

### 1) Warnings



- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
- DO NOT OPEN WHEN ENERGISED
- POTENTIAL ELECTROSTATIC CHARGING HAZARD - CLEAN ONLY WITH A DAMP CLOTH
- HIGH VOLTAGE SHOCK HAZARD. WAIT 5 MINUTES AFTER REMOVING POWER BEFORE OPENING THE ENCLOSURE
- DO NOT PAINT
- TO REDUCE THE RISK OF IGNITION OF HAZARDOUS ATMOSPHERES, THE FIRST CONDUIT RUN MUST HAVE A SEALING FITTING CONNECTED WITHIN 18 INCHES OF ENCLOSE. SUBSEQUENT CONDUIT RUNS MUST HAVE A SEALING FITTING CONNECTED AS CLOSE AS PRACTICAL TO THE WALL OF THE ENCLOSURE, BUT IN NO CASE MORE THAN THE SIZE OF THE CONDUIT OR 50MM, WHICHEVER IS THE LESSER.
- TO PREVENT IGNITION OF GROUP A, B, C AND D ATMOSPHERES - SEE INSTRUCTION FOR CHEMICAL COMPATIBILITY

### Avertissement:

- NE PAS OUVRIR UN PRESENCE D'ATMOSPHERE EXPLOSIVE
- NE PAS OUVRIR ENERGIE
- DANGER POTENTIEL CHARGE ÉLECTROSTATIQUE - NETTOYER UNIQUEMENT AVEC UN CHIFFON HUMIDE
- HAUT TENSION, RISK DE CHOC. ATTENDEZ 5 MINUTES APRES AVOIR DEBRANCHE L'ALIMENTATION AVANT D'OUVRIR LA BOITIER
- NE PAS PEINTURER
- POUR RÉDUIRE LE RISQUE D'INFLAMMATION DES ATMOSPHERES DANGEREUSES, LE PREMIER CONDUIT DE CONDUIT DOIVENT AVOIR UN RACCORD D'ÉTANCHÉITÉ RACCORDÉ À MOINS DE 18 POUCHES DE L'ENFERMEMENT. POUR SUBSÉQUENT LES CONDUITES DE CONDUIT LA DISTANCE ENTRE LA SURFACE DE LA MASSE DE REMPLISSAGE AU PLUS PRÈS DE L'ENVELOPPE DOIT ÊTRE AUSSI

PETITE QUE CE QUI EST RÉALISABLE MAIS EN AUCUN CAS SUPÉRIEURE À LA PLUS PETITE DES DIMENSIONS CORRESPONDANT À LA TAILLE DU CONDUIT OU À 50 MM.

- POUR PRÉVENIR L'INFLAMMATION DES ATMOSPHERES DES GROUPES A, B, C ET D-VOIR L'INSTRUCTION POUR LA COMPATIBILITÉ CHIMIQUE

### 2) Rating & Marking Information

#### 2.1 Fire Alarm Ratings

The Following models are certified as visual alarm devices for fire alarm use – private mode visual alarm devices in accordance with UL1638 / CAN/ULC-S526 when used with Clear or Red lens covers:

D1xB2X05DC024 / D1xB2X10DC024 / D1xB2X15DC024 / D1xB2X21DC024

On-axis light output per UL1638:

Model	Light Intensity in cd	
	Clear Lens	Red Lens
D1xB2X05DC024 - 1Hz	20.44	5.89
D1xB2X05DC024 - 1.33Hz	14.47	4.17
D1xB2X05DC024 - 1.5Hz	11.1	2.13
D1xB2X10DC024 - 1Hz	69.81	23.66
D1xB2X10DC024 - 1.33Hz	49.42	16.75
D1xB2X10DC024 - 1.5Hz	35.71	8.57
D1xB2X15DC024 - 1Hz	98.61	31.83
D1xB2X15DC024 - 1.33Hz	69.81	22.53
D1xB2X15DC024 - 1.5Hz	50.44	11.53
D1xB2X21DC024 - 1Hz	215.85	70.74
D1xB2X21DC024 - 1.33Hz	155.12	50.84
D1xB2X21DC024 - 1.5Hz	137.47	45.05

#### 2.2 surge current ratings for use in fire alarm systems

Model	Nominal Voltage	Voltage Range	Flash Rate	Peak Surge current	RMS surge current
D1xB2X05DC024	24Vdc	20-28Vdc	1Hz	955mA	370mA
			1.33Hz	960mA	370mA
			1.5Hz	955mA	365mA
			Double	960mA	355mA
D1xB2X10DC024	24Vdc	20-28Vdc	1Hz	970mA	700mA
			1.33Hz	970mA	700mA
			1.5Hz	990mA	700mA
			Double	990mA	695mA
D1xB2X15DC024	24Vdc	20-28Vdc	1Hz	990mA	925mA
			1.33Hz	990mA	930mA
			1.5Hz	990mA	925mA
			Double	990mA	905mA
D1xB2X21DC024	24Vdc	20-28Vdc	1Hz	1590mA	1220mA
			1.33Hz	1710mA	1240mA
			1.5Hz	1590mA	1240mA
			Double	1650mA	1200mA

## 2.3 NEC & CEC Class / Division Ratings for US / Canada

The D1xB2X Xenon beacons comply with the following standards:

UL 1203 (Ed. 5) 2018  
UL1638A (Ed. 1) 2016  
UL1638 (Ed. 5) 2017  
CSA C22.2 No. 30-M1986 (Ed. 3) 2016  
CSA C22.2 No. 25 (Ed. 4) 2017  
CSA C22.2 No. 205 (Ed. 3) 2017

The D1xB2X05DC012, D1xB2X05DC024 & D1xB2X05DC048 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T5 Ta -55°C to +80°C  
Class I Div 1 Group ABCD T6 Ta -55°C to +65°C  
Class II Div 1 Group EFG T5 Ta -55°C to +80°C  
Class III Div 1 Ta -55°C to +80°C

The D1xB2X05AC115 & D1xB2X05AC230 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T4A Ta -55°C to +70°C  
Class I Div 1 Group ABCD T5 Ta -55°C to +55°C  
Class I Div 1 Group ABCD T6 Ta -55°C to +40°C  
Class II Div 1 Group EFG T4 Ta -55°C to +40°C  
Class III Div 1 Ta -55°C to +40°C

The D1xB2X10DC024 & D1xB2X10DC048 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T4 Ta -55°C to +80°C  
Class I Div 1 Group ABCD T4A Ta -55°C to +70°C  
Class I Div 1 Group ABCD T5 Ta -55°C to +50°C  
Class II Div 1 Group EFG T4 Ta -55°C to +80°C  
Class III Div 1 Ta -55°C to +80°C

The D1xB2X10AC115 & D1xB2X10AC230 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T4 Ta -55°C to +70°C  
Class I Div 1 Group ABCD T4A Ta -55°C to +55°C  
Class II Div 1 Group EFG T4 Ta -55°C to +40°C  
Class III Div 1 Ta -55°C to +40°C

The D1xB2X15DC024 & D1xB2X15DC048 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T3C Ta -55°C to +80°C  
Class I Div 1 Group ABCD T4 Ta -55°C to +55°C  
Class II Div 1 Group EFG T4 Ta -55°C to +80°C  
Class III Div 1 Ta -55°C to +80°C

The D1xB2X15AC115 & D1xB2X15AC230 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T4 Ta -55°C to +70°C  
Class I Div 1 Group ABCD T4A Ta -55°C to +55°C  
Class II Div 1 Group EFG T4 Ta -55°C to +40°C  
Class III Div 1 Ta -55°C to +40°C

The D1xB2X21DC024 & D1xB2X21DC048 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T3B Ta -55°C to +80°C

Class I Div 1 Group ABCD T3C Ta -55°C to +75°C  
Class I Div 1 Group ABCD T4 Ta -55°C to +50°C  
Class II Div 1 Group EFG T3C Ta -55°C to +40°C  
Class III Div 1 Ta -55°C to +40°C

The D1xB2X21AC115 & D1xB2X21AC230 Xenon Beacons are rated as follows:

Class I Div 1 Group ABCD T3C Ta -55°C to +60°C  
Class I Div 1 Group ABCD T4 Ta -55°C to +55°C  
Class I Div 1 Group ABCD T4A Ta -55°C to +40°C  
Class II Div 1 Group EFG T4 Ta -55°C to +40°C  
Class III Div 1 Ta -55°C to +40°C

Installation must be carried out in compliance with the National Electric Code / Canadian Electric Code

## 2.4 NEC Class / Zone ratings US

The D1xB2X Xenon beacons comply with the following standards:

UL 60079-0 (Ed. 6) 2017  
UL 60079-1 (Ed. 7) 2015  
UL 60079-31 (Ed. 2) 2015

The D1xB2X05DC012, D1xB2X05DC024 & D1xB2X05DC048 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T4 Ta -55°C to +80°C  
Class I Zone 1 AEx db IIC T5 Ta -55°C to +75°C  
Class I Zone 1 AEx db IIC T6 Ta -55°C to +60°C  
Zone 21 AEx tb IIIC T99°C Ta -55°C to +80°C

The D1xB2X05AC115 & D1xB2X05AC230 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T4 Ta -55°C to +70°C  
Class I Zone 1 AEx db IIC T5 Ta -55°C to +50°C  
Zone 21 AEx tb IIIC T153°C Ta -55°C to +70°C

The D1xB2X10DC024 & D1xB2X10DC048 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T4 Ta -55°C to +80°C  
Class I Zone 1 AEx db IIC T5 Ta -55°C to +45°C  
Zone 21 AEx tb IIIC T132°C Ta -55°C to +80°C

The D1xB2X10AC115 & D1xB2X10AC230 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T3 Ta -55°C to +70°C  
Class I Zone 1 AEx db IIC T4 Ta -55°C to +65°C  
Zone 21 AEx tb IIIC T153°C Ta -55°C to +70°C

The D1xB2X15DC024 & D1xB2X15DC048 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T3 Ta -55°C to +80°C  
Class I Zone 1 AEx db IIC T4 Ta -55°C to +65°C  
Zone 21 AEx tb IIIC T132°C Ta -55°C to +80°C

The D1xB2X15AC115 & D1xB2X15AC230 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T3 Ta -55°C to +70°C  
Class I Zone 1 AEx db IIC T4 Ta -55°C to +65°C

Zone 21 AEx tb IIIC T153°C Ta -55°C to +70°C  
The D1xB2X21DC024 & D1xB2X21DC048 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T3 Ta -55°C to +80°C  
Class I Zone 1 AEx db IIC T4 Ta -55°C to +45°C  
Zone 21 AEx tb IIIC T181°C Ta -55°C to +80°C

The D1xB2X21AC115 & D1xB2X21AC230 Xenon Beacons are rated as follows:

Class I Zone 1 AEx db IIC T3 Ta -55°C to +60°C  
Class I Zone 1 AEx db IIC T4 Ta -55°C to +50°C  
Zone 21 AEx tb IIIC T153°C Ta -55°C to +60°C

Installation must be carried out in compliance with the National Electric Code.

## 2.5 CEC Class / Zone ratings Canada

The D1xB2X Xenon beacons comply with the following standards:

CAN/CSA C22.2 No. 60079-0 (Ed. 3) 2015  
CAN/CSA C22.2 No. 60079-1 (Ed. 3) 2016  
CAN/CSA C22.2 No. 60079-31 (Ed. 2) 2015

The D1xB2X05DC012, D1xB2X05DC024 & D1xB2X05DC048 Xenon Beacons are rated as follows:

Ex db IIC T4 Ta -55°C to +80°C  
Ex db IIC T5 Ta -55°C to +75°C  
Ex db IIC T6 Ta -55°C to +60°C  
Ex tb IIIC T99°C Ta -55°C to +80°C

The D1xB2X05AC115 & D1xB2X05AC230 Xenon Beacons are rated as follows:

Ex db IIC T4 Ta -55°C to +70°C  
Ex db IIC T5 Ta -55°C to +50°C  
Ex tb IIIC T153°C Ta -55°C to +70°C

The D1xB2X10DC024 & D1xB2X10DC048 Xenon Beacons are rated as follows:

Ex db IIC T4 Ta -55°C to +80°C  
Ex db IIC T5 Ta -55°C to +45°C  
Ex tb IIIC T132°C Ta -55°C to +80°C

The D1xB2X10AC115 & D1xB2X10AC230 Xenon Beacons are rated as follows:

Ex db IIC T3 Ta -55°C to +70°C  
Ex db IIC T4 Ta -55°C to +65°C  
Ex tb IIIC T153°C Ta -55°C to +70°C

The D1xB2X15DC024 & D1xB2X15DC048 Xenon Beacons are rated as follows:

Ex db IIC T3 Ta -55°C to +80°C  
Ex db IIC T4 Ta -55°C to +65°C  
Ex tb IIIC T132°C Ta -55°C to +80°C

The D1xB2X15AC115 & D1xB2X15AC230 Xenon Beacons are rated as follows:

Ex db IIC T3 Ta -55°C to +70°C  
Ex db IIC T4 Ta -55°C to +65°C

Ex tb IIIC T153°C Ta -55°C to +70°C  
The D1xB2X21DC024 & D1xB2X21DC048 Xenon Beacons are rated as follows:

Ex db IIC T3 Ta -55°C to +80°C  
Ex db IIC T4 Ta -55°C to +45°C  
Ex tb IIIC T181°C Ta -55°C to +80°C

The D1xB2X21AC115 & D1xB2X21AC230 Xenon Beacons are rated as follows:

Ex db IIC T3 Ta -55°C to +60°C  
Ex db IIC T4 Ta -55°C to +50°C  
Ex tb IIIC T153°C Ta -55°C to +60°C

Installation must be carried out in compliance with the Canadian Electric Code

## 2.6 ATEX / IECEx certification

The D1xB2X Xenon beacons comply with the following standards:

EN IEC60079-0:2018 / IEC60079-0:2017 (Ed 7)  
EN60079-1:2014 / IEC60079-1 (Ed. 7) (2014)  
EN60079-31:2014 / IEC60079-31 (Ed. 2) (2013)

The D1xB2X05DC012, D1xB2X05DC024 & D1xB2X05DC048 Xenon Beacons are rated as follows:

Ex db IIC T4 Gb Ta -55°C to +80°C  
Ex db IIC T5 Gb Ta -55°C to +75°C  
Ex db IIC T6 Gb Ta -55°C to +60°C  
Ex tb IIIC T104°C Db Ta -55°C to +80°C

The D1xB2X05AC115 & D1xB2X05AC230 Xenon Beacons are rated as follows:

Ex db IIC T4 Gb Ta -55°C to +70°C  
Ex db IIC T5 Gb Ta -55°C to +50°C  
Ex tb IIIC T116°C Db Ta -55°C to +70°C

The D1xB2X10DC024 & D1xB2X10DC048 Xenon Beacons are rated as follows:

Ex db IIC T4 Gb Ta -55°C to +80°C  
Ex db IIC T5 Gb Ta -55°C to +45°C  
Ex tb IIIC T135°C Db Ta -55°C to +80°C

The D1xB2X10AC115, D1xB2X10AC230, D1xB2X15AC115 & D1xB2X15AC230 Xenon Beacons are rated as follows:

Ex db IIC T3 Gb Ta -55°C to +70°C  
Ex db IIC T4 Gb Ta -55°C to +65°C  
Ex tb IIIC T139°C Db Ta -55°C to +70°C

The D1xB2X15DC024 & D1xB2X15DC048 Xenon Beacons are rated as follows:

Ex db IIC T3 Gb Ta -55°C to +80°C  
Ex db IIC T4 Gb Ta -55°C to +65°C  
Ex tb IIIC T146°C Db Ta -55°C to +80°C

The D1xB2X21DC024 & D1xB2X21DC048 Xenon Beacons are rated as follows:

Ex db IIC T3 Gb Ta -55°C to +80°C

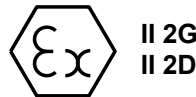
Ex db IIC T4 Gb Ta -55°C to +45°C  
 Ex tb IIIC T169°C Db Ta -55°C to +80°C

The D1xB2X21AC115 & D1xB2X21AC230 Xenon Beacons are rated as follows:

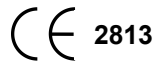
Ex db IIC T3 Gb Ta -55°C to +60°C  
 Ex db IIC T4 Gb Ta -55°C to +50°C  
 Ex tb IIIC T141°C Db Ta -55°C to +60°C

**Certificate No.** DEMKO 19 ATEX 2009X  
 IECEX ULD 19.0006X

**ATEX Mark, Equipment Group and Category:**



**CE Marking Notified Body No.:**



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 in normal operation, and if it does, it will only exist for a short time.
Zone 21	Explosive dust air mixture likely to occur in normal operation.
Zone 22	Explosive dust air mixture not likely to occur in normal operation, 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	450°C	
T2	300°C	
T3	200°C	(D1xB2X15DC & D1xB2X21DC up to 80°C ambient, D1xB2X10AC & D1xB2X15AC up to 70°C ambient, D1xB2X21AC up to 60°C ambient)
T4	135°C	(D1xB2X05DC & D1xB2X10DC up to 80°C ambient, D1xB2X05AC up to 70°C ambient, D1xB2X10AC, D1xB2X15DC & D1xB2X15AC up to 65°C ambient, D1xB2X21AC up to 50°C ambient, D1xB2X21DC up to 45°C ambient)
T5	100°C	(D1xB2X05DC up to 75°C ambient, D1xB2X05AC up to 50°C ambient, D1xB2X10DC up to 45°C ambient)
T6	85°C	(D1xB2X05DC up to 60°C ambient)

**Dust Groupings:**

Group IIIA	Combustible Flyings
Group IIIB	Non-conductive Dust
Group IIIC	Conductive Dust

**Maximum Surface Temperature for Dust Applications:**

104°C	(D1xB2X05DC)
116°C	(D1xB2X05AC)
135°C	(D1xB2X10DC)
139°C	(D1xB2X10AC, D1xB2X15AC)
141°C	(D1xB2X21AC)
146°C	(D1xB2X15DC)
169°C	(D1xB2X21DC)

**Equipment Category:** 2G / 2D

**Equipment Protection Level:** Gb, Gc, Db, Dc

**Ambient Temperature Range:**

-55°C to +80°C	(D1xB2X05DC, D1xB2X10DC, D1xB2X15DC, D1xB2X21DC)
-55°C to +70°C	(D1xB2X05AC, D1xB2X10AC, D1xB2X15AC)
-55°C to +60°C	(D1xB2X21AC)

The certification approval has validated continuous use up to 38°C ambient and are for transient use up to 80°C ambient.

**2.7 Ingress Protection Ratings**

The product is rated for ingress Protection as follows:

IP rating per EN60529:	IP66
Type rating per UL50E / NEMA250:	4 / 4X / 3R / 13

Suitable for exposure to Acetone , Ammonium Hydroxide , Diethyl Ether , Ethyl Acetate , Ethylene Dichloride , Furfural, n-hexane , Methyl Ethyl Ketone , Methanol , 2-NitroPropane and Toluene.

To maintain the ingress protection rating, the cable entries must be fitted with suitably rated, certified cable entry and/or blanking devices during installation.

**2.8 Electrical Ratings**

Model	Nom. Voltage	Voltage Range	Nom. operating current	Max Current
D1xB2X05DC012	12Vdc	12-14Vdc	585	600
D1xB2X05DC024	24Vdc	20-28Vdc	295	350
D1xB2X05DC048	48Vdc	42-54Vdc	145	150
D1xB2X05AC115	115Vac	110-120Vac	140	200
D1xB2X05AC230	230Vac	220-240Vac	70	100
D1xB2X10DC024	24Vdc	20-28Vdc	605	710
D1xB2X10DC048	48Vdc	42-54Vdc	230	250
D1xB2X10AC115	115Vac	110-120Vac	220	300
D1xB2X10AC230	230Vac	220-240Vac	130	180
D1xB2X15DC024	24Vdc	20-28Vdc	835	920
D1xB2X15DC048	48Vdc	42-54Vdc	330	360
D1xB2X15AC115	115Vac	110-120Vac	310	420
D1xB2X15AC230	230Vac	220-240Vac	170	230
D1xB2X21DC024	24Vdc	20-28Vdc	1130	1240
D1xB2X21DC048	48Vdc	42-54Vdc	530	560
D1xB2X21AC115	115Vac	110-120Vac	500	530
D1xB2X21AC230	230Vac	220-240Vac	195	270

#Rated at 1Hz

**Table 1: Electrical Ratings**

It is important that a suitable power supply is used to run the equipment. The power supply selected must have the necessary capacity to provide the input current to all the units.

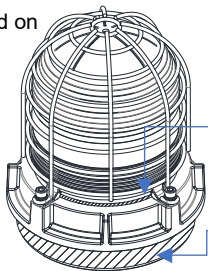
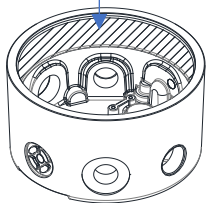
The input current will vary according to the voltage input level.

**3) Special Conditions of Use**

The enclosure coating is non-conductive and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

**Flame Path Positions**

Flame Path internal thread on base shown hatched



Cemented Joint between glass dome and metal casting on lid shown hatched

Flame Path external thread on lid shown hatched

**4) Installation**

There are no restrictions on unit orientation.

The junction box must only be installed by suitably qualified personnel in accordance with the latest issues of the relevant standards:

- EN60079-14 / IEC60079-14: Explosive atmospheres - Electrical installations design, selection and erection
- EN60079-10-1 / IEC60079-10-1: Explosive atmospheres - Classification of areas. Explosive gas atmospheres
- EN60079-10-2 / IEC60079-10-2: Explosive atmospheres - Classification of areas. Explosive dust atmospheres

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.

**4.1 Safe Installation Requirements**

To maintain the ingress protection rating and mode of protection, the cable entries must be fitted with suitably certified cable entry and/or blanking devices during installation. If conduit is used for installation, seal conduit within 18 inches from the enclosure.

If entries are fitted with adaptors they must be suitably certified for the application. Fitting of blanking elements into adaptors is not permitted.

Check that the 'O' ring seal is in place before replacing the explosionproof cover.

Lens guard must be fitted for Class Division installations.

**5) Location and Mounting**

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

The D1xB2X beacon can be mounted using one of three methods.

1. The beacon can be surface mounted by removing, rotating and reinstalling the stowed mounting lugs. These are suitable for 6mm diameter fixings.
  - a. Remove 2 x M5 fasteners per mounting lug
  - b. Reverse and rotate lug and reseal onto enclosure
  - c. Secure lug using the 2 x M5 Fasteners
2. Alternatively the beacon can be conduit mounted using the 3/4"NPT entry on the base of the unit.
3. Additionally, the beacon can be mounted using the ratchet adjustable stainless-steel wall bracket assembly. This is available as an accessory – part code: SP77-0001.

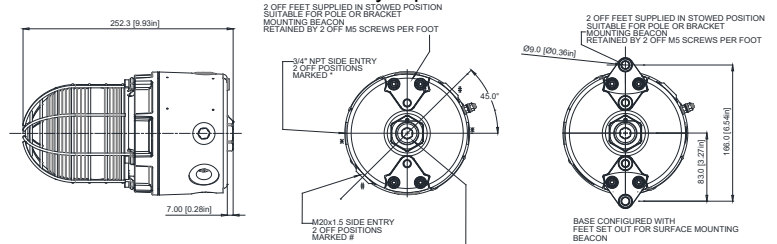
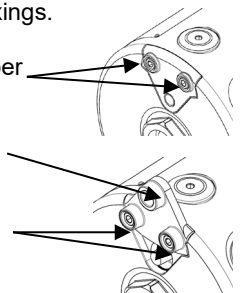


Fig. 1 Fixing Location for Beacon

**6) Access to the Enclosure**



Warning – High voltage may be present, risk of electric shock. DO NOT open when energised, disconnect power before opening.



Warning – Hot surfaces. External surfaces and internal components may be hot after operation, take care when handling the equipment.

In order to connect the electrical supply cables to the beacon, it is necessary to open the explosion proof enclosure. Loosen the locking grub screw in the cover and then remove the glass dome cover assembly to gain access to the chamber. This can be achieved by unscrewing the glass dome cover, taking extreme care not to damage the threads when doing so.

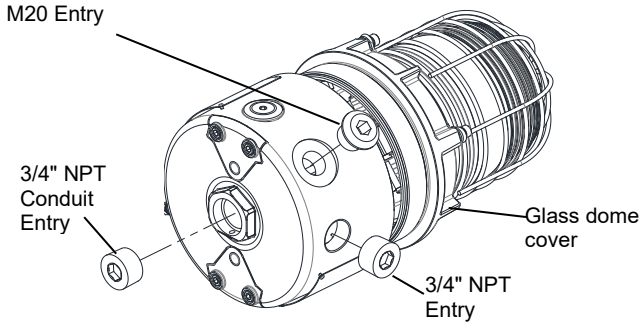


Fig. 2 Accessing the Enclosure.

On completion of the installation the flameproof threads should be inspected to ensure that they are clean and that they have not been damaged during installation. Ensure the O-ring seal is in place and undamaged.

When fitting the flameproof cover ensure the thread is engaged correctly. Fully tighten the cover all the way, ensure no gap is visible between the cover and base of the beacon enclosure.

### 7) Selection of Cable, Cable Glands, Blanking Elements & Adapters

When selecting the cable size, consideration must be given to the input current that each unit draws (see section 11), the number of beacons on the line and the length of the cable runs. The cable size selected must have the necessary capacity to provide the input current to all of the beacons connected to the line.

The entries are 2-off M20 x 1.5 thread & 3-off 3/4" NPT thread

If a high IP (Ingress Protection) rating is required then a suitable sealing washer must be fitted under the cable glands or blanking plugs.

For use in explosive dust atmospheres, a minimum ingress protection rating of IP6X must be maintained.

For use in explosive gas atmospheres, a minimum ingress protection rating of IP54 must be maintained. NPT plugs should be greased before insertion.

For high ambient temperatures the cable entry temperature or the cable branching point temperature may exceed 60°C and therefore suitable heat resisting cables and cable glands must be used, with a rated service temperature of at least the values stated below:

Req. cable / cable gland rating (°C)	Max Ambient Temperature (°C)																	
	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
D1xB2X05DC											61	66	71	76	81	86	91	96
D1xB2X05AC							62	67	72	77	82	87	92	97	102	107	-	-
D1xB2X10DC							63	68	73	78	83	88	93	98	103	108	113	118
D1xB2X10AC					63	68	73	78	83	88	93	98	103	108	113	118	-	-
D1xB2X15DC						64	69	74	79	84	89	94	99	104	109	114	119	124
D1xB2X15AC	61	66	71	76	81	86	91	96	101	106	111	116	121	126	131	136	-	-
D1xB2X21DC		65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145
D1xB2X21AC			65	70	75	80	85	90	95	100	105	110	115	120	-	-	-	-

### 8) Cable Connections

The units have 2-off M20 x 1.5 threaded entries and 3-off 3/4" NPT x 14 threaded entries.

Electrical Connections are to be made into the terminal blocks using solid or stranded wire, sizes 0.5-2.5mm<sup>2</sup> / AWG 20-14. Wire insulation needs to be stripped 6-7mm. Wires may be fitted securely with crimped ferrules. Terminal screws need to be tightened down with a tightening torque of 0.4 Nm / 3.5 Lb-in.

See section 5 of this manual for access to the enclosure.

### 9) Wiring

A 4-way terminal block is provided on the DC beacons for power. There are 2-off +ve, 2-off -ve terminal and an internal Earth boss.

#### 9.1 Wiring Diagrams

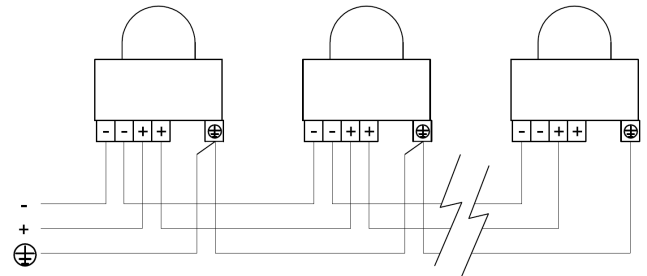


Fig. 3 D1xB2X Simplified Block Diagram

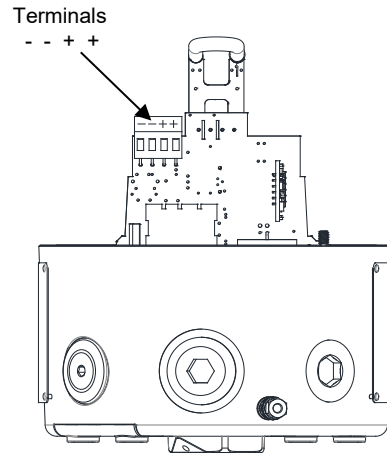


Fig. 4 D1xB2XDC Terminals

A 5-way terminal block is provided on the AC beacons for power. There are 2-off Live, 2-off Neutral and an Earth terminal.

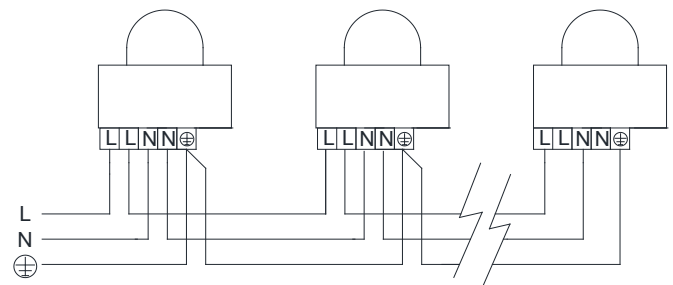


Fig. 5 D1xB2X Simplified Block Diagram  
Terminals  
L L N N E

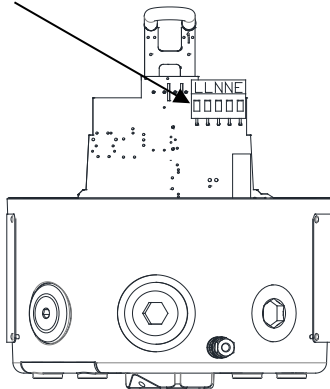


Fig. 6 D1xB2XAC Terminals

## 9.2 Line Monitoring

On the D2xB1X unit, DC reverse line monitoring can be used if required.

All DC beacons have a blocking diode fitted in their supply input lines. An end of line monitoring resistor can be connected across the +ve and -ve terminals in the explosion proof enclosure. If an end of line resistor is used it must have the following values:

Minimum resistance 3K3 Ohms	Minimum Power 0.5W
Minimum resistance 500 Ohms	Minimum Power 2.0W

The resistor must be connected directly across the +ve and -ve terminals as shown in the following drawing. Form the resistor legs as shown in Fig. 7a, fit the resistor across the two terminals, as shown in Fig. 7b.

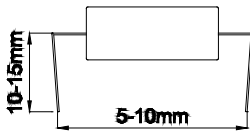


Fig. 7a End of Line Resistor Forming

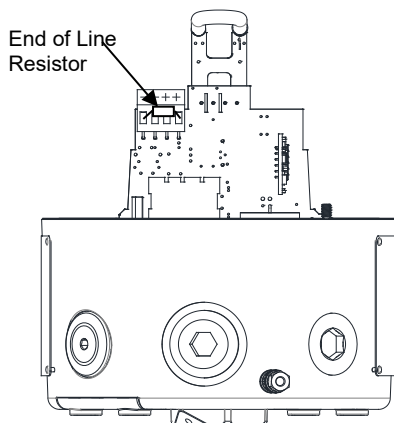


Fig. 7b End of Line Resistor Placement

## 10) Earthing

The unit has an external and an internal earth terminal, (please see fig 8).

Internal earthing connections should be made to the internal Earth terminal in the base of the housing using a ring crimped terminal to secure the earth conductor under the earth clamp. The earth conductor should be at least equal in size and rating to the incoming power conductors.

External earthing connections should be made to the M5 earth stud, using a ring crimp terminal to secure the earth conductor to the earth stud. The external earth conductor should be at least 4mm in size.

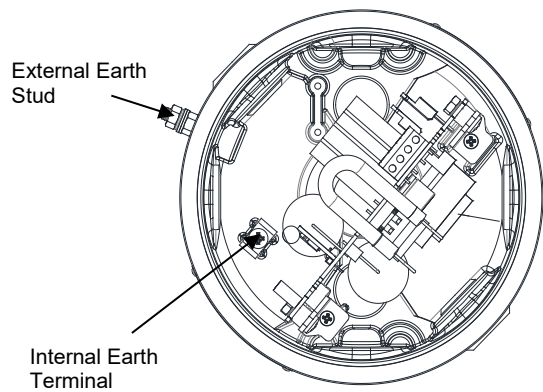


Fig. 8: Internal and External Earth Locations

## 11) Settings

### 11.1 Flash Rate Setting



Warning – high-intensity light source. Avoid looking directly at the light source for extended periods of time.

The D1xB2X beacon can produce different flash patterns as shown in Table 1. The flash patterns are selected by operation of the flash setting DIP switch on the PCB, Fig 9.

Note: Only 1Hz flash rate is Private Mode Fire approved

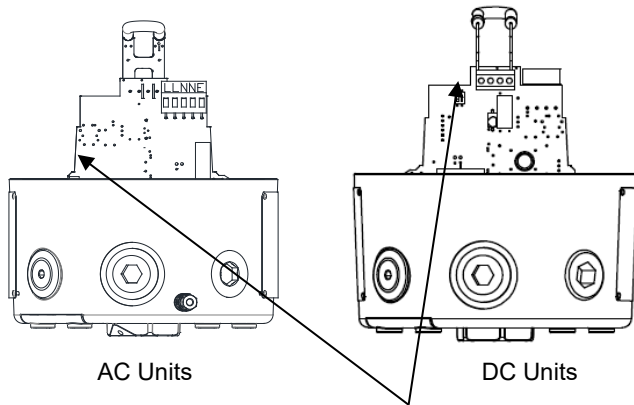
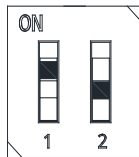


Fig. 9: DIP Switch Location



1=ON; 0=OFF

Example shown: 10 = Flashing 1.5Hz  
(Default setting is 00 1Hz)

Switch Setting	S1 Mode
00	1Hz* (60FPM)
01	1.33Hz (80FPM)
10	1.5Hz (90FPM)
11	Double Flash

(\*Setting permitted for use as private mode fire alarm device)

Table 2: Switch Positions for Flash Patterns

## 12) Interchangeable & Spare Parts



Warning – Hot surfaces. External surfaces and internal components may be hot after operation, take care when handling the equipment.

The Beacon lens cover is interchangeable, contact E2S Ltd for a replacement lens cover available in various colours.

To change the lens cover, unscrew the 4-off M5 socket head screws, spring and flat washers using a 4mm Hex key. Remove the wire guard and replace the old lens cover with the new lens cover.

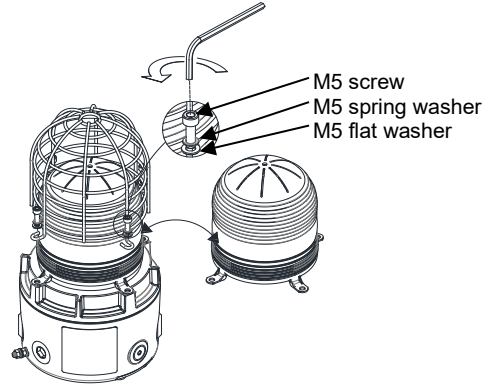


Fig. 10 Replacement of beacon lens cover

Fit the wire guard back onto the housing, over the new lens cover aligning the fixing holes of the guard, lens cover and housing. Refit the fixings to hold into place, the fixings MUST be fitted in the order shown above.

## 13) Maintenance, Overhaul & Repair

Maintenance, repair and overhaul of the equipment should only be carried out by suitably qualified personnel in accordance with the current relevant standards:

EN60079-19 / IEC60079-19 Explosive atmospheres - Equipment repair, overhaul and reclamation  
EN 60079-17 / IEC60079-17 Explosive atmospheres - Electrical installations inspection and maintenance

To avoid a possible ELECTROSTATIC CHARGE the unit must only be cleaned with a damp cloth.

Units must not be opened while an explosive atmosphere is present.

If opening the unit during maintenance operations a clean environment must be maintained and any dust layer removed.

Flameproof joints are not intended to be repaired.