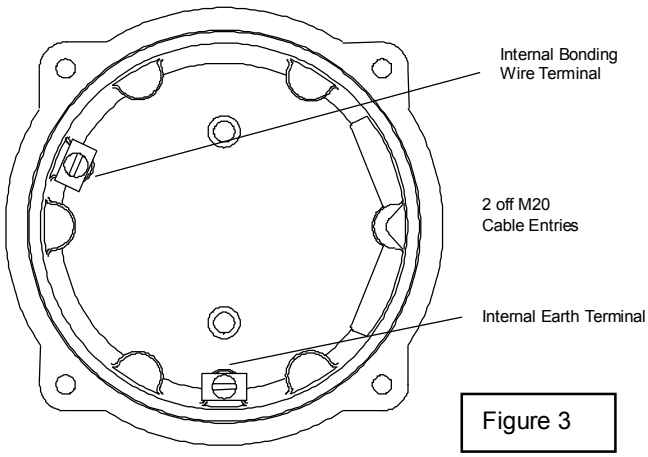

Figure 3

10) Earthing

The Flashtel unit must be connected to a good quality earth. The units are provided with internal and external earthing terminals which are both located on the terminal chamber section of the unit (see figures 2 and 3).

When using the internal earth terminal ensure that the stainless steel M4 flat washer is between the incoming earth wire and the enclosure.

When using the external earth terminal a cable crimp lug must be used. The cable lug should be located between the two M5 stainless steel flat washers. The M5 stainless steel spring washer must be fixed between the outer flat washer and the M5 stainless steel nut to ensure that the cable lug is secured against loosening and twisting.

The internal earth bonding wire ensures that a good quality earth is maintained between the flameproof chamber casting and the flameproof cover casting.

11) Cable Glands

The BExTBG05D Flashtels have dual cable gland entries which have an M20 x1.5 entry thread as standard (see cable connections section12 of this manual). Only cable glands approved for Ex 'd' applications can be used, which must be suitable for the type of cable being used and also meet the requirements of the Ex 'd' flameproof installation standard EN60079-14:2008 / IEC60079-14:2007.

When only one cable entry is used the other one must be closed with an Ex 'd' flameproof blanking plug, which must be suitably approved for the installation requirements.

For combustible dust applications, the cable entry device and blanking elements shall be in type of explosion protection increased safety "e" or flameproof enclosure "d" and shall have an IP 6X rating according to EN60529:1992.

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12) Cable Connections

The cable connections are made into the terminal blocks on the electronic pcb assembly located in the flameproof enclosure. See section 7 of this manual for access to the flameproof enclosure.

The printed circuit board has two terminal blocks, one for the mains supply input voltage and one for the telephone signal input cable (see figure 4). The mains input cable should enter the enclosure via one of the M20 cable entries and be connected to the supply terminals L and N and the telephone signal cable should enter the enclosure via the other M20 entry and be connected to the telephone terminal.

Wires having a cross sectional area of up to 4mm² can be connected to each terminal way. When connecting wires to the terminals great care should be taken to dress the wires so that when the cover is inserted into the chamber the wires do not exert excess pressure on the terminal blocks. This is particularly important when using cables with large cross sectional areas such as 2.5mm².

BExTBG05D 5 Joule Flashtel

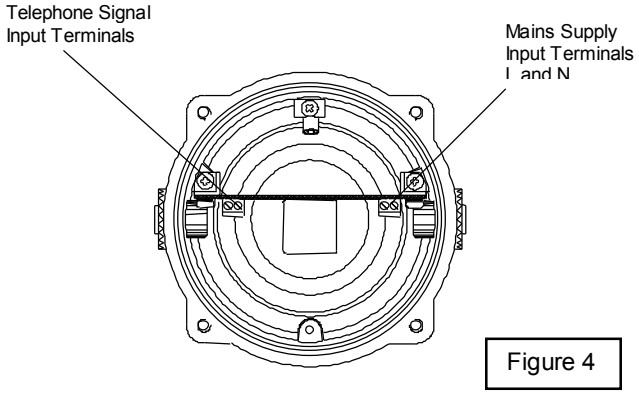

Figure 4

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