

DB4B loudspeaker range up to 25 watts

Ex d(e), weatherproof



Overview

The DB4B is a high power explosion proof loudspeaker, introduced as a replacement for the current DB4 with improved intelligibility and acoustic performance.

Certified for use in a wide range of temperatures from -55°C to +85°C, the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

The frequency response of the unit ensures that critical voice messages and general alarm tones are highly intelligible. The specific SPL figure for sensitivity, 1W @ 1m is 110dB whilst at 1m the 25W unit produces 124dB, the 15W unit 122dB and the 8W unit 119dB.

Features

- Ex d / Ex de IIC/IIIC T3/T4/T5/T6
Ex d IIC/AEx d IIC Gb
- ATEX certified
- IECEx certified
- UL certified for USA and Canada
Class I, Div 2, Groups A-D
Class I, Zone 1
Class II, Div 2, Groups F & G
Zone 21
Class III, Div. 1
- TR CU certified
- CCC certified
- INMETRO certified
- CCOE certified
- SIL 2 certified
- DNV GL type approved (IEC60945)
(Long Flare, Ex d only)
- Certified temperature -55°C to +85°C*
- IP66 & IP67/ NEMA 4X & 6
- Optional Ex e terminal chamber
- 124dB at 25W, 1m*
- 8W, 15W & 25W versions
- Power tapping, via integral transformer
- Frequency response 350Hz - 8kHz
- Ex enclosure - glass reinforced polyester
- Flare - high impact thermoplastic polyester
- Internal earth stud fitted as standard
- Stainless steel mounting bracket and cover screws
- Mounting bracket has ratchet facility as standard
- Optional swivel bracket available
- Optional resettable fuse†

* Depending on version

† Contact MEDC for details

Options include DC blocking capacitors for monitored systems, resettable fuses for compliance with marine regulations and a swivel bracket that gives the installer greater flexibility when positioning the unit. The short flare option is a worthy addition to the range offering a high SPL and wide dispersion angle in a compact unit.



Certifications

ATEX Ex d Gas	Cert. no. Baseefa13ATEX0229X. Certified to: EN60079-0,1 Ex II 2G, Ex db IIC T3/T4/T5/T6 Gb
ATEX Ex d Gas & Dust	Cert. no. Baseefa13ATEX0231X. Certified to: EN60079-0,1,31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
ATEX Ex de Gas	Cert. no. Baseefa13ATEX0232X. Certified to: EN60079-0,1,7 Ex II 2G, Ex db eb IIC T3/T4/T5/T6 Gb
ATEX Ex de Gas & Dust	Cert. no. Baseefa13ATEX0233X. Certified to: EN60079-0,1,7,31 Ex II 2GD, Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEX Ex d G	Cert. no. IECEX BAS 13.0112X. Certified to: IEC60079-0,1 Ex db IIC T3/T4/T5/T6 Gb
IECEX Ex d Gas & Dust	Cert. no. IECEX BAS 13.0113X. Certified to: IEC60079-0,1,31 Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEX Ex de Gas	Cert. no. IECEX BAS 13.0114X. Certified to: IEC60079-0,1,7 Ex db eb IIC T3/T4/T5/T6 Gb
IECEX Ex de Gas & Dust	Cert. no. IECEX BAS 13.0115X. Certified to: EN60079-0,1,7,31 Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
UL Haz Locs	UL certified for USA and Canada, listing no. E203310 Class 1, Div 2, Groups A-D, Class 1 Zone 1, Ex db IIC / AEx db IIC T3/T4/T5/T6 Gb Class II, Div 2, Groups F&G, Zone 21 Ex tb IIIC / AEx tb IIIC T200°C/T135°C/T100°C/T85°C Db Class III, Div1
UL Ord Locs	UL certified for USA and Canada, listing no. S8847
TR CU Ex d Gas	1Ex d IIC T4/T5/T6 Gb
TR CU Ex d Gas & Dust	1Ex d IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db
TR CU Ex de Gas	1Ex de IIC T4/T5/T6 Gb
TR CU Ex de Gas & Dust	1Ex de IIC T4/T5/T6 Gb, Ex tb IIIC T135°C/T100°C/T85°C Db
Russian Fire Approval	All TR CU certified units are Russian Fire Approved
CCC Ex d Gas	Ex d IIC T3/T4/T5/T6 Gb
CCC Ex d Gas & Dust	Ex d IIC T3/T4/T5/T6 Gb, ExtD A21 IP6X T200°C/T135°C/T100°C/T85°C/
INMETRO Ex d Gas	Ex db IIC T3/T4/T5/T6 Gb
INMETRO Ex d Gas & Dust	Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
INMETRO Ex de Gas	Ex db eb IIC T3/T4/T5/T6 Gb
INMETRO Ex de Gas & Dust	Ex db eb IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
SIL	SIL 2 certification to IEC61508. Cert number 20151119-4786827453
Type approval	DNV GL (IEC60945)

Specifications

Material	Ex enclosure - flame retardant, UV stable, glass reinforced polyester Flare - flame retardant, high impact, UV stable, thermoplastic polyester (UV stability tested to ISO 4892 part 3) Hardware - bracket, fixings and captive cover screws in 316 stainless steel
Fire retardancy	Body - glass reinforced polyester. V0 flammability rating Outer flare - thermoplastic polyester. V0 flammability rating
Finish	Body - natural black. Flare - natural black, natural red or painted as specified
Rated power	8W, 15W or 25W
Frequency range	Frequency response 350Hz to 8kHz 8W and 15W units are available for use @ 200Hz
Weight	Ex d/UL - 5.0kg, Ex de - 5.8kg. Based on long flare with transformer
Ingress protection	IP66 & IP67, NEMA 4X & 6. (IPx7 & NEMA 6 on terminal chamber only)
Earth continuity	Optional for Ex de version. Not available on Ex d unit
Entries	Up to 2 x M20 or 1/2" NPT. Blanking plug available
Terminals	Ex d - 8 x 2.5mm ² (4mm ² solid conductor)/ 12AWG. Ex de - 8 x 4.0mm ²
Mounting arrangement	Stainless steel bracket with ratchet facility, optional swivel bracket available
Labels	Optional duty and tag labels available
Dispersion angle	Long flare (short in brackets), -6dB, 1kHz = 140° (240°), 4kHz = 40° (50°)
Driver impedance	8Ω
SPL 1W/1m (sensitivity)	IIC long flare, 1kHz - 106dB, 1.4kHz - 110dB

Certified temperature:

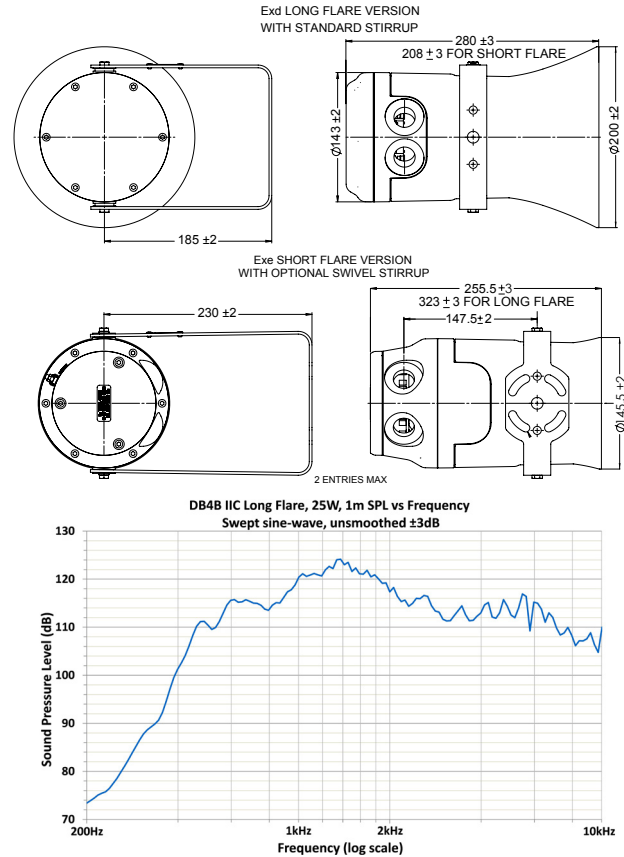
Protection type	Minimum temp		Maximum temp		
	All units	8W unit	15W unit	25W unit	
Ex d/UL	-55°C	+70°C/+85°C*	+65°C/+85°C*	+55°C/+70°C*	* Higher maximum temperatures not on TRCU certified units
Ex de	-50°C				

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Ex atmosphere	Wattage	Transformer	Labels	Entries	Options	Finish							
DB4B															
Certification	Code	EX Atmosphere	Code	Wattage	Code	Transformer	Code	Labels	Code	Entries	Code	Options	Code	Finish	Code
ATEX Ex d	D	None	N*	8 Watt	8	8Ω	N	None	N	1 x M20	1B*	None	N	Natural black	N
ATEX Ex de	E*	IIC Gas	G	15 Watt	15	100V	100	Duty	D*	2 x M20	2B	Swivel bracket	B	Natural red	R
IECEX Ex d	DJ	IIC & IIIC Gas	GD	25 Watt	25*	70V	70	Tag	T*	2 x M20	2BP	Capacitor	C*	Yellow	Y
IECEX Ed de	EJ*	& Dust		* Select 25 if 8Ω is required		25V	25	* Please specify		inc 1 x plug	2BP	Earth cont.	G†	Grey	G
UL	UL	* If weatherproof or UL (ordinary locations)								1 x 1/2" NPT	1C*	Short flare	S†	Blue	B
UL (ordinary locations)	UW	select N for Ex Atmosphere								2 x 1/2" NPT	2C*	* Specify value		Special	S*
Dual ATEX/UL	AU									2 x 1/2" NPT	2CP*	† Ex e only		* Please specify	
Dual IECEX/UL	JU									inc 1 x plug	2CP*	‡ Not available DNV			
TR CU Ex d	DG									* Not available Ex e					
TR CU Ex de	EG*														
CCC Ex d	QT														
INMETRO Ex d	DM														
INMETRO Ex de	EM*														
Weatherproof	W														
		* Not available DNV													
		† Only available Gas & Dust version													

General arrangement drawing (all dimensions in mm)



Transformer: Used by combining the rated power tappings below

Tappings	Power		
	8W	15W	25W
1:2	8.0	15.0	25.0
2:3	4.0	7.5	12.5
3:4	2.0	5.0	6.0
1:3	1.5	4.0	4.0
2:4	0.7	2.0	2.0
1:4	0.4	0.8	1.0

Sound pressure level at 1m (dB):

Values in dB @ 1m (Unsmoothed, peak values)	8W		15W		25W	
	Long	Short	Long	Short	Long	Short
IIC Gas	115	112	117	114	120	117
IIC Gas	1.4kHz	119	116	122	119	124
IIC & IIIC Gas & Dust	1.0kHz	110	107	112	109	115
IIC & IIIC Gas & Dust	1.4kHz	114	111	117	114	119

The data is based on a swept sine wave. Tolerance +/- 3dB

