


Scope: <b>EXcite</b> USER MANUAL BB 125 / BB 150			<b>BARTEC TECHNOR</b>		
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## TECHNICAL MANUAL

### EXPLOSION PROOF BEACON & LIGHT



#### BB 125 / BB 150

ATEX Marking:  II 2GD

Code: EPL Gb, Db  
Ex d IIC T4/T5/T6  
Ex tb IIIC TXXX



#### Marking details:

	
CE 0470 	Presafe 14ATEX 5389X IECEX PRE 14.0049X
Ex d IIC T6 Gb	IP66
Ex tb IIIC T85°C	
T.amb; -40°C < Ta < +55°C	
U	<input type="checkbox"/> VDC <input type="checkbox"/> AC 50/60Hz
Serial NO.:	
WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT	
<b>BARTEC TECHNOR</b>	
STAVANGER NORWAY	

Alternative T class:

1;  
Ex d IIC T5 Gb  
Ex tb IIIC T100°C  
T.amb; -40°C < Ta < +60°C

2;  
Ex d IIC T4 Gb  
Ex tb IIIC T135°C  
T.amb; -40°C < Ta < +70°C

Please note that care has been taken to ensure the accuracy of our technical manual. We do not, however, accept responsibility for damage, loss or expense resulting from any error or omission. We reserve the right to make alterations in line with technical advances and industry standards.

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## 1.0 INTRODUCTION

BB series Explosion-proof Beacon & Light is designed for use in Oil & Gas, Offshore Platform, Chemical, Petrochemical, Refinery and Marine Industries etc. Enclosure material is Stainless Steel (BB 125) or GRP (BB 150). Different flash or rotary rate can be adjusted from unique design. Three working statuses-flash type, rotary type and steady type are available (LED).

There are 2 types of beacon (Xenon type and LED type) available for the customer.

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

## 2.0 EXPLOSION-PROOF LABELING

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

Product order no.: e.g.  
 BB125RX10DCNARDN  
 (Refer to the datasheet for product order selection)

Input voltage: up to 48V DC or 100-254V AC

Code: Ex d IIC Tx Gb

ATEX Marking: Gas Group and Category: II 2G

CE Mark:  0470

Warning: DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT

Finish product serial no. (Include date of construction)

Note; exact information is given on the actual label, ref also example on page 1.

## 3.0 TYPE APPROVAL STANDARD

The BB series products have been approved according the following standards:

IEC/ EN 60079-0 General Requirements  
 IEC/ EN 60079-1 Flameproof enclosure "d"  
 IEC/ EN 60079-31 Dust atmosphere "t"

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## 4.0 ZONES, GASGROUP, CATEGORY AND TEMPERATURE CLASSIFICATION

The BB series products have been certified Ex d IIC T4~T6. This means that the units can be installed in locations with the following conditions:

### Area Classification:

**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

**Equipment Category:** ATEX, 2GD

**EPL:** Gb/ Db

**Temperature Range:** See label, ref page 1

## 5.0 INSTALLATION

### General Requirement

Selection, Installation, Maintenance and repair of electrical apparatus for use in potentially explosive atmosphere should be done in according to IEC/ EN 6079-14/ -17/ -19. Product installation must be carried out in accordance with any local codes that may apply and should only be carried out by a competent electrical engineer.

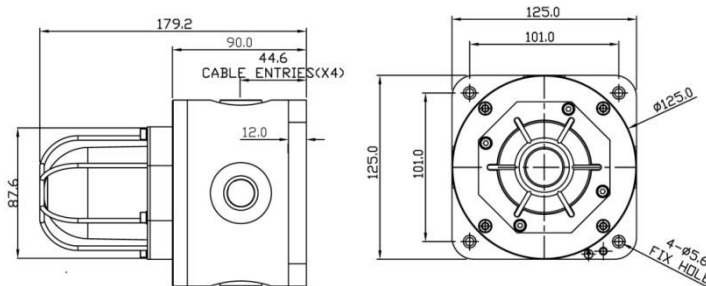
### Location

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

### Mounting

The product should be mounted on a vertical surface using 4 fixing holes in the base. The fixing holes are designed to fit M5 Allen Screw only. Use of stainless steel fastener is recommended by BARTEC TECHNOR. The Beacon can be operated in any attitude. If you need mounting plate, please contact BARTEC TECHNOR for the installation drawing of the mounting plate.

BB125



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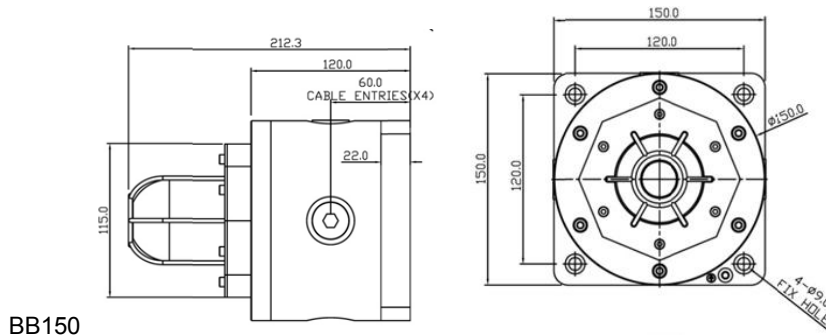
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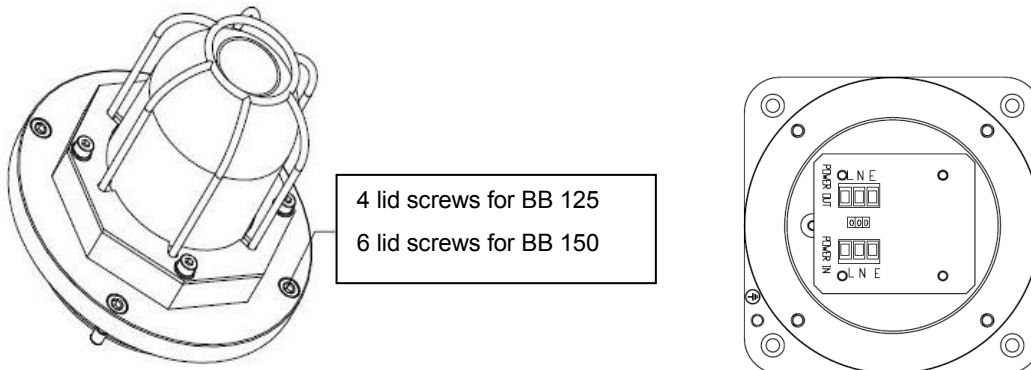
## 6.0 WIRING

### General Requirement

BARTEC TECHNOR recommends that all cables and cores should be fully identified (suggest using cable from 2.0 to 2.5 mm<sup>2</sup>). Ensure that all nuts, bolts and screws are secured. Ensure that only the right and certified cable glands are used and earthed correctly. Ensure that only the right and certified stopping plugs are used to blank off unused gland entry points. In order to maintain the IP rating of the product, we recommend SS316L for this application.

### Cable Connection

The cable connection is connected with the 3-hole terminal blocks marked POWER IN located in the flameproof enclosure (See Fig 2). Cable connection should be carried out in accordance with relevant technical requirement.



### Remove Top Cover (Beacon Component)

Unscrew the 4/6 M5 retained hex socket head screws. This will release the cover from the base and allow the cover to hang on the retaining wire strap. Before replacing the cover, check that the flameproof joints are clean and not damaged, the gasket is still retained in its groove.

**CAUTION:** Before removing the cover, ensure the power to beacon is isolated. Remove the four pieces of M5 socket screws to open the cover. Twist the cover gently clockwise and anti-clockwise, whilst pulling away from the base, until it comes off. Replace the cover in similar way, but operate in reverse manner as above.

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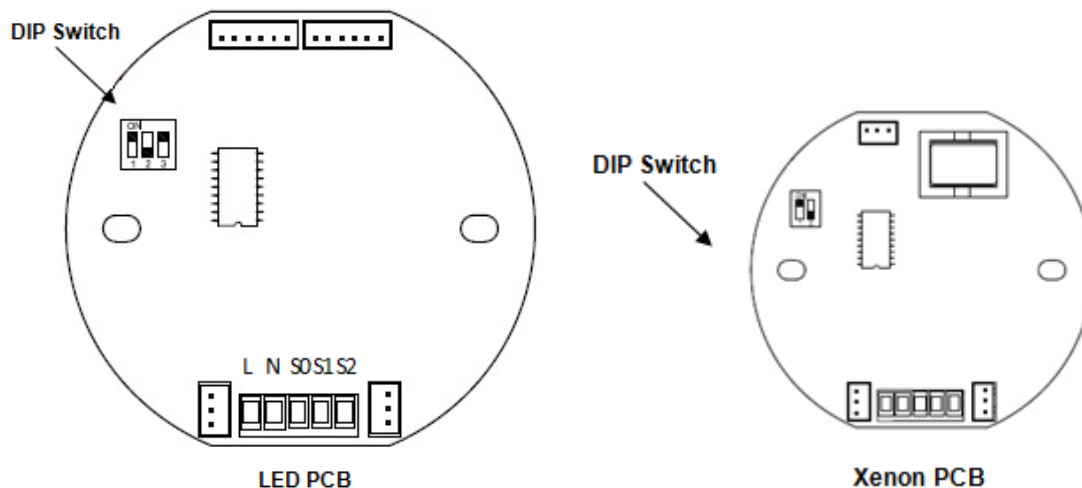
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## Power Supply

Up to 48 DC or 100-240V AC



## PCB Wiring Terminals (See Fig 3)

Apply power supply to up to 48V DC 100-250V 'L' & 'N' according to the information on the label

## 7.0 STATUS CHOSEN AND FLASHING FREQUENCY ADJUSTMENT

### LED Beacon

The LED beacon provides flashing and rotary status to be selected

Use **DIP Switch** with 3 binary codes on the **LED Beacon PCB** to select flashing or rotary status (including steady status), the 3<sup>rd</sup> binary code is for high and low frequency chosen.

### LED Status Selection Switch

1<sup>st</sup> & 2<sup>nd</sup> DIP Switch: ON=1 OFF=0;

3<sup>rd</sup> DIP Switch: HIGH=1 LOW= 0

S1/S2: ON= Connect with 0/COM

OFF= Disconnect with 0/COM

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**Xenon Beacon**

DIP Switch			S1/S2			
			S1=OFF S2=OFF	S1=ON S2=OFF	S1=OFF S2=ON	S1=ON S2=ON
1 <sup>st</sup> DIP	2 <sup>nd</sup> DIP	3 <sup>rd</sup> DIP	Alarm Stage 1	Alarm Stage 2	Alarm Stage 3	Alarm Stage 4
1	1	0(1)	OFF	Flash 60 (75) times/min.	Flash 75 (90) times/min.	Steady light
0	1	0(1)	OFF	Rotary 60 (75) times/min	Rotary 75 (90) times/min	Steady light
1	0	0(1)	OFF	Double Flash 60 (75) times/min.	Double Flash 75 (90) times/min.	Double Flash 100(120) times/min.
0	0	0(1)	OFF	Flash & Rotary 60 (75) times/min	Flash & Rotary 75 (90) times/min	Flash & Rotary 100(120) times/min

The Xenon Beacon provides flashing status Use **DIP**

**Switch** with 2 binary codes on the **Xenon Beacon PCB** (see Fig 3) for frequency adjustment.

**Xenon Beacon Flashing Frequency Adjustment**

DIP Switch: ON=1 OFF=0

S1/S2: ON= Connect to COM

OFF= Disconnect to COM

DIP Switch			S1/S2				
			S1=OFF S2=OFF	S1=ON S2=OFF	S1=OFF S2=ON	S1=ON S2=ON	
1 <sup>st</sup> DIP	2 <sup>nd</sup> DIP		Alarm Stage 1	Alarm Stage 2	Alarm Stage 3	Alarm Stage 4	
1	1		OFF	OFF	OFF	OFF	
0	1		OFF	60 times/min.	80 times/min.	120 times/min.	Flash Once a time
1	0		OFF	100 times/min.	120 times/min.	150 times/min.	Twice a time
0	0		OFF	120 times/min.	150 times/min.	180 times/min.	Three Times a time

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## 8.0 CABLE GLAND

The BB series product has four cable gland entries. 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 IEC/ EN 60079-14.

**SAFETY WARNING:** If the BB is used at high ambient temperatures, i.e. over +40°C, then the cable entry temperature may exceed +70°C and therefore suitable heat resisting cable glands must be used, with a rated service temperature of at least 95°C. If a high IP (Ingress Protection) rating is required, a suitable sealing washer must be fitted under the cable gland. 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.

## 9.0 END OF LINE MONITORING

An end of line monitoring diode or an end of line monitoring resistor can be connected across the 24V+ and 0 terminals. If an end of line monitoring resistor is used, it must have a maximum resistance value of 3k ohms and a minimum wattage of 0.5 Watts; or a minimum resistance value of 1.2k ohms and a maximum wattage of 2 Watts.

## 10.0 MAINTENANCE

During working life of the product, little or no maintenance is required. Stainless Steel and GRP is resistant to most of the acids, alkalis and chemicals. If abnormal or unusual environmental conditions occur due to accident etc., visual inspection is recommended. To avoid electrostatic charge build-up, only exterior of the product can be cleaned with a damp cloth. If spare parts are required, these can be supplied by BARTEC TECHNOR Company. If any failure occurs but not caused by human factor, the product can be returned to BARTEC TECHNOR for free repair or replacement during warranty period.

## 11.0 CONDITIONS FOR SAFETY USE

- i. This apparatus is suitable to be used only in ambient temperature as stated below at the label
- ii. Other than product manufacturer, painting and surface finishing are not permitted by the third party.
- iii. When used in dusty atmosphere, flameproof cable entry devices or stopping plugs have to be selected and installed carefully in order to maintain the IP rating (IP66/67) of the product.