

# 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.

## COMSEC PROTECTION SYSTEMS LTD.

UNIT 26, STADIUM BUSINESS PARK, • BALLYCOOLIN ROAD, • DUBLIN 11, • IRELAND

PHONE: +353 (0)1 8853008 • FAX: +353 (0)1 8853007

EMAIL: [info@comsec.ie](mailto:info@comsec.ie) • WEB: <http://www.comsec.ie>

### 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 4.0mm <sup>2</sup> cables.

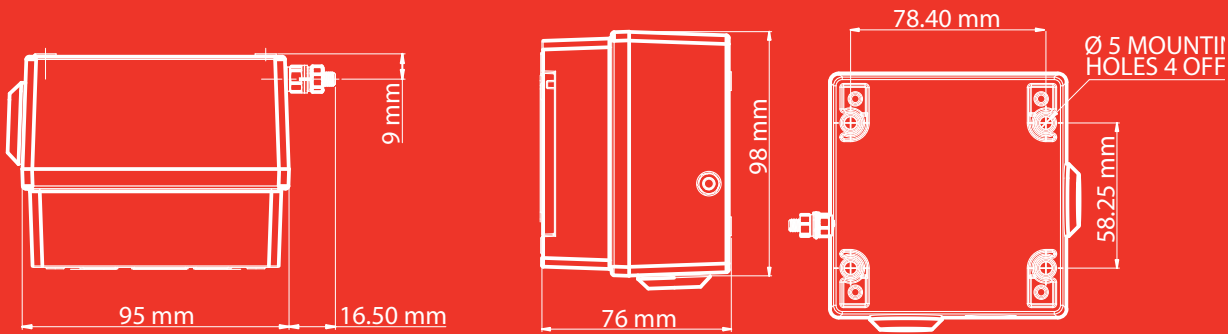
### Options:

- Alternative housing colours are available to meet specific requirements.
- DIN rail mounted terminal blocks: 8 x 2.5mm<sup>2</sup>
- 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





### Versions:

Version:	Category:	Input Parameters:	Monitoring Resistors:	Terminals:	Cable entries:	Weight:
IS-CP4A-BG	II 1G Ex ia IIC T6 Ga	$U_i = 30V$	N	$6 \times 4mm^2$	2 x M20 Top/Bottom	0.8Kg
	II 2D Ex t IIIC T60°C Db	$I_i = 500mA$			1 x M20 Left/Right	
	IP66	$P_i = 1.1W$				
	$T_a = -40^\circ C$ to $+55^\circ C$	$C_i = 0$				
		$L_i = 0$				
IS-CP4B-BG	II 1G Ex ia IIC T4 Ga	$U_i = 30V$	Y	$6 \times 4mm^2$ or	2 x M20 Top/Bottom	0.8Kg
	II 2D Ex t IIIC T70°C Db	$I_i = 500mA$		$8 \times 2.5mm^2$	1 x M20 Left/Right	
	IP66	$P_i = 1.1W$		DIN rail		
	$T_a = -40^\circ C$ to $+55^\circ C$	$C_i = 0$				
		$L_i = 0$				

### Part Codes:

Type:	Terminals:	Lift Flap:	Duty Label:	Colour:	E.O.L Resistor:	Series Resistor:
IS-CP4A-BG	ST	LF	NL	RD	ExxxR	SxxxR
IS-CP4B-BG	DR	NF	DL			

ST: Standard  
DR: DIN rail  
'DR' option  
only on IS-CP4B  
version

LF: Lift Flap  
NF: No Flap  
(Standard)

NL: No label (std)  
DL: Duty Label  
Specify content  
when ordering.

RD: Red (std)  
Contact sales  
for other  
colour options

xxx: Res. value  
e.g.: E470R  
Only available on  
IS-CP4B version

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.

### COMSEC PROTECTION SYSTEMS LTD.

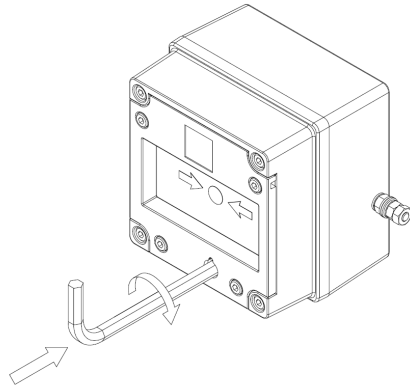
UNIT 26, STADIUM BUSINESS PARK, • BALLYCOOLIN ROAD, • DUBLIN 11, • IRELAND

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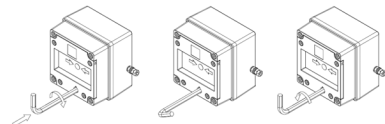
### 8) Testing unit operation

The break glass unit can be tested without the need to break/replace the frangible glass element. A test key (7mm Allen key) is used to mechanically drop the glass down activating the switch.



The test key is inserted in the test cam and rotated clockwise by an angle of 60° the glass element will visibly drop down in the viewable window. The call point switch will now change over its contacts to operate the alarm.

Once testing is complete the unit needs to be reset, the test key is rotated back anticlockwise by an angle of 60° back to its original position. The glass element should now raise up so it is level again in the viewable window.



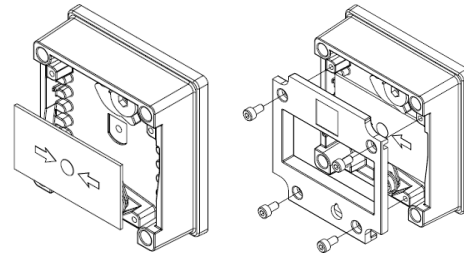
1. Insert test Key rotate clockwise 60°
2. Hold in position during test
3. Rotate back anticlockwise to reset

### 9) Replacement of glass element

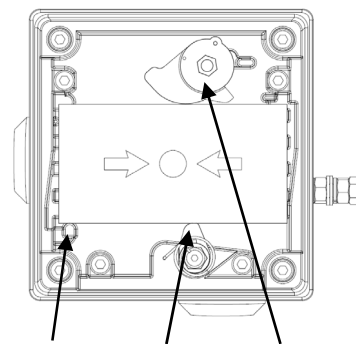
If the break glass unit has been operated the broken glass element can be quickly replaced.

The break glass cover plate is removed by unscrewing the 4 off M4 cap head screws attaching it.

Once cover is removed the broken glass will be free to be removed, clean out any other fragments of glass carefully.



To fit the new glass element rotate the top cam clockwise by an angle of 50° (use a 6mm Allen key) this will then allow the glass to fit back into the pocket it sits in, resting on the pivot point and test cam, release the top cam to rest on the top of the glass element.

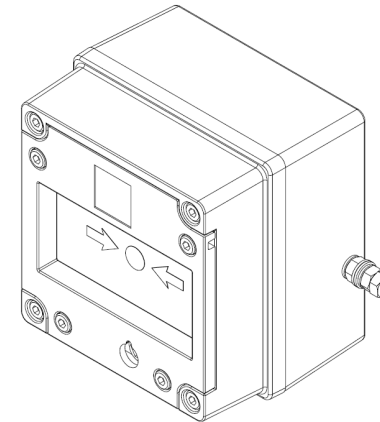


Pivot point Test Cam Top Cam (rotate)

Replace the cover plate and tighten the 4 off M4 cap head screws.

Ensure the glass element is free to move under the cover plate. This can be done by running through the units test operation. See section 8 of this instruction manual.

## IS-CP4A-BG Manual Call Point - Breakglass For use in Flammable Gas and Combustible Dust Atmospheres.



### 1) Introduction

The IS-CP4A-BG is a break glass manual call point which is certified intrinsically safe to the European and International Gas and Dust standards. The unit meets the requirements of the ATEX directive 94/9/EC and IECEx scheme.

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

The IS-CP4A-BG has no monitoring resistors. The units are Group II, EPL (equipment protection level) Ga. The equipment is certified 'Ex ia IIC T6 Ga' and as such may be used in Zones 0, 1 and 2 with flammable gases and vapours with gas 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 t IIIC T60°C Db' and as such may be used in Zones 21 and 22 for combustible dusts groups IIIA, IIIB & IIIC.

The equipment needs to be installed with ATEX and/or IECEx certified Zener Barriers or Galvanic Isolators

### 2) Marking

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


Unit Type No.:  
IS-CP4A-BG Manual Call Point


Code:  
Ex ia IIC T6 Ga  
Ex t IIIC T60 °C Db  
IP66  
-40°C ≤ Ta ≤ +55°C

Input Voltage: Dust Protection Ex t  
AC voltage 250V Max Current 5.0A Max  
DC voltage 56V Max Current 1.0A Max

Input Voltage: Gas Protection Ex ia  
Ui=30V Ii=500mA Pi=1.1W Ci=0 Li=0

Certificate No.:  
SIRA 09ATEX2287X  
IECEx SIR 09.0122X

Epsilon x:  II 1G2D

CE Marking  
Notified body No.  0518

Year/Serial No. i.e. 10/1CP4ABG000001

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

### 3) Type Approval Standards

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

EN 60079-0:2006 / IEC 60079-0:2004  
EN 60079-0:2009 / IEC 60079-0:2007-10  
EN 60079-11:2007 / IEC 60079-11:2006  
EN 60079-26:2007 / IEC 60079-26:2006

EN 61241-1:2004 / IEC 61241-1:2004

The equipment is certified for use in ambient temperatures in the range -40°C to +55°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 and IEC 61241-14/EN 61241-14.

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.

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.

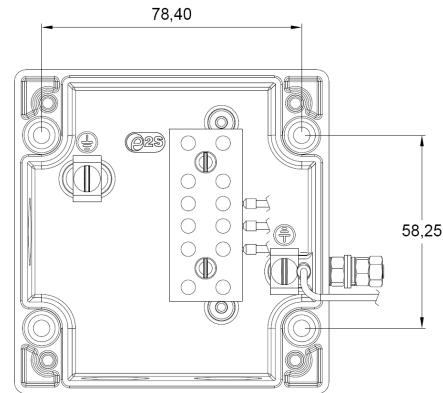
"Aggressive substances" - e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

"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.

Refer to certificates SIRA 09ATEX2287X and IECEx SIR 09.0122X for special conditions of safe use.

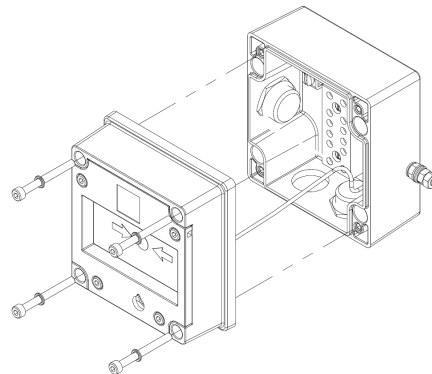
#### 5) Call Point Location and Mounting

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.

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 terminal block, the internal earth terminal and mounting hole recesses.

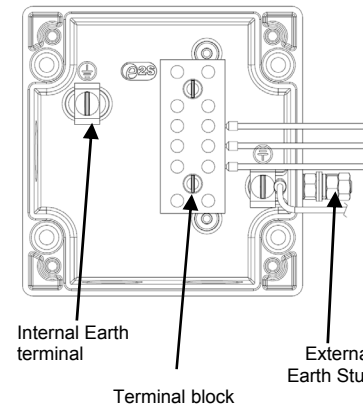
#### 6) Earthing

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.

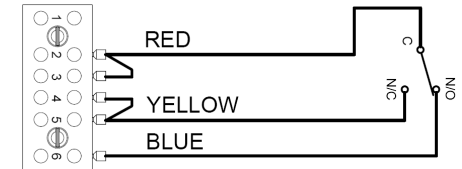


#### 7) Cable connections

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

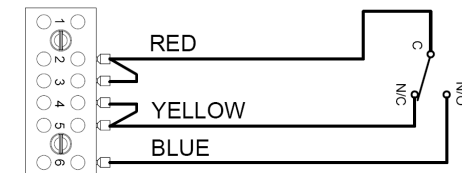
The unit can be wired in a number of different ways depending whether normally open or normally closed contacts are required.

The equipment needs to be installed with ATEX and/or IECEx certified Zener Barriers or Galvanic Isolators



#### Unit in 'Standby condition' unoperated

Terminal (2,3) & (6) switch contacts closed  
Terminals (2,3) & (4,5) switch contacts open



#### Unit in 'Operated condition' (broken glass)

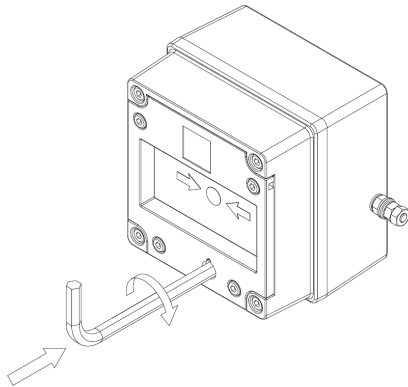
microswitch contacts changed over  
Terminal (2,3) & (6) switch contacts open  
Terminals (2,3) & (4,5) switch contacts closed

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.

**8) Testing unit operation**

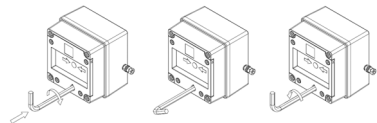
The breakglass unit can be tested without the need to break/replace the frangible glass element. A test key (7mm Allen key) is used to mechanically drop the glass down activating the switch.

The test key is inserted in the test cam and rotated clockwise by an angle of 60° the glass element will visibly drop down in the viewable window.



The call point switch will now change over its contacts to operate the alarm.

Once testing is complete the unit needs to be reset, the test key is rotated back anticlockwise by an angle of 60° back to its original position. The glass element should now raise up so it is level again in the viewable window.



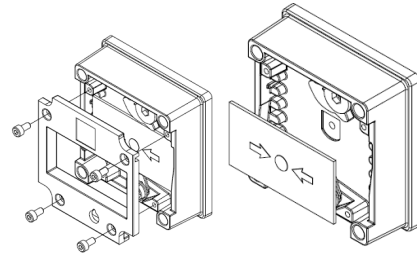
1. Insert test Key rotate clockwise 60°
2. Hold in position during test
3. Rotate back anticlockwise to reset

**9) Replacement of glass element**

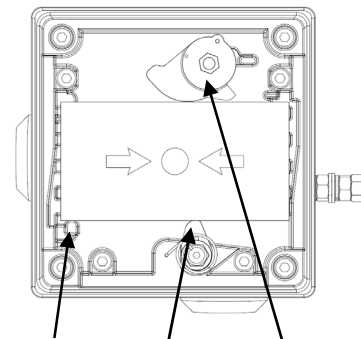
If the breakglass unit has been operated the broken glass element can be quickly replaced.

The breakglass cover plate is removed by unscrewing the 4 off M4 cap head screws attaching it.

Once cover is removed the broken glass will be free to be removed, clean out any other fragments of glass carefully.



To fit the new glass element rotate the top cam clockwise by an angle of 50° (use a 6mm Allen key) this will then allow the glass to fit back into the pocket it sits in, resting on the pivot point and test cam, release the top cam to rest on the top of the glass element.

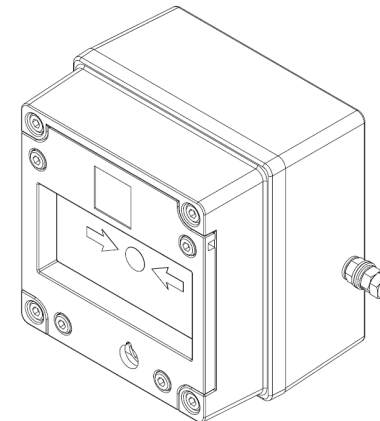


Pivot point Test Cam Top Cam (rotate)

Replace the cover plate and tighten the 4 off M4 cap head screws.

Ensure the glass element is free to move under the cover plate. This can be done by running through the units test operation. See section 8 of this instruction manual.

**IS-CP4B-BG**  
**Manual Call Point – Breakglass**  
**With Resistor Modules**  
**For use in Flammable Gas and**  
**Combustible Dust Atmospheres.**



**1) Introduction**

The IS-CP4B-BG is a breakglass manual call point which is certified intrinsically safe to the European and International Gas standards. The unit meets the requirements of the ATEX directive 94/9/EC and IECEx scheme.

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

The IS-CP4B-BG has up to two monitoring resistors. The units are Group II, EPL (equipment protection level) Ga. The equipment is certified 'Ex ia IIC T4 Ga' and as such may be used in Zones 0, 1 and 2 with flammable gases and vapours with gas groups IIA, IIB & IIC and temperature classes T1, T2, T3 and T4.

The equipment needs to be installed with ATEX and/or IECEx certified Zener Barriers or Galvanic Isolators.

**2) Marking**

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


Unit Type No.:  
IS-CP4B-BG Manual Call Point


Code:  
Ex ia IIC T4 Ga  
IP66

Ui=30V Ii=500mA Pi=1.1W Ci=0 Li=0

-40°C <= Ta <= +50°C

Certificate No.:  
SIRA 09ATEX2287X  
IECEx SIR 09.0122X

Epsilon x:  II 1G

CE Marking  
Notified body No.  0518

Year/Serial No. i.e. 10/1CP4BBG000001

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

**3) Type Approval Standards**

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

EN 60079-1:2006 / IEC 60079-0:2004  
 EN 60079-1:2009 / IEC 60079-0:2007  
 EN 60079-11:2007 / IEC 60079-11:2007  
 EN 60079-26:2007 / IEC 60079-26:2006

EN 61241-0:2006 / IEC 61241-0:2004  
 EN 61241-1:2004 / IEC 61241-1:2004

The equipment is certified for use in ambient temperatures in the range -40°C to +50°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 and IEC 61241-14/EN 61241-14.

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.

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.

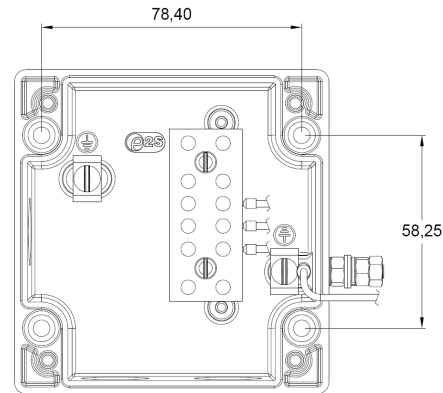
"Aggressive substances" - e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials.

"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.

Refer to certificates SIRA 09ATEX2287X and IECEX SIR 09.0122X for special conditions of safe use.

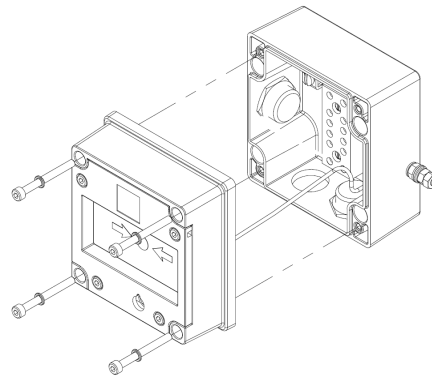
### 5) Call Point Location and Mounting

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.

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.

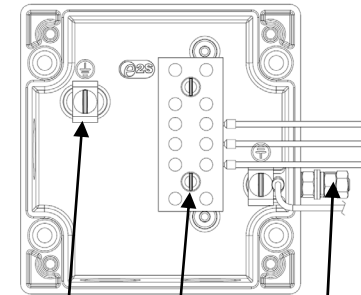
### 6) Earthing

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.



Internal Earth terminal

External Earth Stud

Ex e terminal block

### 7) Cable connections

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

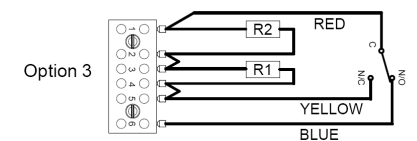
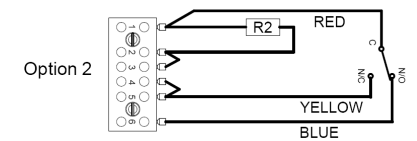
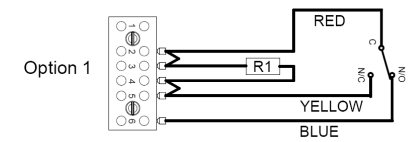
The unit can be wired in a number of different ways depending on the resistor combination selected.

Option 1 – In line resistor R1

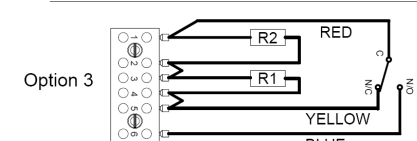
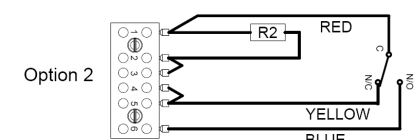
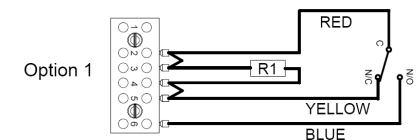
Option 2 – End of line resistor R2

Option 3 – In line and end of line resistors R1 & R2

The equipment needs to be installed with ATEX and/or IECEX certified Zener Barriers or Galvanic Isolators.



**Unit in 'Standby condition' unoperated**  
Terminals (2,3) & (6) switch contacts closed  
Terminals (2,3) & (4,5) switch contacts open



**Unit in 'Operated condition' (broken glass)**  
microswitch contacts changed over  
Terminals (2,3) & (6) switch contacts open  
Terminals (2,3) & (4,5) switch contacts closed