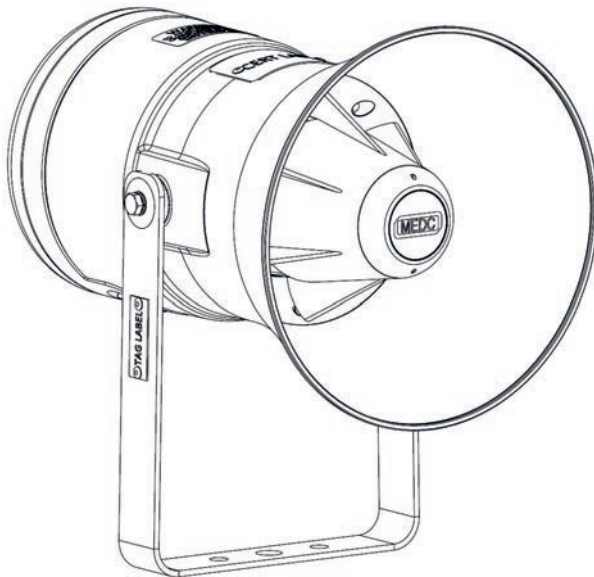




Technical Manual for the Sounder – DB3B
Manuel technique du Générateur de sons – DB3B
Technische Bedienungsanleitung für den Schallgeber – DB3B
Manual técnico para a sirene - DB3B



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1.0 INTRODUCTION

This range of sounders, intended for use in potentially explosive gas and dust atmospheres, is available in versions suitable for use in the following gas/dust groups:

The range is available in versions suitable for use in either gas (G) or gas and dust (GD) groups.

Note: (G) unit has nominally 6dB higher output than (GD) unit

The Ex enclosure is manufactured from a UV stable glass reinforced polyester with a rugged thermoplastic flare. Stainless steel mounting bracket, cover screws and fixings are incorporated throughout thus ensuring a corrosion free product.

An optional Ex e terminal chamber is available (see certification section for further details).

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

2.0 GENERAL SAFETY MESSAGES AND WARNINGS

All instructions and safety messages in this manual must be followed to allow safe installation of the device. The device must only be installed and maintained by correctly trained site personnel/installers.

- i. To reduce the risk of ignition of hazardous atmospheres and shock, do not apply power to the device until installation has been completed and the device is fully sealed and secured.
- ii. To reduce the risk of ignition of hazardous atmospheres and shock, keep device tightly closed when the circuit is energised.
- iii. Before removing the cover for installation or maintenance, ensure that the power to the device is isolated.
- iv. Following installation, test the device to ensure correct operation.
- v. Following installation ensure a copy of this manual is made available to all operating personnel.
- vi. When installing the device, 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 also apply.
- vii. Cable termination should be in accordance with the specification applying to the required application. MEDC recommends that all cables and cores should be correctly identified. Please refer to the wiring diagram in this manual (or separate diagram provided with the unit).
- viii. Ensure that only the correct listed or certified cable glands are used and that the assembly is shrouded and correctly earthed.
- ix. 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.
- x. MEDC recommend the use of a sealing compound such as HYLOMAR PL32 on the threads of all glands and stopping plugs and/or a suitable sealing washer in order to maintain the IP rating of the unit.
- xi. On Exde units, a suitable sealing washer must be fitted to all glands and stopping plugs fitted into the Exe enclosure.
- xii. The internal earth terminal, where fitted, must be used for the equipment grounding and the external terminal, if available, is for a supplementary bonding connection where local codes or authorities permit or require such a connection.
- xiii. When installing the device, MEDC recommends the use of stainless steel fasteners. Ensure that all nuts, bolts and fixings are secure.
- xiv. The unit should be positioned such that debris, dust or water cannot settle in the re-entrant horn.
- xv. The unit should be positioned such that any solid object, not part of the equipment, is a minimum of 40mm from the Ex d flamepath joint.

3.0 INSTALLATION

The unit is mounted via 2 off Ø9mm fixing holes in the U-shaped stirrup/mounting bracket. If required, the unit can be initially placed via the Ø13mm central hole in the stirrup. The unit can then be rotated to the required position and fixed via the other holes.

If ordered with the unit, a swivel mounting bracket option is available to allow further rotational adjustment to the unit.

The fixing holes have been designed to accept an M8 screw or bolt.

Access to Terminals

On Ex d versions, the cover is secured with 6 off M5 cover screws (4.0mm A/F hexagon key). Once the cover fixings are unscrewed, the cover can be lifted away from the enclosure to gain access to the interior. The cover fixings are captive and will remain in the cover.

On Ex de versions the removable cover is secured using 3 off M5 cover screws (4.0mm A/F hexagon key). Once the cover fixings are unscrewed, the cover can be lifted away from the enclosure to gain access to the interior. The cover fixings are captive and will remain in the cover. All terminal screws, used and unused, shall be tightened down.

Once termination is complete, carefully replace the cover assembly back onto the body, avoiding damage to the mating surfaces. Tighten the cover screws evenly. On Ex de certified versions, ensure the maximum torque value for the cover screws is observed, as marked on the Ex e cover. Ensure the O-ring is seated correctly on the cover during re-assembly. On Ex d certified versions, ensure the required maximum gap of 0.04mm is maintained between the cover and the base once assembled.

Wiring details

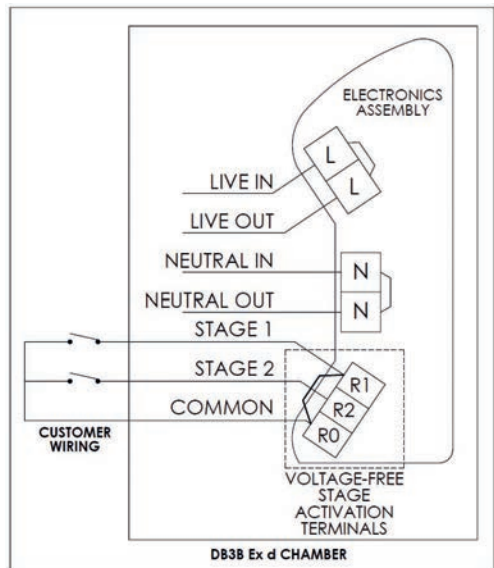
The unit is available in a number of basic configurations:

1. Ex d - AC input, single stage.
2. Ex d - AC input, dual stage with voltage-free stage selection.
3. Ex de - AC input, single stage.
4. Ex de - AC input, dual stage with voltage-free stage selection.
5. Ex d - DC input, up to 3 user selectable stages without monitoring.
6. Ex de - DC input, up to 3 user selectable stages without monitoring.
7. Ex d - DC input, up to 2 user selectable stages with EOL / monitoring (standard configuration).
8. Ex de - DC input, up to 2 user selectable stages with EOL / monitoring (standard configuration).
9. Ex d - DC input, up to 3 user selectable stages with optional EOL / monitoring (alternative configuration).
10. Ex de - DC input, up to 3 user selectable stages with optional EOL / monitoring (alternative configuration).
11. Ex d - DC input, 5 user selectable stages with voltage free stage selection with or without monitoring.
12. Ex de - DC input, 5 user selectable stages with voltage free stage selection with or without monitoring.

Ex d – AC input wiring details (Types 1 & 2)

- **Type 1:** Connect the live and neutral supply wires to the terminals as detailed in the wiring diagram. The unit will be supplied with the link between R1 and R0 fitted to the terminals. When power is applied to the unit, the stage 1 tone will be produced as selected on the 5- way DIP switch.
- **Type 2:** Connect the live and Neutral supply wires to the terminals as detailed in the wiring diagram. The unit will be supplied with no link fitted between R1 and R0. Connect wires and remote switches to terminals R0, R1 and R2 as shown. When power is initially applied to the unit, no tone will be produced. When the switch connected to stage 1 is closed, the stage 1 tone will be produced as selected by the 5-way DIP switch on the electronics assembly. When the switch connected to R2 is closed, the pre-selected tone for stage 2 is produced. See tone table 2 for details of pre-selected tones.

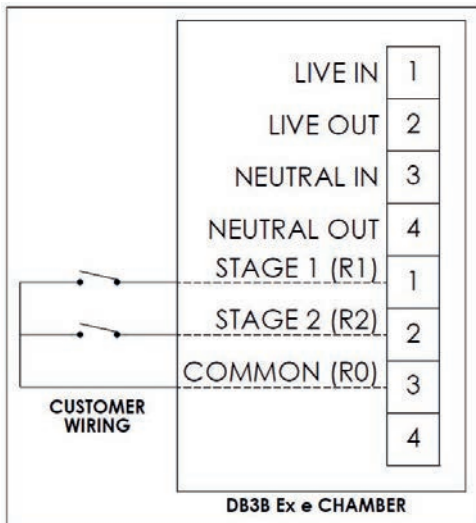
Note: Closing both switches will produce no tone.



Ex de – AC input wiring details (Types 3 & 4)

- **Type 3:** Connect the live and neutral supply wires to the terminals as detailed in the wiring diagram. When power is applied to the unit, the stage 1 tone will be produced as selected on the 5- way DIP switch inside the Ex d chamber.
- **Type 4:** Connect the live and Neutral supply wires to the terminals as detailed in the wiring diagram. When power is initially applied to the unit, no tone will be produced. Connect wires and remote switches to terminals R0, R1 and R2 as shown. When the switch connected to R1 is closed, the stage 1 tone will be produced as selected by the 5-way DIP switch on the electronics assembly. When the switch connected to R2 is closed, the pre-selected tone for stage 2 is produced. See tone table 2 for details of pre-selected tones.

Note: Closing both switches will produce no tone.



Ex d & Ex de – DC input, 3 stage without monitoring wiring details (Types 5 & 6)

This type can be configured in a number of different ways depending on requirements. Independent tone selection for all 3 stages is via the 3 off 5-way DIP switches fitted to the electronics assembly:

- **2-wire system (Single stage):** Connect the positive and negative supply wires to the terminals as detailed in the wiring diagram.
- **2-wire system (Dual stage, reverse polarity):** Connect the positive and negative supply wires to the terminals as detailed in the wiring diagram. The second stage is produced by reversing the polarity of the supply to the unit.
- **3-wire system (Dual stage, common +ve):** Connect 3 supply wires to the terminals as detailed in the wiring diagram (1 common +ve wire and 2 -ve wires). Stage 1 is produced when power is applied across the common +ve and stage 1 -ve terminals. Stage 2 is produced when power is applied across the common +ve and stage 2 -ve terminals.
- **3-wire system (Dual stage, common -ve):** Connect 3 supply wires to the terminals as detailed in the wiring diagram (2 +ve wires and 1 common -ve wire). Stage 1 is produced when power is applied across the stage 1 +ve and common -ve terminals. Stage 2 is produced when power is applied across the stage 2 +ve and common -ve terminals.
- **4-wire system (Triple stage, Common -ve):** Connect 4 supply wires to the terminals as detailed in the wiring diagram (3 +ve wires and 1 common -ve wire). Stage 1 is produced when power is applied across the stage 1 +ve and common -ve terminals. Stage 2 is produced when power is applied across the stage 2 +ve and common -ve terminals. Stage 3 is produced when power is applied across the stage 3 +ve and common -ve terminals.

All versions are supplied with terminals to allow loop-in loop-out connection of the supply wires.

Note: If an EOL resistor is specified on a DC unit, it will be fitted as standard across terminals 5 & 6 in the Ex d chamber (see below). Re-position EOL as required for other configurations.

When positioning the EOL, ensure there is a minimum of 14mm free space between the resistor body and terminal block and ensure the resistor is not in contact with the pcb or housing.

<p style="text-align: center;">DB3B DC SINGLE STAGE CONFIGURATION</p>	<p style="text-align: center;">DB3B DC DUAL STAGE REVERSE POLARITY CONFIGURATION</p>																																				
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Ex d & Ex de – DC input, dual stage common +ve with monitoring (standard configuration) wiring details (Types 7 & 8)

Connect up to 4 supply wires to the terminals as detailed in the wiring diagram. Stage 1 is produced when power is applied across the common +ve and stage 1 -ve terminals. Stage 2 is produced when power is applied across the common +ve and stage 2 -ve terminals.

Monitoring functionality is obtained when the supply is connected across M1 & M2 terminals.

Note: monitored terminals are not polarity dependent

DB3B DC DUAL STAGE COMMON POSITIVE CONFIGURATION WITH MONITORING		
	Ex d	Ex de
COMMON +VE / M1 IN	1	1
STAGE 1 -VE IN	2	2
M2 IN	3	3
STAGE 2 -VE IN	4	4
COMMON +VE / M1 OUT	5	1
STAGE 1 -VE OUT	6	2
M2 OUT	7	3
STAGE 2 -VE OUT	8	4

**MONITORING FUNCTIONALITY ONLY
AVAILABLE WHEN RESISTOR IS FITTED**

Ex d & Ex de – DC input, up to 3 stage with or without monitoring (alternative configuration) wiring details (Types 9 & 10)

Note: This alternative configuration must be specified when ordering the unit.

This type can be connected either as a three stage common -ve configuration, or if an optional EOL is specified it can be configured as a dual stage common -ve system with monitoring.

- **4-wire system (Triple stage, Common +ve):** Connect 4 supply wires to the terminals as detailed in the wiring diagram (1 common +ve wire and 3 -ve wires). Stage 1 is produced when power is applied across the common +ve and stage 1 -ve terminals. Stage 2 is produced when power is applied across the common +ve and stage 2 -ve terminals. Stage 3 is produced when power is applied across the common +ve and stage 3 -ve terminals.
- **4-wire system (Dual stage, common -ve with monitoring):** Connect up to 4 supply wires to the terminals as detailed in the wiring diagram. Stage 1 is produced when power is applied across the common -ve and stage 1 +ve terminals. Stage 2 is produced when power is applied across the common -ve and stage 2 +ve terminals.

Monitoring functionality is obtained when the supply is connected across M1 & M2 terminals. **Note:** monitored terminals are not polarity dependent

**DB3B DC TRIPLE STAGE
COMMON POSITIVE
CONFIGURATION**

	Ex d	Ex de
COMMON +VE IN	1	1
STAGE 1 -VE IN	2	2
STAGE 3 -VE IN	3	3
STAGE 2 -VE IN	4	4
COMMON +VE OUT	5	1
STAGE 1 -VE OUT	6	2
STAGE 3 -VE OUT	7	3
STAGE 2 -VE OUT	8	4

**DB3B DC DUAL STAGE
COMMON NEGATIVE CONFIGURATION
WITH MONITORING**

	Ex d	Ex de
STAGE 2 +VE IN	1	1
M1 IN	2	2
STAGE 1 +VE IN	3	3
COMMON -VE / M2 IN	4	4
STAGE 2 +VE OUT	5	1
M1 OUT	6	2
STAGE 1 +VE OUT	7	3
COMMON -VE / M2 OUT	8	4

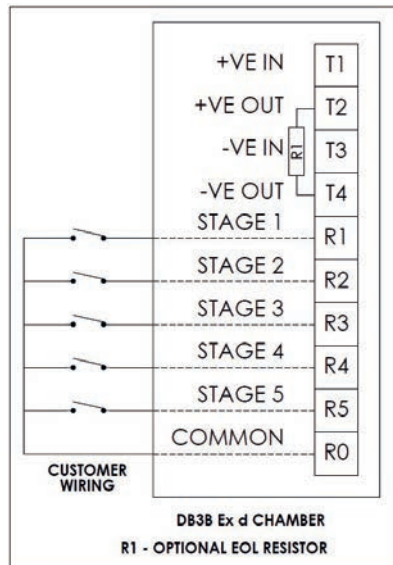
**MONITORING FUNCTIONALITY ONLY
AVAILABLE WHEN RESISTOR IS FITTED**

Ex d – DC input with voltage free stage activation wiring details (Type 11)

Connect the positive (+ve) and negative (-ve) supply wires to the terminals as detailed in the wiring diagram. When power is applied to the unit, no tone will be produced initially. Connect wires and remote switches to terminals R0 to R5 as shown. When the switch connected to R1 is closed, the stage 1 tone will be produced as selected by the 5-way DIP switch on the electronics assembly. When any of the other switches connected to R2 to R5 is closed, the pre-selected tone for stages 2 to 5 are produced. See tone table 2 for details of pre-selected tones.

Note: Closing more than one switch at a time will result in no tone being produced.

If a resistor (R1) is fitted, monitoring functionality is obtained when the supply polarity is reversed.

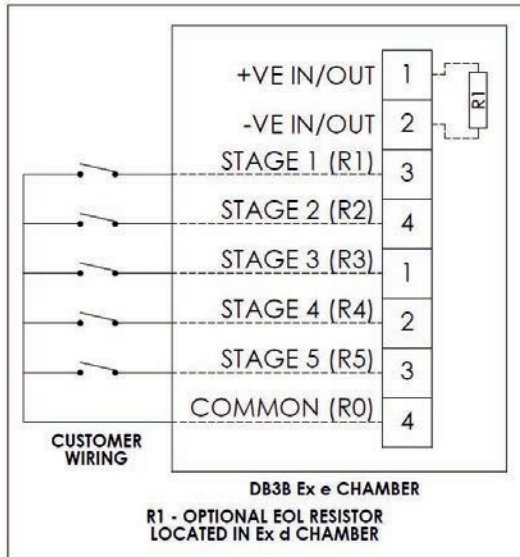


Ex de – DC input with voltage free stage activation wiring details (Type 12)

Connect the positive (+ve) and negative (-ve) supply wires to the terminals as detailed in the wiring diagram. When power is applied to the unit, no tone will be produced initially. Connect wires and remote switches to terminals R0 to R5 as shown. When the switch connected to R1 is closed, the stage 1 tone will be produced as selected by the 5-way DIP switch on the electronics assembly. When any of the other switches connected to R2 to R5 is closed, the pre-selected tone for stages 2 to 5 are produced. See tone table 2 for details of pre-selected tones.

Note: Closing more than one switch at a time will result in no tone being produced.

If a resistor (R1) is fitted, monitoring functionality is obtained when the supply polarity is reversed.



4.0 OPERATION

The sounder is available in various AC input voltage versions and a single DC input voltage version.

For AC versions, the nominal operating voltage is stated on the unit label and the supply voltage tolerance is $\pm 10\%$. For DC versions, the absolute input voltage range is 11.0Vdc to 57.6Vdc.

If using an EOL resistor with a value between 700 Ω and 2K Ω the maximum voltage should be limited to 28.8Vdc, if using an EOL resistor with a value between 470 Ω and 700 Ω the maximum voltage should be limited to 26Vdc.

The unit is fitted with a volume control which is positioned on the top face of the electronics assembly PCB. Maximum volume is obtained when this control is turned fully clockwise. When turned fully anti-clockwise the unit will emit no sound.

Warning: Do not attempt to turn the volume control past its limits of movement as this may cause damage to the unit.

Stages

For all versions, a 5-way DIP switch selects the stage required for each stage. The settings for the standard stages are shown in the table below:

Tone table 1:

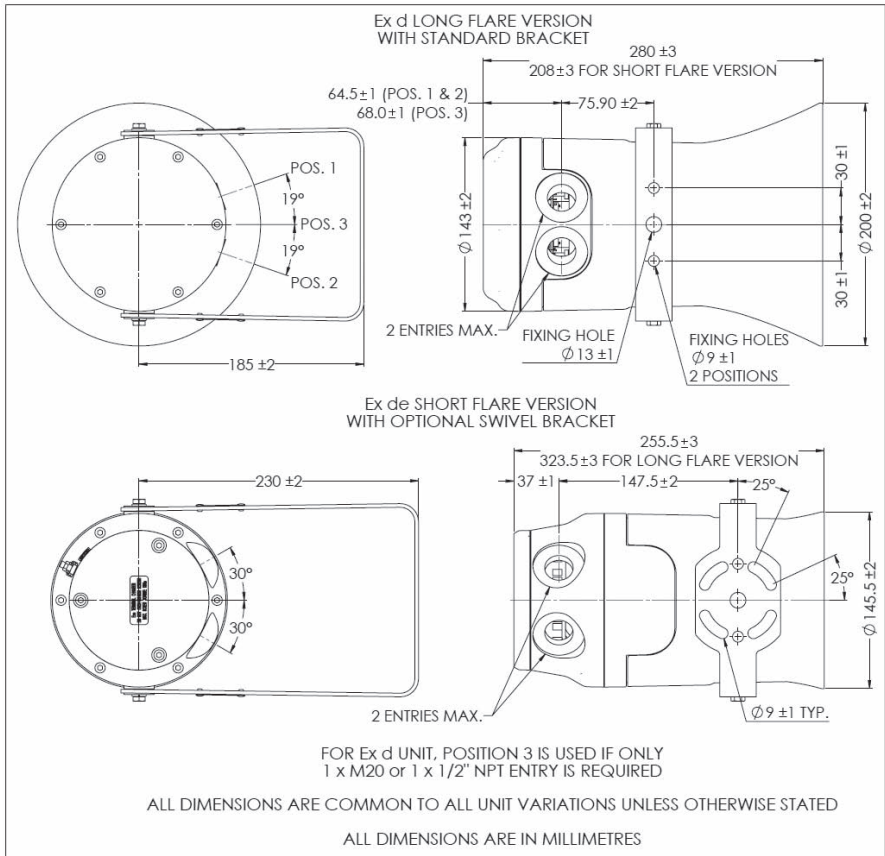
TO NE No.	TO NE FREQ/DESCRIPTION	SWITCH SETTING 12345	TO NE DESCRIPTION	Nominal SPL (dB(A) @ 1m)
1	Alt Stages 800/970 Hz at 1/4 sec	11111		112
2	Sweeping 800/970 Hz at 7 Hz	11110	Fast Sweep (LF)	111
3	Sweeping 800/970 Hz at 1 Hz	11101	Medium Sweep (LF)	113
4	Continuous at 2850 Hz	11100		111
5	Sweeping 2400-2850 Hz at 7 Hz	11011	Fast Sweep	112
6	Sweeping 2400-2850 Hz at 1 Hz	11010		113
7	Slow Whoop	11001	Slow Whoop	113
8	Sweep 1200-500 Hz at 1 Hz	11000	Din Stage	117
9	Alt Stages 2400/2850 Hz at 2 Hz	10111		111
10	Int Stage of 970 Hz at 1 Hz	10110	Back-up Alarm (LF)	112
11	Alt Stages 800/970 Hz at 7/8 Hz	10101		112
12	Int Stage at 2850 Hz at 1Hz	10100	Back-up Alarm (HF)	112
13	970 Hz at 1/4 sec on 1 sec off	10011		112
14	Continuous at 970 Hz	10010		112
15	554 Hz for 0.1S/440 Hz for 0.4S	10001	French Fire Sound	113
16	Int 660 Hz 150 mS on 150 mS off	10000	Swedish Fire Alarm	108
17	Int 660 Hz 1.8 sec on 1.8 sec off	01111	Swedish Fire Alarm	108
18	Int 660 Hz 6.5 sec on 13 sec off	01110	Swedish Fire Alarm	109
19	Continuous 660 Hz	01101	Swedish Fire Alarm	108
20	Alt 554/440 Hz at 1 Hz	01100	Swedish Fire Alarm	113
21	Int 660 Hz at 7/8 Hz	01011	Swedish Fire Alarm	108
22	Int 2850 Hz 150 mS on 100 mS off	01010	Pelican Crossing	111
23	Sweep 800-970 Hz at 50 Hz	01001	Low Freq. Buzz	109
24	Sweep 2400 -2850 Hz at 50 Hz	01000	High Freq. Buzz	111
25	3x970 Hz pulses 0.5 off, 1.5 off	00111		112
26	3x2850 Hz pulses 0.5on/0.5off, 1.5 off	00110		112
27	Int 3100 Hz 0.32s on/0.68s off	00101		105
28	Continuous 1400 Hz	00100		125
29	Spare / Custom tone	00011		
30	Spare / Custom tone	00010		
31	Spare / Custom tone	00001		
32	Spare / Custom tone	00000		

Note: If special tones were requested at the time of ordering, please see the separate tones list supplied with the unit for details of these special tones and their respective switch settings.

Tone table 2: Pre-selected tone details for voltage-free activation stages:

TONE No.	TONE FREQ/DESCRIPTION	SWITCH SETTING 12345	Voltage free stage selection tone No.				
			DC				AC
			Stage 2	Stage 3	Stage 4	Stage 5	Stage 2
Stage 1							
1	Alt Tones 800/970Hz at 1/4 sec	11111	T14	T10	T11	T8	T14
2	Sweeping 800/970Hz at 7 Hz	11110	T14	T10	T1	T8	T14
3	Sweeping 800/970Hz at 1 Hz	11101	T14	T10	T1	T8	T14
4	Continuous at 2850Hz	11100	T14	T10	T1	T8	T14
5	Sweeping 2400-2850Hz at 7Hz	11011	T14	T10	T1	T8	T14
6	Sweeping 2400-2850Hz at 1Hz	11010	T14	T10	T1	T8	T14
7	Slow Whoop	11001	T14	T10	T1	T8	T14
8	Sweep 1200-500Hz at 1Hz	11000	T14	T10	T1	T6	T14
9	Alt Tones 2400/2850Hz at 2Hz	10111	T14	T10	T1	T8	T14
10	Int Tone of 970Hz at 1Hz	10110	T14	T12	T1	T8	T14
11	Alt Tones 800/970Hz at 7/8Hz	10101	T14	T10	T1	T8	T14
12	Int Tone at 2850Hz at 1Hz	10100	T14	T10	T1	T8	T14
13	970Hz at 1/4 sec on 1 sec off	10011	T14	T10	T1	T8	T14
14	Continuous at 970Hz	10010	T28	T10	T1	T8	T28
15	554Hz for 0.1S/440Hz for 0.4S	10001	T14	T10	T1	T8	T14
16	Int 660Hz 150 mS on 150 mS off	10000	T14	T10	T1	T8	T14
17	Int 660Hz 1.8 sec on 1.8 sec off	01111	T14	T10	T1	T8	T14
18	Int 660Hz 6.5 sec on 13 sec off	01110	T14	T10	T1	T8	T14
19	Continuous 660Hz	01101	T14	T10	T1	T8	T14
20	Alt 554/440Hz at 1Hz	01100	T14	T10	T1	T8	T14
21	Int 660Hz at 7/8Hz	01011	T14	T10	T1	T8	T14
22	Int 2850Hz 150 mS on 100 mS off	01010	T14	T10	T1	T8	T14
23	Sweep 800-970Hz at 50Hz	01001	T14	T10	T1	T8	T14
24	Sweep 2400-2850Hz at 50Hz	01000	T14	T10	T1	T8	T14
25	3x970Hz pulses 0.5 off, 1.5 off	00111	T14	T10	T1	T8	T14
26	3x2850Hz pulses 0.5on/0.5off, 1.5 off	00110	T14	T10	T1	T8	T14
27	Int 3100Hz 0.32s on/0.68s off	00101	T14	T10	T1	T8	T14
28	Continuous 1400Hz	00100	T14	T10	T1	T8	T14
29	Spare / Custom tone	00011					
30	Spare / Custom tone	00010					
31	Spare / Custom tone	00001					
32	Spare / Custom tone	00000					

GENERAL ARRANGEMENT



5.0 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, 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.

If a unit fault should occur, then the unit can be repaired by MEDC.

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.

6.0 CERTIFICATION/APPROVALS

IECEX units

Gas (G) certified units

Certified to IEC60079-0, IEC60079-1 and IEC60079-7

Ex d IIC unit (IEC certification No. IECEX BAS 13.0112X)

Ex d IIC T_G (T_{amb.}) Gb

Ex de IIC unit (IEC certification No. IECEX BAS 13.0114X)

Ex de IIC T_G (T_{amb.}) Gb

See special conditions for safe use for ambient temperature ranges and T-ratings.

The IECEX certificate and product label carry the IECEX equipment protection level marking:

Gb

Where Gb signifies suitability for use in a Zone 1 surface industries area in the presence of gas.

Gas & Dust (GD) certified units

Certified to IEC60079-0, IEC60079-1, IEC60079-7 and IEC60079-31

Ex d IIIC unit (IEC certification No. IECEX BAS 13.0113X)

Ex d IIC T_G (T_{amb.}) Gb

Ex tb IIIC T_D (T_{amb.}) Db IP6X

Ex de IIIC unit (IEC certification No. IECEX BAS 13.0115X)

Ex de IIC T_G (T_{amb.}) Gb

Ex tb IIIC T_D (T_{amb.}) Db IP65/66*

*depending on outer flare type

See special conditions for safe use for ambient temperature ranges and T-ratings.

The IECEX certificate and product label carry the IECEX equipment protection level markings:

Gb and Db

Where Gb signifies suitability for use in a Zone 1 surface industries area in the presence of gas.

Db signifies suitability for use in a Zone 21 surface industries area in the presence of dust.

ATEX units

Gas (G) certified units

Certified to EN60079-0, EN60079-1 and EN60079-7

Ex d IIC unit (ATEX certification No. Baseefa13ATEX0229X)


Ex d IIC T_G (T_{amb.}) Gb

Ex de IIC unit (IEC certification No. Baseefa13ATEX0232X)

Ex de IIC T_G (T_{amb.}) Gb

See special conditions for safe use for ambient temperature ranges and T-ratings.

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

 II 2 G

Where:



Signifies compliance with ATEX

II Signifies suitability for use in surface industries

2 Signifies suitability for use in a zone 1 area

G Signifies suitability for use in the presence of gases

Gas & Dust (GD) certified units

Certified to EN60079-0, EN60079-1, EN60079-7 and EN60079-31

Ex d IIIC unit (ATEX certification No. Baseefa13ATEX0231X)

Ex d IIC T_G (T_{amb.}) Gb

Ex tb IIIC T_D (T_{amb.}) Db IP6X

Ex de IIIC unit (ATEX certification No. Baseefa13ATEX0233X)


Ex de IIC T_G (T_{amb.}) Gb

Ex tb IIIC T_D (T_{amb.}) Db IP65/66*

*depending on outer flare type

See special conditions for safe use for ambient temperature ranges and T-ratings.

The ATEX certificate and product label 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 a zone 1 area

G Signifies suitability for use in the presence of gases

D Signifies suitability for use in the presence of dust

These units also have the following approvals:

Ingress protection: Ex d & Ex e terminal chambers - IP66 & IP67 to IEC60529

7.0 SPECIAL CONDITIONS FOR SAFE USE

a) Type DB3B Ex d:
IECEx BAS 13.0112X, IECEx BAS 13.0113X, Baseefa13ATEX0229X & Baseefa13ATEX0231X

1. For replacement purposes the cover fixing screws shall be of stainless steel grade A2-70 or stronger.
2. Painting and surface finishes, other than those applied by the manufacturer, are not permitted.
3. When the unit is used in dust atmospheres (GD units only) the cable entries used shall be sealed to maintain the IP6X rating, in accordance with the applicable installation codes.
4. This apparatus is suitable for use only in ambient temperatures as follows:

Max. Power rating	T _{amb.}	T _G	T _D
15W	-55°C to +70°C	T4	T135°C
	-55°C to +55°C	T5	T100°C
	-55°C to +40°C	T6	T85°C

b) Type DB3B Ex de:
IECEx BAS 13.0114X, IECEx BAS 13.0115X, Baseefa13ATEX0232X & Baseefa13ATEX0233X

1. For replacement purposes the cover fixing screws shall be of stainless steel grade A2-70 or stronger.
2. Painting and surface finishes, other than those applied by the manufacturer, are not permitted.
3. Not more than one single or multiple strand wiring 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 boot lace ferrule.
4. Leads connected to the terminals shall be insulated for at least 275V and this insulation shall extend to within 1 mm of the metal of the terminal throat.
5. Minimum creepage and clearance distances between the terminals and adjacent conductive parts (including cable entry devices) must be at least 5mm.
6. All terminal screws, used and unused, shall be tightened down.
7. When the unit is used in dust atmospheres (GD units only) the cable entries used shall be sealed to maintain the IP6X rating, in accordance with the applicable installation codes.
8. This apparatus is suitable for use only in ambient temperatures as follows:

Max. Power rating	T _{amb.}	T _G	T _D
15W	-50°C to +70°C	T4	T135°C
	-50°C to +55°C	T5	T100°C
	-50°C to +40°C	T6	T85°C