

EN 54-17 Isolator Specification (Autonomous Voltage Sensing Isolator)

Supply Voltage (V min to V max):	17 to 28 Vdc *
Nominal Supply (V nom):	24 Vdc
Maximum Rated Continuous Current (Ic max):	1 A - switch closed
Maximum Switching Current (Is max):	3 A - short circuit condition
Maximum Leakage Current (IL max):	14 mA @ 28 Volts - switch open
Maximum Impedance (Zc max) @ loop startup/recovery condition:	100 mOhm - switch closed
Maximum Isolating Voltage (Vso max):	16.5 Volts - switches from closed to open
Minimum Isolating Voltage (Vso min):	12.5 Volts - switches from closed to open
Maximum Re-connecting Voltage (Vsc max):	13.5 Volts - switches from open to closed
Minimum Re-connecting Voltage (Vsc min):	7.0 Volts - switches from open to closed

* Excluding data pulses

Sounder Tone Pair Details (Tones are selectable at the panel)

PAIR	tone 1 - PRIMARY	tone 2 - SECONDARY
1	Evacuate (572 Hz for 0.5 sec, 720 Hz for 0.5 sec)	Alert (1 sec off, 825 Hz for 1 sec)
2	Alternating (962 Hz for 0.25 sec, 572 Hz for 0.25 sec)	Continuous (925 Hz)
3	Medium Sweep (800 Hz to 970 Hz at 1 Hz)	Continuous (970 Hz)
4	Fast Sweep (2500 Hz to 2850 Hz at 9 Hz)	Continuous (2850 Hz)
5	Dutch Slow Sweep (500 Hz to 1200 Hz for 3.5 sec on, 0.5 sec off)	Continuous (825 Hz)
6	DIN Tone Sweep (1200 Hz to 500 Hz for 1 sec)	Continuous (825 Hz)
7	Swedish Fire Tone (660 Hz, 150 msec on, 150 msec off)	All clear continuous (660 Hz)
8	Aus Fast Rise Sweep [3 x (500 Hz to 1200 Hz for 0.5 sec on), 0.5 sec off]	Aus Alert (420 Hz, 0.625 sec, 0.625 sec off)
9	NZ Slow Rise Sweep (500 Hz to 1200 Hz for 3.75 sec on, 0.25 sec off)	NZ Alert (420 Hz, 0.625 sec, 0.625 sec off)
10	US Temporal LF [3 x (970 Hz, 0.5 sec on, 0.5 sec off), 1 sec off]	Continuous (970 Hz)
11	US Temporal HF [3 x (2850 Hz, 0.5 sec on, 0.5 sec off), 1 sec off]	Continuous (2850 Hz)
12	Simulated Bell Continuous	Simulated Bell Intermittent (1 sec off, 1 sec on)
13	Cranford Sweep	Cranford Alert
14	Cranford Continuous	Cranford Alert
15	Cranford Two Tone	Cranford Alert



Manufacturer: Comptonics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com

E&OE. No responsibility can be accepted by the manufacturer or distributors of these devices for any misinterpretation of this instruction, or for the compliance of the system as a whole. The manufacturers policy is one of continuous improvement and we reserve the right to make changes to product specifications at our discretion and without prior notice.

Hi-Output Range Installation Instructions

Addressable Sounder & Sounder VAD Discovery Compatible



Product Description

The Hi-Output range of addressable, loop-powered devices include sounders and combined sounder visual alarm devices (VADs). They are designed for use with C-TEC's ZFP/XFP panel and other Apollo Discovery compatible fire panels.

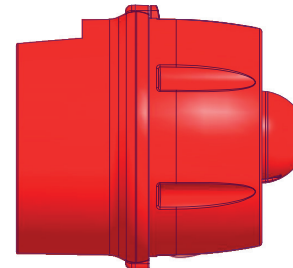
With a 103 dB(A) sound output @ 1 m, their purpose is to visually and audibly alert building occupants of a fire alarm. Units are supplied with deep base, in a red plastic enclosure.

This instruction details the following variants:

Part Number	Description
BF430A/CX/DR/65	Hi-Output Wall Sounder, Deep Base, Red, IP55C / IP65C* (Discovery)
BF433A/CX/DR/65	Hi-Output Wall Sounder VAD, Deep Base, Red, IP55C / IP65C* (Discovery)

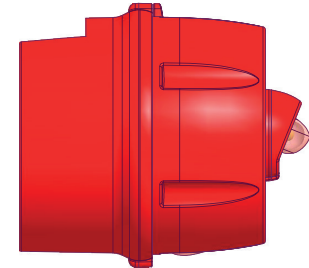
* with optional O ring (Pt. No. SUB100054)

ADDRESSABLE SOUNDER



Deep Base
BF430A/CX/DR/65 (Red)

ADDRESSABLE SOUNDER VAD



Deep Base
BF433A/CX/DR/65 (Red)

The devices offer low current consumption, high sound output, high efficiency VADs, 7 volume levels, 15 selectable tone pairs and built-in short-circuit loop isolators.

The sounder and VAD on the combined device can be set to operate independently of each other (panel dependent function).

All devices are designed to comply with the relevant sections fire alarm device standards EN 54-3 (Sounders), EN 54-23 (Visual alarm devices - VADs) and EN 54-17 (Short-circuit isolators).

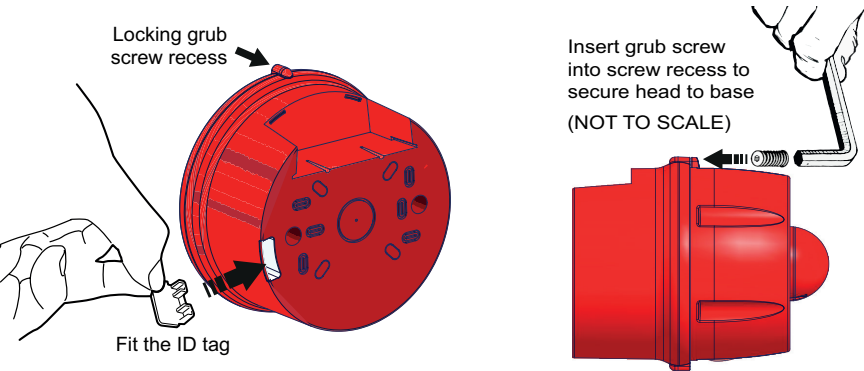
Base Accessories and Locking Mechanisms

Deep Base

Important Note: For the deep base, only the ID tag may be fitted. DO NOT use the locking clip otherwise the head will be permanently locked in position.

Ensure the O-ring is correctly positioned between the base and head to maintain the IP rating. Also, ensure all cable entry points and cable glands are adequately sealed.

The base is secured to the head using a locking grub screw (M3x10) and Allen key, as shown below. This locking kit is separately available.



Technical Specifications

Supplementary Specification

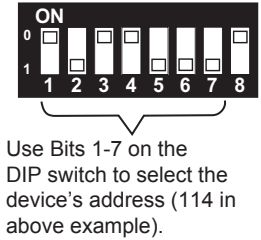
Part Number:	BF430A/CX/DR/65	BF433A/CX/DR/65
Description:	Hi-Output Wall Sounder, Deep Base, Red	Hi-Output Wall Sounder VAD, Deep Base, Red
Relevant Standards:	EN 54-3 (Sounders) EN 54-17 (Short-circuit isolators)	EN 54-3 (Sounders) EN 54-23 (VADs) EN 54-17 (Short-circuit isolators)
Communication Protocol:	Apollo Discovery	
Supply Voltage:	17 to 28 Vdc *	17 to 28 Vdc (Sonder) * 21 to 28 Vdc (VAD) *
Quiescent Current (Typical):	680 µA	
Active Current (Typical):	5.5 mA **	13.9 mA **
Active Current (Max):	6.7 mA **	15.1 mA **
Power:	160 mW	390 mW
Environment Type (EN 54-3/23):	Type B (EN54-3)	Type B (EN54-3 & EN54-23)
VAD Cat. (EN 54-23) (W-Class):	N/A	W-2.4-8.2 / W-4-4
Cuboid Volume (W-Class):	N/A	161.5 m³ / 64 m³
VAD Temporal Pattern:	N/A	0.5 Hz, synchronised
Nominal SPL at Vmin:	103 dB(A) @ 1 m ***	
Indicators:	Polling LED (Green) S/C Isolator Active (Amber)	Polling LED (Green) S/C Isolator Active (Amber)
Dimensions (including base):	114 mm diameter, 131.5 mm deep	114 mm diameter, 131.6 mm deep
Weight:	300 g	315 g
IP Rating (EN 60529):	IP55C / IP65C ****	
Body Material / Colour:	Polycarbonate RAL 3001 Signal Red	
Operating Temperature:	-25°C to +55°C (Type B)	
Humidity:	Max. 95% RH (non-condensing)	

* Excluding data pulses
** @ Maximum volume level @ Vmin
*** ±3 dB(A) when set to Tone 1 (Pair 2)
**** with optional O ring (Pt. No. SUB100054)

Setting the Device Address

Each device's address is set using Bits 1 to 7 on the DIP switch in the device's head. Bit 8 is not used.
DIP switch up (ON) = 0, DIP switch down (OFF) = 1.
DO NOT use addresses 0 or 127.

Use a small screwdriver to set the switches and refer to chart below for address settings. Ensure the switches are set before installation and fully pushed up or down.



Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567	Addr	DIP position 1234567
1	1000000	26	0101100	51	1100110	76	0011001	101	1010011
2	0100000	27	1101100	52	0010110	77	1011001	102	0110011
3	1100000	28	0011100	53	1010110	78	0111001	103	1110011
4	0010000	29	1011100	54	0110110	79	1111001	104	0001011
5	1010000	30	0111100	55	1110110	80	0000101	105	1001011
6	0110000	31	1111100	56	0001110	81	1000101	106	0101011
7	1110000	32	0000010	57	1001110	82	0100101	107	1101011
8	0001000	33	1000010	58	0101110	83	1100101	108	0011011
9	1001000	34	0100010	59	1101110	84	0010101	109	1011011
10	0101000	35	1100010	60	0011110	85	1010101	110	0111011
11	1101000	36	0010010	61	1011110	86	0110101	111	1111011
12	0011000	37	1010010	62	0111110	87	1110101	112	0000111
13	1011000	38	0110010	63	1111110	88	0001101	113	1000111
14	0111000	39	1110010	64	0000001	89	1001101	114	0100111
15	1111000	40	0001010	65	1000001	90	0101101	115	1100111
16	0000100	41	1001010	66	0100001	91	1101101	116	0010111
17	1000100	42	0101010	67	1100001	92	0011101	117	1010111
18	0100100	43	1101010	68	0010001	93	1011101	118	0110111
19	1100100	44	0011010	69	1010001	94	0111101	119	1110111
20	0010100	45	1011010	70	0110001	95	1111101	120	0001111
21	1010100	46	0111010	71	1110001	96	0000011	121	1001111
22	0110100	47	1111010	72	0001001	97	1000011	122	0101111
23	1110100	48	0000110	73	1001001	98	0100011	123	1101111
24	0001100	49	1000110	74	0101001	99	1100011	124	0011111
25	1001100	50	0100110	75	1101001	100	0010011	125	1011111
								126	0111111

Maintenance

Periodic inspection, testing and maintenance of fire detection systems should be carried out in accordance with national, regional or local standards. In the UK the relevant standard is BS5839-1 Fire detection and alarm systems for buildings: Code of practice for system design, installation & maintenance.

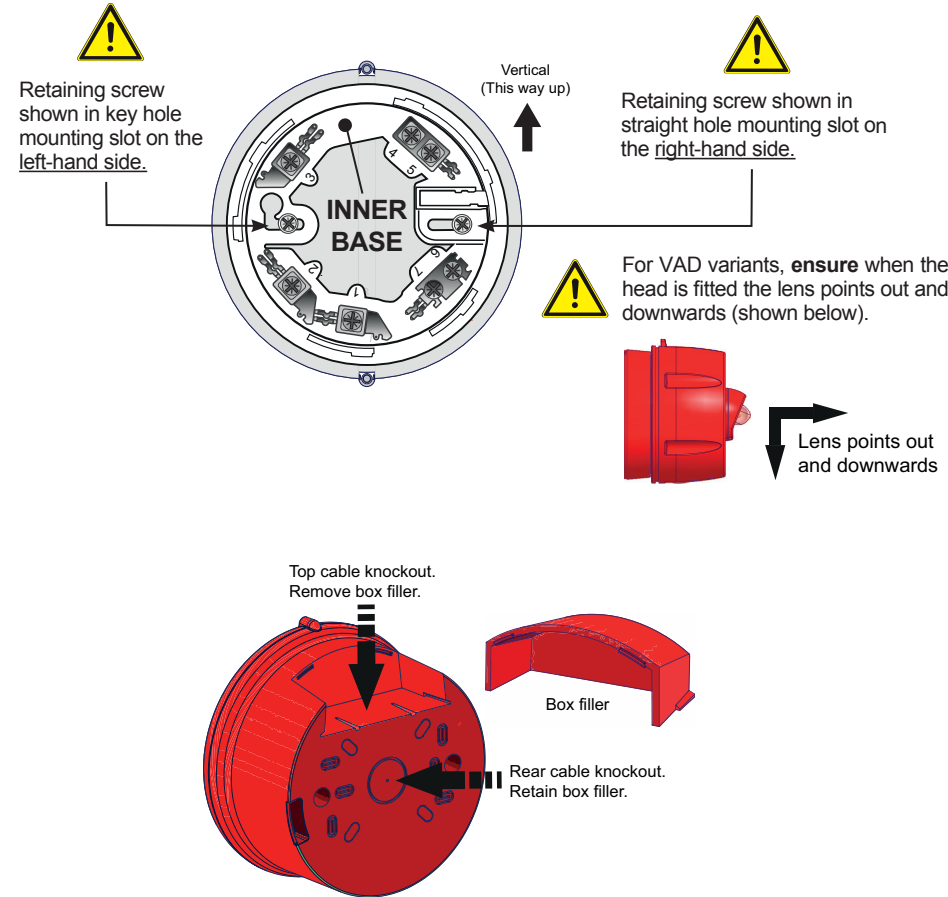
Inspection and maintenance of the system should only be carried out by a competent person with specialised knowledge of fire detection and alarm systems. This is normally a third-party fire alarm maintenance organisation.

Wall Mounting Orientation

Important Note: It is good practice to horizontally align the two mounting slots in the deep bases. This ensures that VAD variants are correctly orientated when fitted and illuminate in the correct plane. See diagrams below (base accessories not shown).

Deep Base - Orientation & Rear/Top Cable Entry

The deep base is factory built for top cable entry and supplied with a box filler, as shown below.



Deep Base - Bottom Cable Entry

If bottom cable entry is needed, remove the two inner base retaining screws, then rotate the inner base 180 degrees and re-secure. This ensures that VAD variants are correctly orientated when fitted.

Mounting the Base

 **THE SYSTEM MUST BE COMPLETELY POWERED DOWN BEFORE INSTALLATION**

Before installing, fit the optional base accessories and ensure the devices are correctly orientated, as detailed earlier. Each base has two mounting slots for standard electrical termination boxes.

Ensure the devices are installed in accordance with applicable local or national regulations and do not mount bases on uneven surfaces.

Deep bases include a box filler that can be removed to accept surface cabling that runs vertically along the wall.

Securely fix the base to a wall using two retaining screws in the mounting slots provided.

Ingress Protection

Deep base models are Type B, either IP55C / IP65C* rated.

Where installers might have a water/moisture ingress occurrence, suggested sealing methods for shallow and deep base models are shown in Fig.1 below.

To protect against ingress, ensure all cable entry points and cable glands are adequately sealed using standard neutral cure building silicone (clear).

* For IP65C rated models, carefully remove the IP55C O ring from the deep base and carefully fit the IP65C O ring (Pt. No. SUB100054). It is important to use a plentiful amount of lubrication on the O ring to assist fitting the sounder to its base.

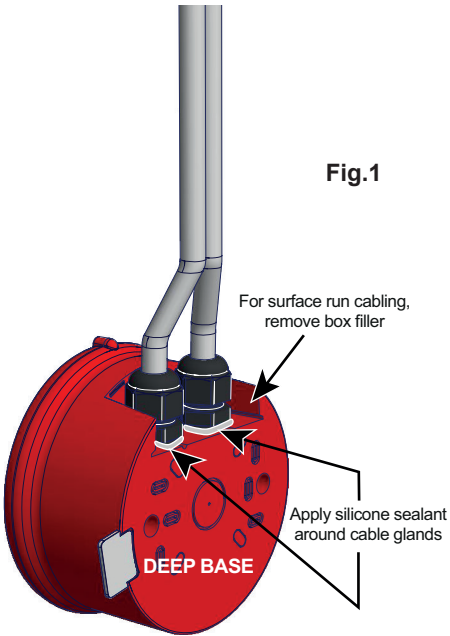
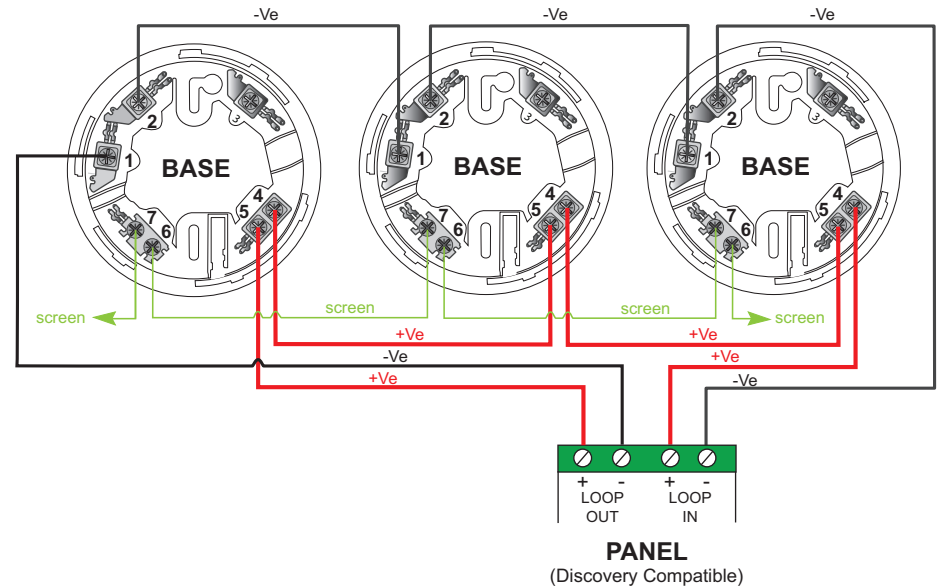


Fig.1

Wiring the Base

The base has screw terminals for field wiring, as shown below. Note the orientation of the bases shown is for cabling illustrative purposes only.



Base Contact	Function
1	-Ve IN
2	-Ve OUT
4	+Ve OUT
5	+Ve IN
6 & 7	cable screen

- All wiring must conform to local or national regulations.
- Correct polarity must be observed.
- Terminals can accept 0.25 mm² to 2.5 mm² wiring.
- For optimum performance, it is recommended that screened cables are used.