



Loop-Powered VADs Installation Guide

General

This guide describes the installation of the following Visual Alarm Device (VAD) variants

Part Number	Product Description	Category
55000-740	Loop-Powered VAD 15m Red (C-3-15)	C
55000-741	Loop-Powered VAD 6m Red (W-2.4-6)	W
55000-742	Loop-Powered VAD 8.5m Red (C-3-8.5)	C
55000-743	Loop-Powered VAD 15m White (C-3-15)	C
55000-744	Loop-Powered VAD 6m White (W-2.4-6)	W
55000-745	Loop-Powered VAD 8.5m White (C-3-8.5)	C

The Loop-Powered VAD can be used in XP95 or Discovery analogue addressable fire detection systems.

Note: the Loop-Powered VAD is not suitable for outdoor use.

Mounting Instructions

The VAD can be fitted to an Intelligent mounting base, part no 45681-210, an Isolating base, part no 45681-284 or an XPert 8 Intelligent mounting base, part no. SA5000-200. Be sure to fit the correct variant for the application. The category "C" or "W" defines the mounting orientation. Do not mount a "C" category to a wall and vice versa.

! Particular care should be taken with category "W" devices as these are directional. Failure to mount these correctly could result in reduced coverage.

For mounting instruction please see **Fig 1** and **Fig 2** on page 4.

The loop-powered VAD must be assigned an address by coding the XPERT card in the usual way. A list of address settings is shown on page 3.

Locking Screw

The VAD can be locked to the base in order to ensure system integrity. The locking screw is in the shoulder of the VAD. Insert a 1.5mm hexagonal key and turn the screw clockwise to lock the VAD to the base.

Technical Information	55000-742 55000-745	55000-740 55000-743	55000-741 55000-744
Operating Voltage (Polarity Insensitive)	17-28V DC		
Current Consumption at 24V:			
Quiescent	280µA		
VAD Operated	12mA	29.9mA	16mA
Power-up Surge Current	1.5mA for 100ms		
Operating Temperature	-10°C to +55°C*		
Humidity (no condensation)	0-95%		
IP Rating (Tested and approved by TraC Global Limited testing laboratory)	IP54 (when used with 45681-210, 45681-284, or SA5000-200 Mounting Base) IP55 (when used with the Deckhead Mounting Box 45681-217)		
Flash Rate (white flash only)	0.5Hz		

*Tested by Apollo Fire Detectors Limited to -40°C to +70°C

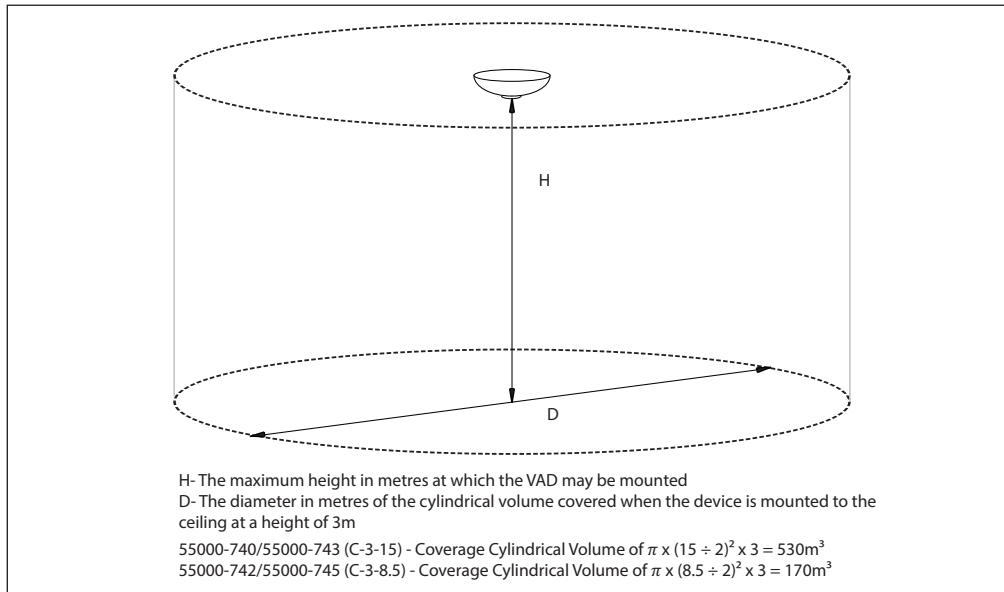


Fig 1 Mounting instruction for ceiling mounted devices

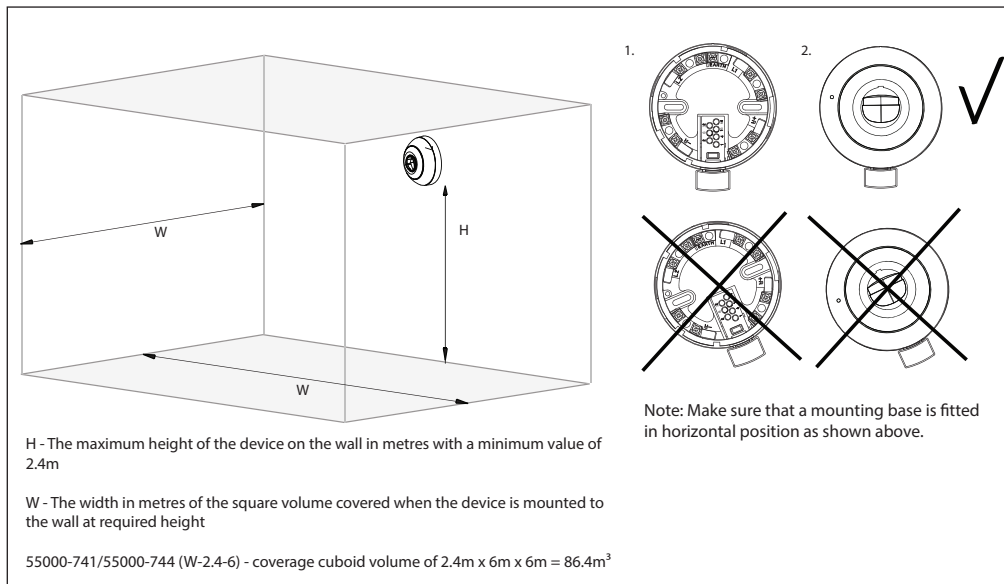


Fig 2 Mounting instruction for wall mounted devices

Up to 12 VADs may be fitted between standard XP95 Isolators (part no. 55000-700/710/720) or Isolating Mounting Bases (part no. 45681-284, which replaced 45681-321). The maximum number of devices is dependent on the devices individual coverage class.

In order to determine the exact number in a loop please use the 'Loop Calculator', which is available as a free download on the Apollo website: www.apollo-fire.co.uk

Protocol Bit Use

The VAD responds to interrogation by the control panel and is switched by means of the output (forward command) bits. The function of the output bits is given in the following table:

Output Bit Settings			VAD/Sounder Action
2	1	0	
0	0	0	VAD off, ancillary sounder off (if connected)
0	0	1	VAD on, ancillary sounder on (if connected)
0	1	0	VAD on, ancillary sounder off (if connected)
0	1	1	VAD on, ancillary sounder on (if connected)
NB Output bit 2 is not used			

Input bits confirm the receipt of the corresponding output bits.

Note: the VAD may continue to flash for a short period after receipt of a valid command to turn off.

Troubleshooting

Before investigating individual units for faults, it is important to check the system wiring is fault free. Earth faults on data loops may cause communication errors. If an XP95 test set is used to test the VAD please note that constant interrogation of the device will cause a higher than normal flash rate and an analogue value of 16.

To avoid this, operate the VAD and exit the single address test.

Note: VADs may take 2-5 seconds to flash when first operated. During this period internal capacitors are charging and fault monitoring circuits are disabled. The VAD will return an analogue value of 16 in the first 5 seconds of operation, regardless of the state of the LED.

Fault Finding

Problem	Possible Cause
No response or missing	Incorrect address setting Incorrect loop wiring Too many VADs between isolators
VAD fails to operate	Control panel has incorrect cause and effect programming
Fault reported when VAD operating	VAD LED failure

For further technical information please refer to PP2485 for category W devices and PP2486 for category C devices. For isolator operation information please refer to PP2090.

Wiring Details

The Loop-powered VAD is polarity sensitive.

Connect the loop cables to the base or to the ancillary sounder, observing polarity. The base wiring terminals accept solid or stranded cables up to 2.5mm².

Address Setting

The address of the VAD is set using the XPERT card

XPERT Card Addressing for XP95 and Discovery

Select the desired address and remove the pips indicated in black. Remove pips with a small screwdriver.

