

INSTRUCTION MANUAL

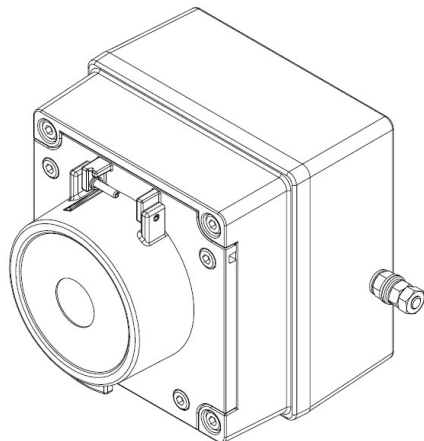
BExCP3A-PB Push Button Manual Call Point

For use in Flammable Gas and Dust Atmospheres

BExCP3A-PB

Manual Call Point – Push Button

For use in Flammable Gas and Combustible Dust Atmospheres.



1) Introduction

The BExCP3A-PB is a push button manual call point which is certified to the European and International Gas and Dust standards. The unit meets the requirements of the ATEX directive 2014/34/EU and IECEx scheme.

The call point can be used in hazardous areas where potentially flammable gas and dust atmospheres may be present.

All units have no monitoring resistors, diodes or zener diodes.

The units are Group II, EPL (equipment protection level) Gb. The equipment is certified 'Ex db eb IIC T6 Gb' and as such may be used in Zones 1 and 2 with flammable gases and vapours with apparatus groups IIA, IIB & IIC and temperature classes T1, T2, T3, T4, T5 and T6.

These units are also Group III, EPL Db. The equipment is certified 'Ex tb IIIC T75°C Db' and as such may be used in Zones 21 and 22 for combustible dusts groups IIIA, IIIB & IIIC.

2) Ratings and Markings

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

Unit Type No.:
BExCP3A-PB Manual Call Point


Input Voltage:
AC voltage 250V Max Current 5.0A Max
DC voltage 250V Max Current 0.25A Max Resistive Load; Inductive Load 0.03A Max
DC voltage 125V Max Current 0.5A Max Resistive Load; Inductive Load 0.03A Max
DC voltage 75V Max Current 0.75A Max
DC voltage 50V Max Current 1.0A Max
DC voltage 30V Max Current 5.0A Max Resistive Load; Inductive Load 3.0A Max
DC voltage 12V Max Current 5.0A Max

Code:
Ex db eb IIC T6 Gb
Ex tb IIIC T75 °C Db
IP66
-40°C <= Ta <= +70°C

Certificate No.:
SIRA 09ATEX3286X
IECEX SIR 09.0121X
CSAE 21UKEX3556X

Epsilon x:  II 2GD

CE Marking
Notified Body No.  2813

UKCA Marking
Notified Body No.  0518

Year/Serial No. i.e. 20/1CP3APB000001

WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

3) Type Approval Standards

The call point has an EC Type examination certificate issued by SIRA and have been approved to the following standards: -

EN60079-0:2018 / IEC60079-0:2017
EN60079-1:2014 / IEC60079-1:2014
EN60079-7:2015 / C60079-7:2017
EN60079-18:2015 / IEC60079-18:2014
EN60079-31:2014 / IEC60079-31:2013

The equipment is certified for use in ambient temperatures in the range -40°C to +70°C and shall not be used outside this range.

4) Installation Requirements

Installation of this equipment shall only be carried out by suitably trained personnel in accordance with the applicable code of practice e.g. IEC 60079-14/EN 60079-14

Repair of this equipment shall only be carried out by the manufacturer or in accordance with the applicable code of practice e.g. IEC 60079-19/EN 60079-19.

Refer to certificates SIRA 09ATEX3286X, IECEx SIR 09.0121X and CSAE 21UKEX3556X for special conditions of safe use.

The certification of this equipment relies on the following materials used in its construction:

Enclosure: Aluminium Pressure Die Cast Body LM6

Through enclosure mechanism: Plastic Nylon Zytel Injection Moulded

Sealing of enclosure and mechanism: O-ring Acrylonitrile-Butadiene Rubber

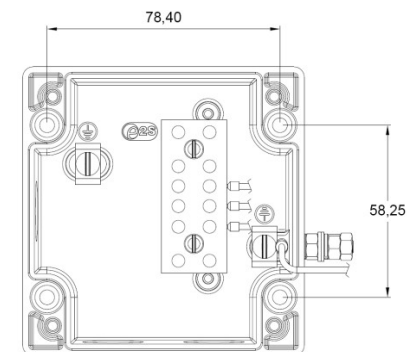
If the equipment is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.

"Aggressive substances" - e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

"Suitable precautions" - e.g. regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.

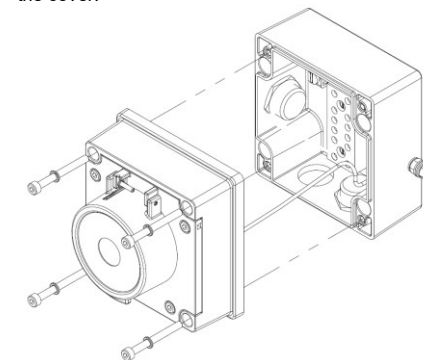
5) Call Point Location and Mounting

The location of the call point should enable ease of access for operation and testing. The unit should be mounted using the 4 off fixing holes which will accept up to M4 sized fixings.



View of base unit showing fixing centres (in mm).

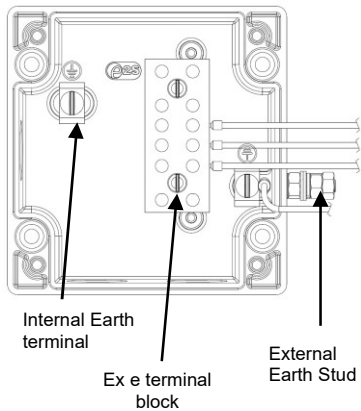
To gain access to the mounting holes in the base the front cover must be removed. This is achieved by removing the 4 off M4 cap head bolts holding on the cover.



Once the screws are removed the cover will hang down out of the way to gain access to the Ex e terminal block, the internal earth terminal and mounting hole recesses.

6) Earthing

The unit has both internal and external earth terminals. It is recommended that a cable crimp lug is used on the earth wires. The internal earth wire is placed under a earth clamp which will stop the cable twisting. This is secured by an M4 screw and spring washer. The external earth lug should be located between the two M5 washers provided and securely locked down with the M5 spring washer and two locknuts.



7) Cable connections

There are 3 off cable entry holes suitable for M20x1.5 Ex e approved cable glands or stopping plugs

The unit can be wired in a number of different ways depending whether normally open or normally closed contacts are required. See wiring schematic D150-06-001 for wiring options

When wiring to Increased Safety terminal enclosures, you are only permitted to connect one wire into each way on the terminal block, unless a pair of wires are crimped into a suitable ferrule. For the six-way terminal block wire sizes allowable are 0.5mm² to 4.0mm²

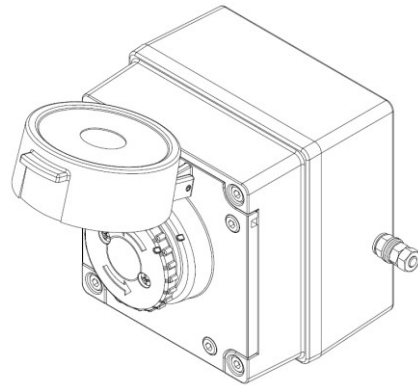
Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1mm of the metal of the terminal throat. They shall only be installed and wired with cable in an ambient temperature of -10°C to +80°C

All terminal screws, used or unused, shall be tightened down to between 0.5 Nm and 0.7 Nm

8) Testing unit operation

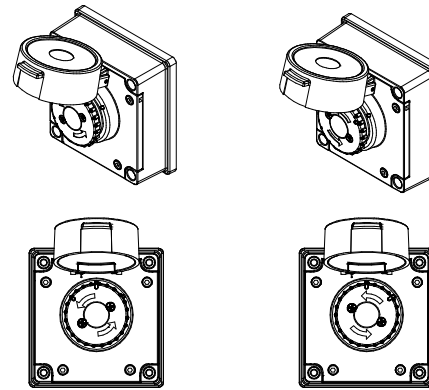
The push button unit can be tested without the need to replace any element.

To test, lift the cover lift flap to reveal the push button. The button should be pressed into the body to activate the unit and place it into the operated condition.



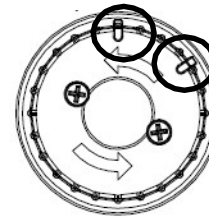
The call point switch will now change over its contacts to operate the alarm. Once testing is complete the unit needs to be reset from the operated condition.

Rotate the push button anticlockwise by an angle of 55°, see guide alignment marks on button and cover, shown below (1). The push button should pop back up to its original position. Ensure that the push button has also twisted back clockwise by 55° to its original position see guide marks on button and cover, shown below (2). The unit is now reset.



1. On operated unit Twist push button Anticlockwise 55° reset

2. Button should pop up and twist back to original position to



Note: use alignment marks circled to indicate the push button's status /position.

Unit currently shown as 'standby condition'

Resetting an operated unit is the same as resetting a tested unit.

9) SIL 2 Reliability Data

Reliability and Functional safety IEC/EN61508 which has been assessed and is considered suitable for use in low demand safety function:

- Random Hardware Failures and Systematic Failures (route 2H)
- As an unvoted item (i.e. hardware fault tolerance of 0) at SIL 2

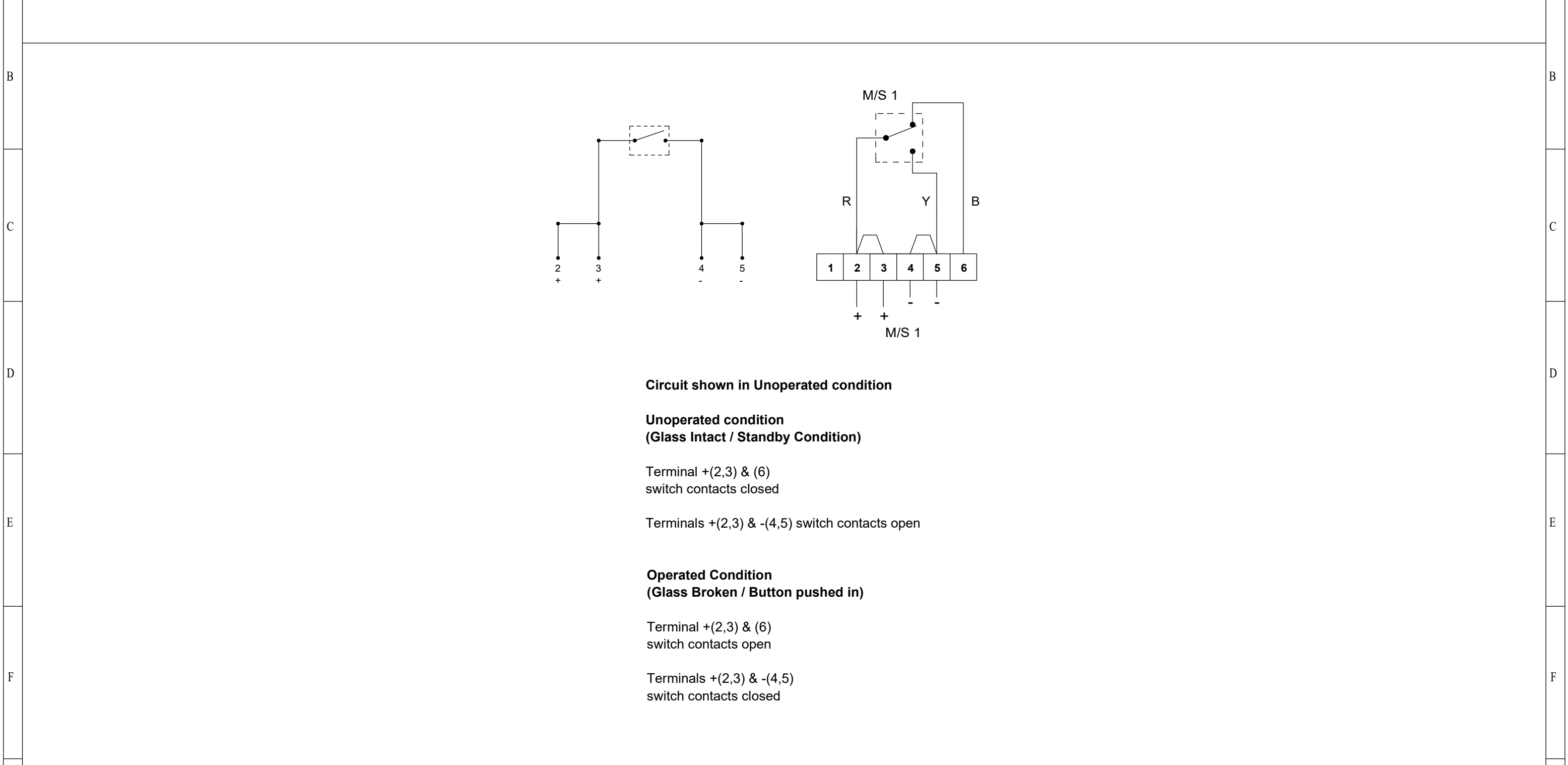
The product was assessed against failure modes:

- Failure to close a contact when the call point is struck with specified force
- Failure to open a contact when the call point is struck with specified force
- Spurious output despite no input

Integrity in respect of failure to close	SIL 2
Total Failure rate	0.133 pmh
"hazardous" failure rate (revealed)	0 pmh
"hazardous" failure rate (unrevealed)	0.1 pmh
"safe" failure rate (revealed)	0.033 pmh
"safe" failure rate (unrevealed)	0
Diagnostic Coverage	99%
System type	A
Hardware Fault Tolerance	0
Safe Failure Fraction	>99%
PFD (hazardous failure)	1.25 x 10 ⁻³
Proof Test Interval	Up to 1 year

1	2	3	4	5	6	7	8	9	10									
WIRING SCHEMATIC FOR PRODUCTS: BExCP3A-BG IS-CP4A-BG BExCP3A-PB AND IS-CP4A-PB BExCP3A-PT IS-CP4A-PT							<table border="1"> <tr> <th>ISSUE</th> <th>MOD No.</th> <th>REASON - INITIAL - DATE</th> </tr> <tr> <td>1</td> <td></td> <td>INTRODUCTION D.A.H - 07-02-2020</td> </tr> <tr> <td>2</td> <td></td> <td>FORMAT UPDATED D.A.H - 22-02-2022</td> </tr> </table>	ISSUE	MOD No.	REASON - INITIAL - DATE	1		INTRODUCTION D.A.H - 07-02-2020	2		FORMAT UPDATED D.A.H - 22-02-2022		
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BEXCP3A-BG[s][t][l][e][m][d][v][o][x][u]																		

SINGLE SWITCH **CONFIG. 1**



DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 LINEAR DIMENSIONAL TOLS ANGULAR DIMENSIONAL TOLS STANDARDS BExCP3A CALL POINTS	DRAWN D.HOWGILL	DATE 07-02-20	SURFACE FINISH 	WEIGHT (Kg) 	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND IS THE COPYRIGHT PROPERTY OF EUROPEAN SAFETY SYSTEMS LTD. NEITHER THE WHOLE OR ANY EXTRACT MAY BE DISCLOSED, LOANED, COPIED OR USED FOR MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT. © EUROPEAN SAFETY SYSTEMS LTD. AS PER LATEST DATE OF ISSUE SHOWN ABOVE	 E2S warning signals EUROPEAN SAFETY SYSTEMS LTD IMPRESS HOUSE MANSELL ROAD ACTON LONDON W3 7QH WWW.E2S.COM	ALL DIMENSIONS IN MM IF IN DOUBT, ASK - DO NOT SCALE		 A3	
	CHECKED R.N.POTTS	DATE 07-02-20	MATERIAL 				TITLE BExCP3A-BG/PB/PT MANUAL CALL POINT WIRING SCHEMATIC			
	APPROVED R.N.POTTS	DATE 07-02-20	ALTERNATIVE MATERIAL 				SCALE NTS	SHEET 1 OF 1	DRAWING NUMBER D150-06-001	

EU Declaration of Conformity



Manufacturer: European Safety Systems Ltd.
Impress House, Mansell Road, Acton
London, W3 7QH
United Kingdom

Authorised Representative: E2S Warnsignaltechnik UG
Charlottenstrasse 45-51
72764 Reutlingen
Germany

Equipment Type: BExCP3A-BG, BExCP3A-PB, BExCP3A-PT, BExCP3B-BG, BExCP3B-PB, BExCP3B-PT,
BExCP3C-BG, BExCP3C-PB, BExCP3C-PT, BExCP3D-BG, BExCP3D-PB, BExCP3D-PT,
BExCP3E-BG, BExCP3E-PB, BExCP3E-PT

Directive 2014/34/EU: Equipment and Protective Systems for use in Potentially Explosive Atmospheres (ATEX)

Notified Body for EU type Examination (Module B):	Sira Certification Service Notified Body No.: 2813 CSA Group Netherlands B.V, Utrechtseweg 310, 6812 AR, Arnhem, Netherlands
EU-type Examination Certificate (Module B):	SIRA 09ATEX3286X
Notified Body for Quality Assurance Notification / Conformity to EU-type based on quality assurance of the production process (Module D):	Sira Certification Service Notified Body No.: 2813 CSA Group Netherlands B.V, Utrechtseweg 310, 6812 AR, Arnhem, Netherlands
Quality Assurance Notification (Module D):	SIRA 05 ATEX M342
Provisions fulfilled by the equipment:	
BExCP3A:	II 2G Ex db eb IIC T6 Gb (-40°C ≤ Ta ≤ +70°C) II 2D Ex tb IIIC T75°C Db (-40°C ≤ Ta ≤ +70°C) or
BExCP3B:	II 2G Ex db eb mb IIC T4 Gb (-40°C ≤ Ta ≤ +50°C) II 2D Ex tb IIIC T60°C Db (-40°C ≤ Ta ≤ +50°C) or
BExCP3C:	II 2G Ex db eb mb IIC T4 Gb (-40°C ≤ Ta ≤ +65°C) II 2D Ex tb IIIC T75°C Db (-40°C ≤ Ta ≤ +65°C) or
BExCP3D:	II 2G Ex db eb mb IIC T4 Gb (-40°C ≤ Ta ≤ +70°C) II 2D Ex tb IIIC T80°C Db (-40°C ≤ Ta ≤ +70°C) or
BExCP3E:	II 2G Ex db eb mb IIC T4 Gb (-40°C ≤ Ta ≤ +65°C) II 2D Ex tb IIIC T75°C Db (-40°C ≤ Ta ≤ +65°C)
Standards applied:	EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015/A1:2108 IEC 60079-18:2015/AC:2018 EN 60079-31: 2014 IP6X Dust Protection to EN60079-0 / EN 60079-31

Directive 2014/30/EU: Electromagnetic Compatibility Directive (EMC)

Standards applied:	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2007 / A1:2011 / AC: 2012 EN 61000-6-4:2007 / A1:2011
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Directive 2011/65/EU: Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

The product and all the components contained within it are in accordance with the restriction of the use of hazardous substances in electrical and electronic equipment, including amendment by Directive 2015/863/EU.

EU Declaration of Conformity



Regulation (EC) 1907/2006: Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

The product and all the components contained within it are free from substances of very high concern.

Other Standards and Regulations

EN 60529:1992+A2:2013 - Degrees of protection provided by enclosures (IP code) – enclosure rated IP66

Construction and design requirements according to EN54-11:2001 clause 4.7 – BExCP3A-BG / B-BG / C-BG / D-BG only (fitted with burning house symbol shown in figure 3a and no lift flap)

On behalf of European Safety Systems Ltd., I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives, regulations and standards.

This Declaration is issued under the sole responsibility of the manufacturer.

A handwritten signature in black ink, appearing to read 'Martin Streetz'.

Martin Streetz
Quality Assurance Manager

Document No.: DC-007_Issue_N
Date and Place of Issue: London, 23/12/2020



UKCA Declaration of Conformity



Manufacturer: European Safety Systems Ltd.
Impress House, Mansell Road, Acton
London, W3 7QH
United Kingdom

Equipment Type: BExCP3A-BG, BExCP3A-PB, BExCP3A-PT, BExCP3B-BG, BExCP3B-PB, BExCP3B-PT,
BExCP3C-BG, BExCP3C-PB, BExCP3C-PT, BExCP3D-BG, BExCP3D-PB, BExCP3D-PT,
BExCP3E-BG, BExCP3E-PB, BExCP3E-PT

Directive UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1 : Product or Protective System Intended for use in Potentially Explosive Atmospheres (UKCA)

Notified Body for UK type Examination (Module B): Sira Certification Service
Notified Body No.: 0518
Rake Lane, Eccleston, Chester CH4 9JN, UK

UK-type Examination Certificate (Module B): CSAE 21UKEX3556X

Notified Body for Quality Assurance Notification / Conformity to EU-type based on quality assurance of the production process (Module D): Sira Certification Service
Notified Body No.: 0518
Rake Lane, Eccleston, Chester CH4 9JN, UK

Quality Assurance Notification (Module D): CSAE 22UKQAN0046

Provisions fulfilled by the equipment:

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BExCP3D:	II 2G Ex db eb mb IIC T4 Gb (-40°C ≤ Ta ≤ +70°C) II 2D Ex tb IIIC T80°C Db (-40°C ≤ Ta ≤ +70°C) or
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EN 60079-1:2014
EN 60079-7:2015/A1:2108
IEC 60079-18:2015/AC:2018
EN 60079-31: 2014
IP6X Dust Protection to EN60079-0 / EN 60079-31

Directive 2014/30/EU: Electromagnetic Compatibility Directive (EMC)

Standards applied: EN 61000-6-1:2007
EN 61000-6-2:2005
EN 61000-6-3:2007 / A1:2011 / AC: 2012
EN 61000-6-4:2007 / A1:2011

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This Declaration is issued under the sole responsibility of the manufacturer.

Martin Streetz
Quality Assurance Manager

Document No.: DC-093_Issue_A
Date and Place of Issue: London, 24/02/2022