



Technical Manual for the Loudspeaker – DB16

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 loudspeakers, intended for use in potentially explosive atmospheres, has a power rating of 30W.

The unit is available in two versions suitable for use in the following gas groups.

Hazardous locations:-

Gas Groups C & D (IIB Version):*

- Class I, Div. 2, Groups C and D
- Class I, Zone 1, AExde IIB; Ex de IIB; T3 With Bronze Sinter Arrangement

Gas Groups A,B,C & D (IIC Version):

- Class I, Div. 2, Groups A,B,C and D
- Class I, Zone 1, AExde IIC; Ex de IIC; T1 T0C With Stainless Steel Sinter Arrangement

*(IIB unit has nominally 3dB higher output than IIC unit).

The flamepaths, flare and the body are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and mounting bracket are incorporated thus ensuring a corrosion free product.

2. INSTALLATION

General

When installing and operating explosion-protected equipment, requirements for selection, installation and operation should be referred to eg. 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.

Ensure watertight cable, conduit or EMT fittings are used. Flexible conduit should be used when connecting the DB16.

The DB16 is mounted via 2 off $\varnothing 23/64"$ ($\varnothing 9\text{mm}$) fixing holes in the 'U' shaped stirrup/mounting bracket. If required, the unit can be initially placed via the $\varnothing 33/64"$ ($\varnothing 13\text{mm}$) central hole in the stirrup. The unit can then be rotated to the required position and fixed via the other holes

The fixing holes have been designed to accept an M8 (5/16") screw or bolt. MEDC recommend the use of stainless steel screws, washers and nuts.

The elevation of the unit can be adjusted by loosening the 2 off 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 DB16 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 and remove the 3 off screws holding the cover to the enclosure. The screws are captive in the cover. Remove cover to gain access to the interior of the terminal chamber.

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 speaker 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 the external terminal is for a supplementary bonding connection where local codes or authorities permit or require such a connection.

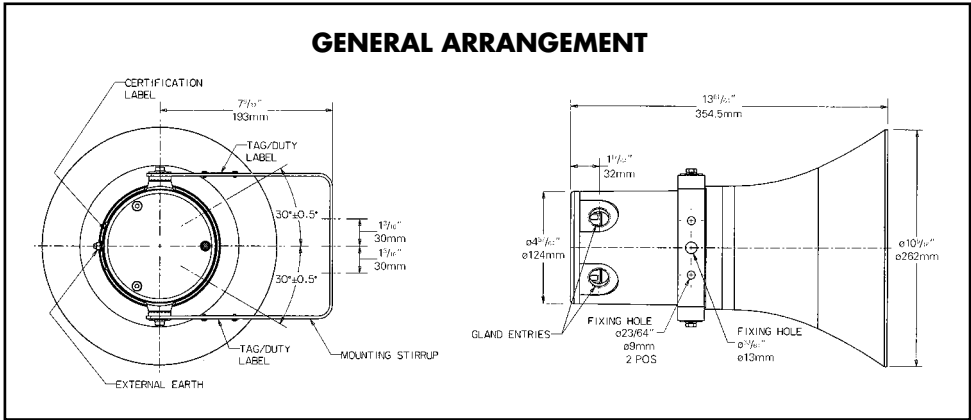
Once termination is complete, replace the cover. Replace the 3 off screws into the holes in the cover assembly and tighten evenly. Ensure the cover seal is correctly seated in its groove during re-assembly.

3. OPERATION

The operating voltage of the unit is stated on the unit label. Alternatively the unit can be supplied without an internal transformer for connection to an 8Ω signal, if requested at the time of ordering.

Different sound levels can be obtained by selecting the transformer tapings in the unit (see table below):

TRANSFORMER TAPPINGS	POWER
1:2	30W
2:3	25W
3:4	12W
1:3	6W
2:4	4W
1:4	2W



4. MAINTENANCE

During the working life of the unit, it should require little or no maintenance. However, if abnormal or unusual environmental conditions occur due to plant damage or accident etc., then visual inspection is recommended.

If a unit fault should occur, then the unit can be repaired by MEDC. All parts of the unit are replaceable.

If you acquired a significant quantity of units, then it is recommended that spares are also made available. Please discuss your requirements with the Technical Sales Engineers at MEDC.

5. SPECIAL CONDITIONS FOR SAFE USE:

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 should be sufficiently insulated for 100V and this insulation should be extended to within 1mm of the terminal throat.
3. Ensure all terminal screws, used and unused, are fully tightened down.

6. CERTIFICATION/APPROVALS

Please refer to marking on the unit for specific approval details.

UL listed for use in USA and Canada

Hazardous Locations

Gas Groups C&D (IIB Unit)

Class I, Div. 2 Groups C & D

Class I, Zone 1 AExde IIB; Ex de IIB; T3 With Bronze Sinter Arrangement

Gas Groups A,B,C & D (IIC Unit)

Class I, Div. 2 Groups A, B, C & D

Class I, Zone 1 AExde IIC; Ex de IIC; T110C With Stainless Steel Sinter Arrangement

UL Standards

UL 1480 – Ordinary locations

UL 2279 – Hazardous locations

7. CERTIFIED TEMPERATURES

-58°F to +104°F

-50°C to +40°C