



# Clifford & Snell



## D7277 OPERATING AND INSTALLATION INSTRUCTIONS FOR INTRINSICALLY SAFE YO3/YO4/YO5 ISC or ISD SOUNDERS



YO4is

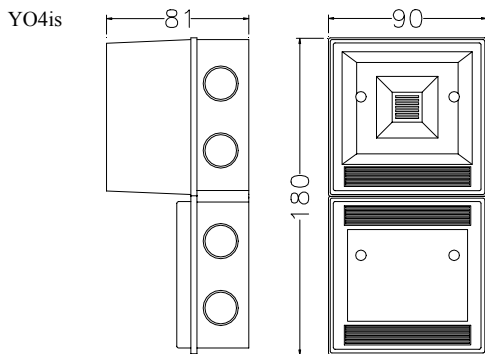
YO3is

YO5is

### Main Features

- ATEX approved
- 2 stage alarm
- Rugged construction
- 32 selectable tones meeting international regulations
- Compact one piece design
- Complies with BS5839 Pt1 : 2002
- Meets PFEER & UKOOA requirements
- Enclosure made from ABS flame retardant plastic (YO3/5)  
Enclosure made from ABS non flame retardant plastic (YO4)
- Monitoring facility
- High sound output
- Stainless steel fixings
- Continuously rated
- Sound selection via DIL switch

### Dimensions (mm)



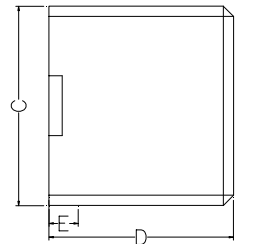
Mounting: Via Internal fixing Holes

### Technical Specification

- Relative humidity 95% @ 40deg C
- For use in zones 0,1,2
- IP55 – YO3/4
- IP56 - YO5
- Volume control T4 only
- Operating voltage 12Vdc, 18V or 24Vdc via barriers
- Sound output YO3/4 100dB(A) @ 1 mtr  
YO5 105dB(A) @ 1 mtr
- Models ISC Approved Barriers  
ISD Opto-coupled  
Application notes WD 9261
- Operating temp -25deg C to +40deg C
- Voltage upper limit controlled by barrier
- Minimum current consumption 20mA

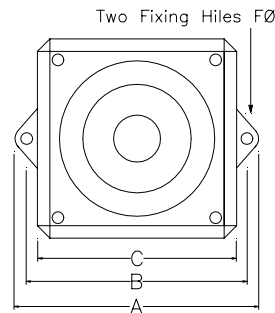
YO3is YO5is

Dimensions (mm)



	YO3is	YO5is
Dim A	118	169
Dim B	102	153
Dim C	89	134
Dim D	85	128
Dim E	18	23
Dim F	6	8

Mounting: Via External fixing Lugs



All dimensions quoted are approximate only and subject to change without notice as are technical features resulting from continual development and improvement



YO5is

YO3 / 4is

YO3/4

YO5

YO3is



Ui=30V  
Pi=1.3W  
Li=0

Ii=133mA  
Ci=0

YO4is

YO5is

T4 only

**THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE CARRYING OUT ANY WORK ON THESE INTRINSICALLY SAFE ALARMS**

**AN ATEX APPROVED APPROPRIATE BARRIER MUST BE USED BEFORE CONNECTING THESE UNITS TO ANY POWER SUPPLY**

**THESE ALARMS SHOULD ONLY BE INSTALLED BY A COMPETENT PERSONNEL**

These alarms are ATEX approved. Certification no: BAS02ATEX1190X

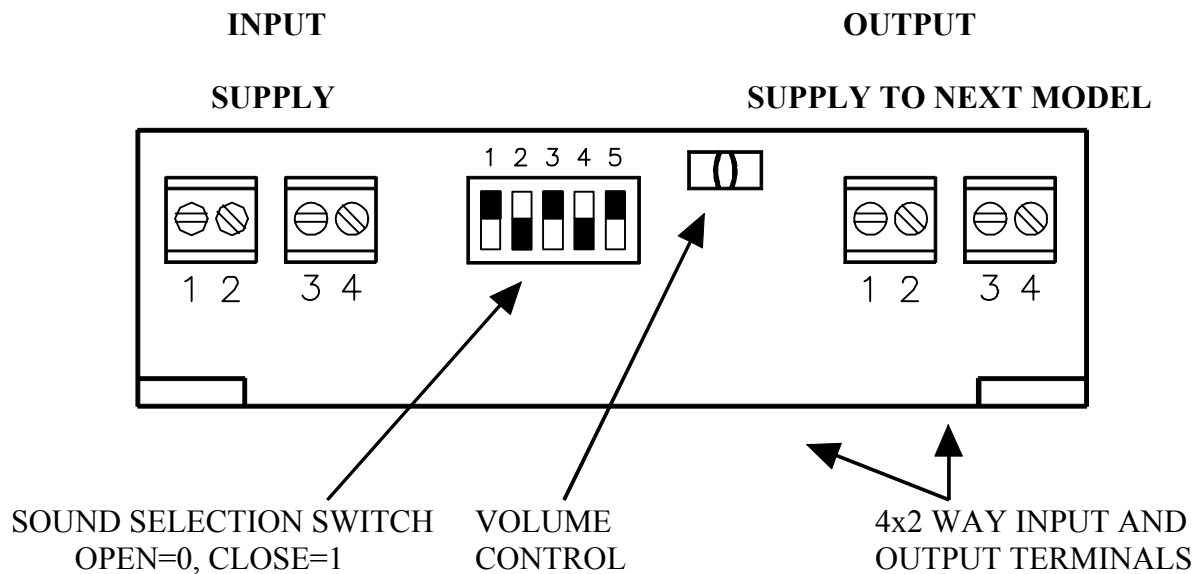
CE1180 EX II 1 G - EEx ia IIC T4 and CE1180 EX II 1 G - EEx ia IIC T6

No alteration to the unit i.e. PCB or pressure unit is allowed. In case if the unit becomes faulty, It must be returned to the factory.

**‘This equipment is designed and manufactured to protect against other hazards as defined in paragraph 1.2.7 of Annex II of the ATEX Directive 94/9/EC.’**

**Location:** A suitable location must be selected with regard to the area to be covered by the sound signal. The surface should be flat in the area of the fixings and the material suitable to carry the weight of the alarm. The case of the sounder shouldn't be put under any stress.

**Sound Signal Selection:** Sound signal selection is made by the setting of a PCB mounted DIL switch, located between the input and output terminals, as shown in diagram below:



**Volume Control:** A volume control giving approximately 15dB(A) adjustment is located besides the DIL switch on alarms with a T4 temperature classification. Please note that volume control is not fitted to T6 temperature classified models.

## SOUND SIGNALS, SOUND OUTPUT AND SUPPLY CURRENT

First Stage Signal	Sound Description	Frequency Hz	Rept. Rate	2nd Stage Signal	Sound Switches	Output dB(A)	Input Current mA
					1 2 3 4 5		
1	alt. two tone	800-1000	0.5	3	1 1 1 1 1	100	26
2	“	2500-3100	0.5	4	0 1 1 1 1	102	34
3		800-1000	0.25	7	1 0 1 1 1	100	25
4		2500-3100	0.25	8	0 0 1 1 1	103	34
5		440-554	0.4/0.1	14	1 1 0 1 1	98	24
6		430-470	1.0	14	0 1 0 1 1	98	24
7		800-1000	0.13	12	1 0 0 1 1	100	25
8		2500-3200	0.07	13	0 0 0 1 1	102	34
9		440-554	2.0	10	1 1 1 0 1	98	24
10	Cont.tone	700	-	1	0 1 1 0 1	99	25
11	“	1000	-	31	1 0 1 0 1	98	24
12		1000	-	7	0 0 1 0 1	101	25
13		2300	-	2	1 1 0 1 1	101	30
14		440	-	9	0 1 0 0 1	98	24
15	In. tone	1000	2.0	31	1 0 0 0 1	97	24
16	“	420	1.25	30	0 0 0 0 1	97	24
17		1000	0.5	1	1 1 1 1 0	98	24
18		2500	0.25	4	0 1 1 1 0	101	30
19		2500	0.5	2	1 0 1 1 0	101	29
20		700	6/12	10	0 0 1 1 0	100	24
21		1000	1.0	32	1 1 0 1 0	99	24
22		700	4.0	10	0 1 0 1 0	99	24
23		700	0.25	10	1 0 0 1 0	97	23
24		720	0.7/0.3	10	0 0 0 1 0	99	24
25	Int.fast,rising	1400	0.25	26	1 1 1 0 0	101	28
26	fast siren	250-1200	0.085	11	0 1 1 0 0	99	24
27	rising cons	1000	10/40/10	17	1 0 1 0 0	100	25
28	iso 8201 evac	800-1000	as std	11	0 0 1 0 0	97	23
29	fast whoop	500-1000	0.15	32	1 1 0 0 0	99	25
30	slow whoop	500-1200	4.5	12	0 1 0 0 0	100	25
31	reverse sweep	1200-500	1.0	11	1 0 0 0 0	98	24
32	siren	500-1200	3.0	26	0 0 0 0 0	98	24

### NOTES:

- The above sound output levels, switching rate and current consumption values relate to a typical Y05 sounder connected to 24Vdc supply via a suitable ATEX approved 28 Volts 300 Ohm d.c shunt diode safety barrier.
- For other Intrinsically Safe models i.e. Y03 and Y04 the sound output is typically reduced by 4dB(A) and 2dB(A) respectively.
- For the same sounder connected to an 18 Volts or 12 Volts d.c supply via a 22 Volts 150 Ohm barrier respectively, the sound output level and current consumption figures will be reduced by 1-2.5dB(A), 1.5-5.0mA for 18Volts and 4.5-6.5dB(A), 9.0-14.0mA for 12 Volts supplies.
- Connection of two sounders in parallel to a single 24 volts d.c supply will reduce the sound output level by approximately 3dB(A) and an input voltage tolerance to 10%.

The recommended PFEER sound signals by UKOOA are as follows:

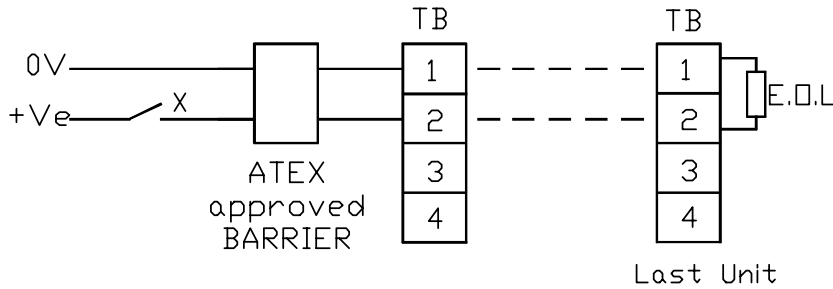
General Alarm	1000Hz at 1.0 second intervals	Signal number 15
PAPA	Reverse sweep 1200-500Hz	Signal number 31
Toxic Gas	1000Hz Continuous Note	Signal number 12.

# Connection Details and Line Monitoring

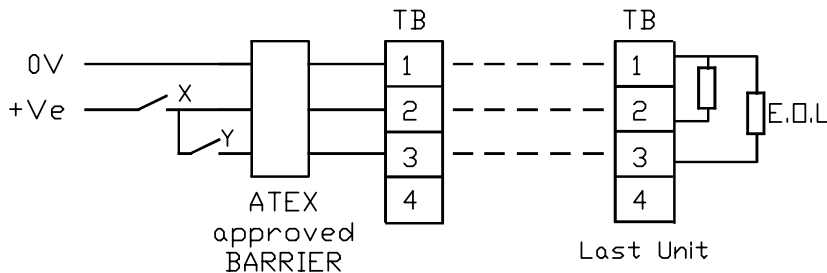
An End Of Line (E.O.L) Resistor is required for Line Monitoring and it should be wire wound or metal film type with a resistance value of not less than 750 ohms, and power rating not less than 2 Watts, or not less than 4700 ohms, with power rating of not less than 0.4 Watts. The line monitoring facility allows the integrity of the line to the sounder to be monitored through the barrier to the control system fault detection and indication circuits. Two same type sounders can be connected in parallel.

## 1. Monitoring via Reverse Polarity

### Single Stage Alarm:

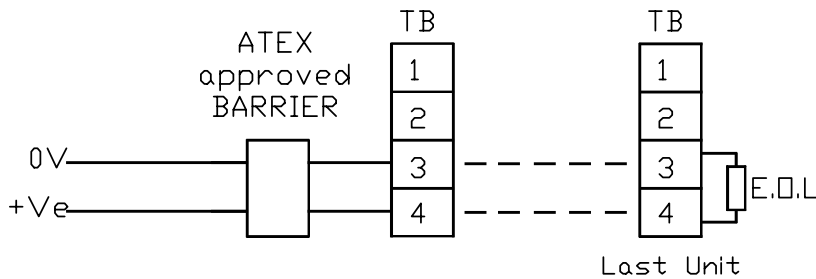


### 2nd Stage Alarm with a third wire:

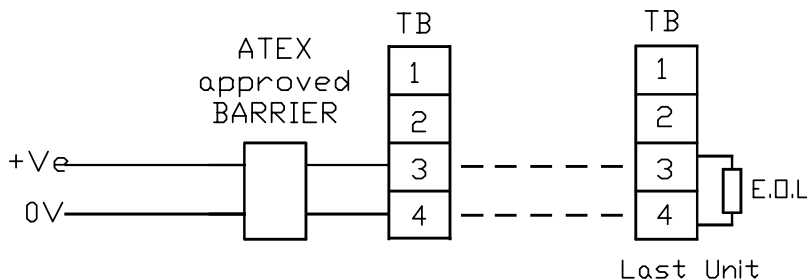


## 2. Monitoring via Threshold (applied voltage <1V)

### 1st Stage:



### 2nd Stage:



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