



Technical Manual for the Voice Sounder – DB3V

Please note that every care has been taken to ensure the accuracy of our technical manual. We do not, however, accept responsibility for damage, loss or expense resulting from any error or omission. We reserve the right to make alterations in line with technical advances and industry standards.

1. INTRODUCTION

This range of light weight all GRP, flameproof sounders intended for use in potentially explosive atmospheres has been designed with high ingress protection to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

The flamepaths, flare and the body, are manufactured completely from UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths.

An optional Exe terminal chamber is available.

An uncertified version is available for use in non-explosive atmospheres.

2. INSTALLATION

General

When installing and operating explosion-protected equipment, requirements for selection, installation and operation should be referred to e.g. IEE Wiring Regulations and the 'National Electrical Code' in North America. Additional national and/or local requirements may apply.

Ensure that all nuts, bolts and fixings are secure.

Ensure that only the correct listed or certified stopping plugs are used to blank off unused gland entry points and that the NEMA/IP rating of the unit is maintained.

The unit is mounted via 2 x Ø9mm (Ø0.35") fixing holes in the 'u' shaped stirrup/mounting bracket.

If required, the unit can be initially placed via the Ø13mm (Ø0.51") central hole in the stirrup. The unit can be rotated to the required position and fixed via the two other holes.

The fixing holes accept M8 screws or bolts. MEDC recommend the use of the following stainless steel screws.

The elevation of the unit can be adjusted by loosening the 2 x M6 screws which fasten the stirrup to the horn. The unit can then be adjusted by rotating to the required position and then tightening the M6 screws. The unit should be positioned such that debris, dust or water cannot settle in the re-entrant horn.

Cable Termination

CAUTION: Before removing the cover assembly, ensure that the power to the unit is isolated.

Unscrew the 6 off M5 cover screws (EExd version) or 2 off M5 cover screws (EExde version) and remove cover assembly to gain access to the terminals.

EExde units only:

1. Not more than one single or multiple strand lead shall be connected into either side of any terminal, unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated crimped boot lace ferrule.
2. Leads connected to the terminals shall be insulated for at least 275V and this insulation shall extend to within 1mm of the metal of the terminal throat.
3. All terminal screws, used and unused, shall be tightened down.
4. Minimum creepage and clearance distances between the terminals and adjacent conductive parts (including cable entry devices) must be at least 5mm.

EExd & EExde units

Cable termination should be in accordance with specifications applying to the required application. MEDC recommends that all cables and cores should be correctly identified. Please refer to the wiring diagram provided with the product.

Ensure that only the correct listed or certified cable glands are used and that the assembly is shrouded and correctly earthed.

All cable glands should be of an equivalent NEMA/IP rating to that of the unit and integrated with the unit such that this rating is maintained.

The internal earth terminal, where fitted, must be used for the equipment grounding connection and any external terminal is for a supplementary bonding connection where local codes or authorities permit or require such a connection.

Once termination is complete, replace cover assembly. Position the 6 off M5 cover screws (EExd version) or 2 off M5 cover screws (EExde version) into the holes in the cover and tighten evenly.

3. OPERATION

The sounder is available in the DC voltage input version only.

The absolute input voltage range is 11.0V to 58.0V

3.1 RECORDING

Regardless of input type, maximum duration of message cannot exceed 20 seconds.

INTEGRAL MICROPHONE INPUT

Ensure switch number one and two of SW1 are both in the OFF position.

Press and hold the Red record button, and speak into the microphone. Release the button when you have finished talking.

To re-record the message, press and hold the Red record button, and speak into the microphone as before. The previous message will be recorded over.

AUDIO SOURCE INPUT

To record from an audio source, set switch number two of SW1 to the ON position. Connect the audio input CONN1 to the audio source via a mono 3.5mm jack connector. While playing back the audio source press and hold the Red record button for the duration of the audio source. When you have finished recording, remove the audio input and set switch number two of SW1 back to the OFF position.

To re-record the message, press and hold the Red record button and playback the audio source as before. The previous message will be recorded over.

3.2 NORMAL PLAYBACK

Ensure switch one of SW1 is set to the OFF position. Press the Green playback button once to playback the entire recorded message.

3.3 REPEATED PLAYBACK

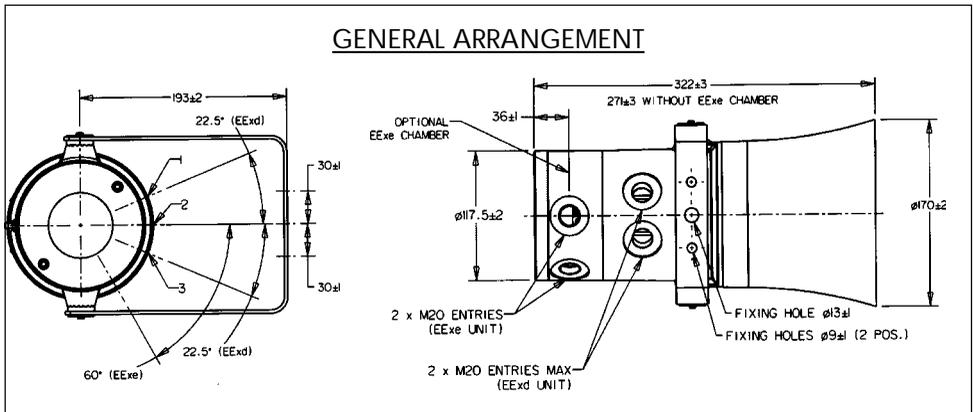
Set the repeat delay preset to 0s. Set switch number one of SW1 to the ON position, and you will hear your recording repeat over and over. Adjust the preset to increase the delay of the repeat to the required position. Note: In the maximum position the repeat should occur approximately every 15 seconds.

To enable the unit to automatically go into the repeated playback mode, leave switch number one of SW1 in the ON position when the unit is turned OFF. When the supply to the unit is switched back ON the message will automatically repeat at the set delay time.

Note: The message will not play straight away on power up, there will be a delay depending on the preset value.

3.4 DELETING A RECORDING

To delete a recording press the RED record button once.



4. MAINTENANCE

During the working life of the unit, it should require little or no maintenance. GRP will resist attack by most acids/alkalis and chemicals and is as resistant to concentrated acids and alkalis as most metal products. However, the unit is not suitable for use in environments containing carbon disulphide.

If abnormal or unusual environmental conditions occur due to plant damage or accident etc., then visual inspection is recommended. If the unit requires cleaning, then only clean exterior with a damp cloth to avoid electro-static charge build up. Painting and other surface finishes, other than those applied by the manufacturer, are not permitted.

If a fault should occur, then the unit should be returned to MEDC for repair/replacement.

If you acquired a significant quantity of units, then it is recommended that spares are also made available. If spare parts are required, these should only be supplied by MEDC.

5. CERTIFICATION/APPROVALS

Certified to EN50014:1997, EN50018:1994 & EN50019:1994

ATEX Certificate No. BAS00ATEX2097X (EExd IIC)
BAS00ATEX2098X (EExde IIC)

The unit is suitable for use only in ambient temperatures as follows :-

TYPE	AMBIENT TEMP.	T CLASS
DB3	-20°C to +55°C	T5
DB3L	-55°C to +55°C	T5
DB3E	-20°C to +45°C	T5
DB3LE	-55°C to +55°C	T5

The ATEX certificate and the product carry the ATEX group and category marking:-

 II 2 GD

Where:  signifies compliance with ATEX

II signifies suitability for use in surface industries

2 signifies suitability for use in zone 1

G signifies suitability for use in the presence of gases

D signifies suitability for use in dust atmospheres

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