Ex-tech® SIGNALLING

Sounder

Installation and Technical Information

IMPORTANT: Read carefully before use and keep for future reference



SD125 Series



SD150 Series

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Introduction

The SD125 and SD150 Sounders are designed to provide audible indication and/or warning to personnel working in areas where, during normal operation, there in an explosive atmosphere present. Sounders can either be cycled through a maximum of four alarm stages by remote switching or operated in a simple power on/power off mode.

When de-energised, the enclosure design permits easy access to DIP switches that can be adjusted in situ, allowing you to tailor settings to your needs. With 58 pre-programmed tones available, it should be possible to generate a sound effect to meet your particular signalling requirements.

Available in stainless steel (125) and UV-resistant GRP (150), the robust materials of construction enable your Sounder to resist corrosion and in combination with a rating of IP66 makes the device suitable for use in a range of harsh environments.

Storage Information

Store between **-40°C and +85°C**

Explosion-Proof Labelling

All products have a rating label with the following important information:

Product order no:	eg SD150SNNLYTA (Refer to the datasheet for product order selection)
Input voltage:	
SD150/125	12~48 Vdc 100~240V AC (50/60Hz) Ex db IIC T* Gb -40°C~+60°C T5 Ex tb IIIC T* Db -40°C~+60°C 100°C
Gas Group and Category:	II 2G D
Marking:	Ex db IIC T5 Gb Ex tb IIIC T100°C
ATEX Certification No 150 Series:	ExVeritas 25ATEX2275X
ATEX Certification No 125 Series:	ExVeritas 26ATEX2397X
EX Mark:	
IECEx Certificate 150 Series:	IECEx-25.0071X
IECEx Certificate 125 Series:	IECEx-26.0029X
CE Mark:	
UK CA Mark:	
Warning:	**DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT**

Year-26, **Product Serial Number** eg. EG26-01234

Example rating label



Type Approval Standard

The Ex-Tech Signalling product range all have an EC Type Examination Certificate issued by ExVeritas and have been approved to the following standards:

EN 60079-0:2018 (IEC 60079-0:2018)
EN 60079-1:2014 (IEC 60079-1:2014)
EN 60079-31:2024 (IEC 60079-31:2024)

Zones, Gas Group, Category and Temperature Classification

The SD125 and SD150 series products have been certified Ex d IIC T4~T6. This means that the units can be installed in locations with the following conditions:

Area Classification:

Zone 1: Explosive gas air mixture likely to occur in normal operation.

Zone 2: Explosive gas air mixture not likely to occur and, if it does, it will only exist for a short time.

Gas Groupings: IIA, IIB, IIC.

Zone 21: Explosive dust air mixture likely to occur in normal operation.

Zone 22: Explosive dust air mixture not likely to occur and, if it does, it will only exist for a short time.

Equipment Category: 2GD

Temperature Range: -40°C < Ta <60°C

Installation

General Requirement

The product must be installed in accordance with the latest EN 60079-0 and EN 60079-1 specification, or the equivalent IEC specification.

Product installation must be carried out in accordance with any local codes that may apply and should only be carried out by a competent electrical engineer.

Location

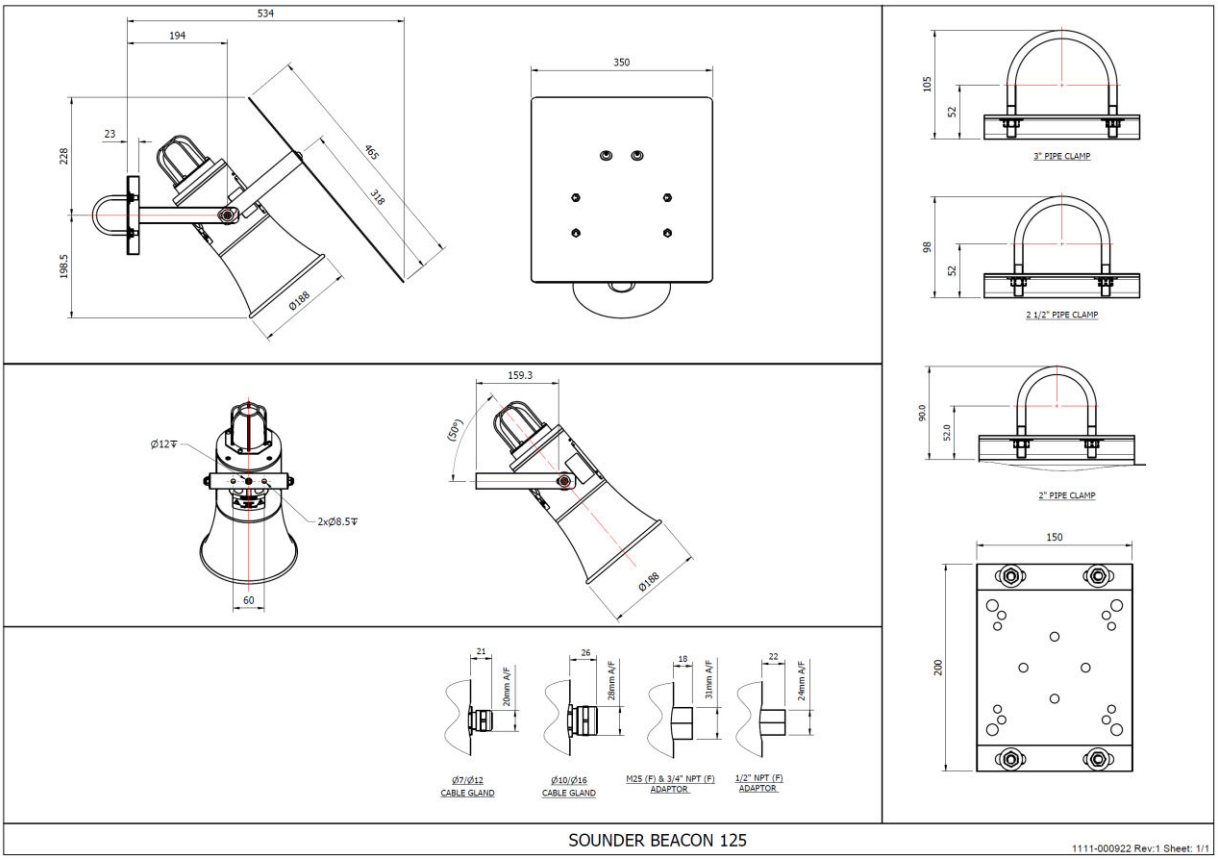
The location of the unit should be chosen with due regard to the area over which the signal must be audible. The unit should only be fixed to services that can support the weight of the unit.

Mounting (Bracket Mounting)

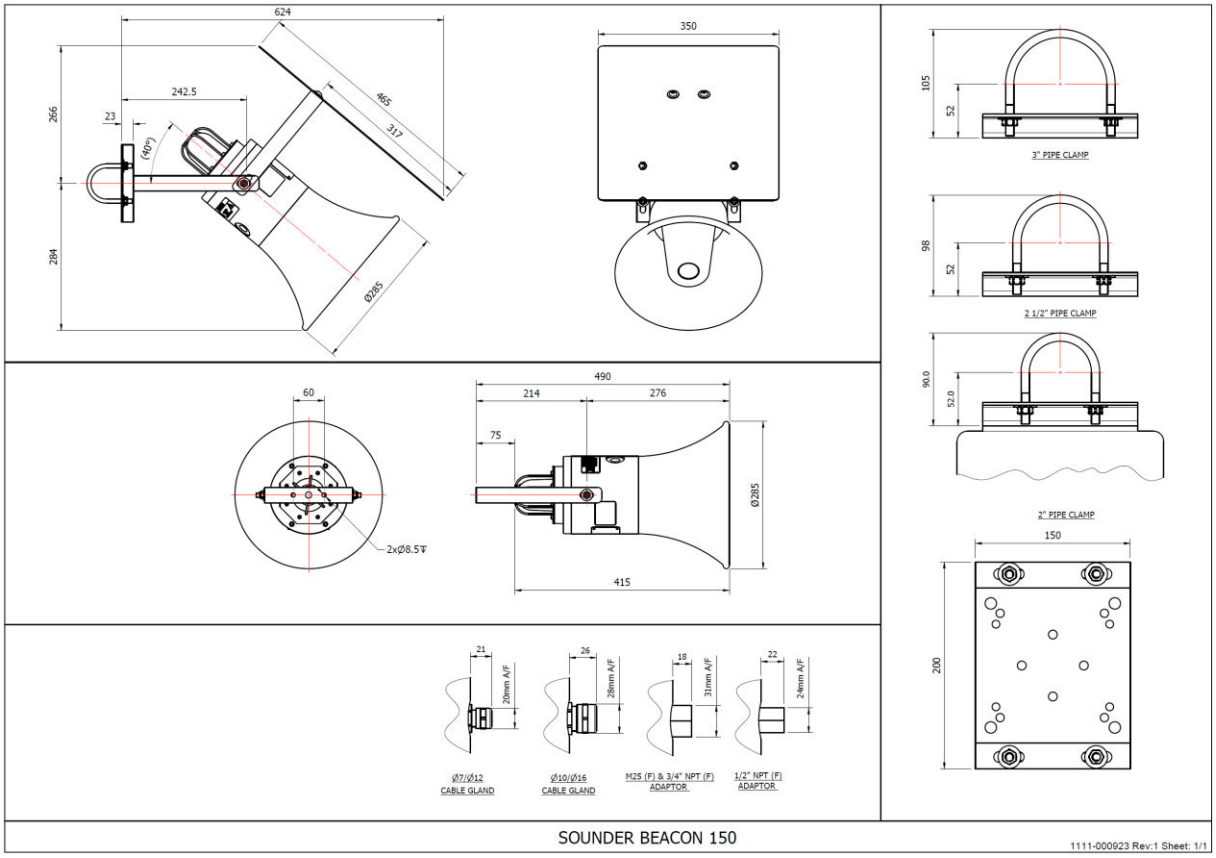
The unit mounts via a 'U' shaped stainless steel bracket by using one 12 mm diameter and two 8.5 mm diameter bolt holes in the centre of the bracket (see **Error! Reference source not found.** a nd **Error! Reference source not found.**). The alignment and positions can be adjusted by loosening the two M8 screws, which fasten the stainless steel bracket to the sounder. The sounder shall be positioned such that dust, debris or water cannot enter into the horn opening.

Product installation must be carried out in accordance with any local codes that may apply and should only be carried out by a competent electrical engineer.

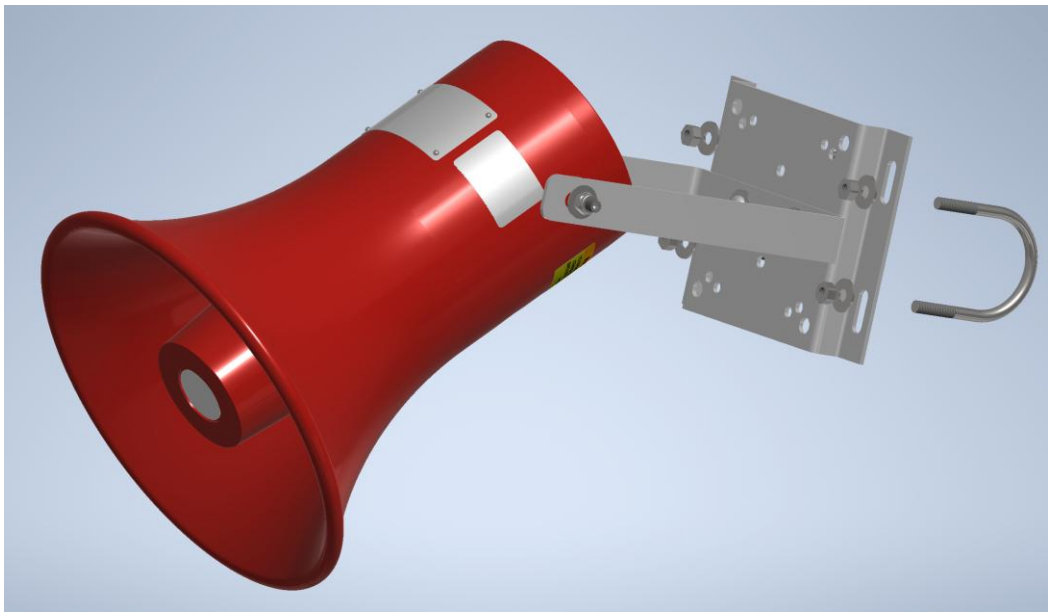
SD125 Series mounting diagram (Shows optional mounting methods and cable adaptors)



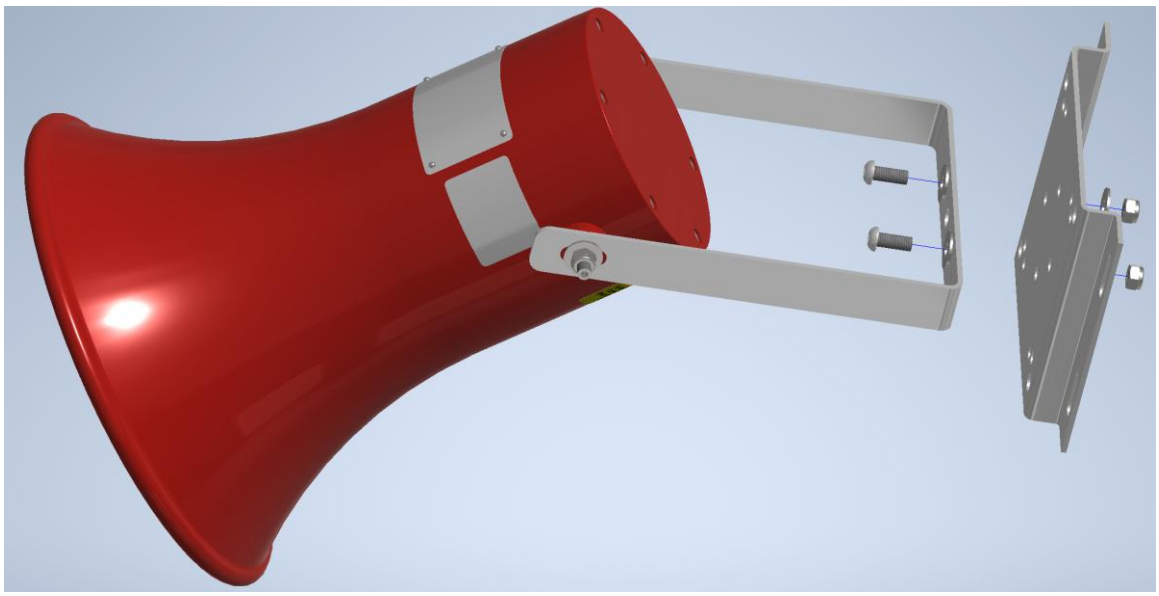
SD150 Series mounting diagram (Shows optional mounting methods and cable adaptors)



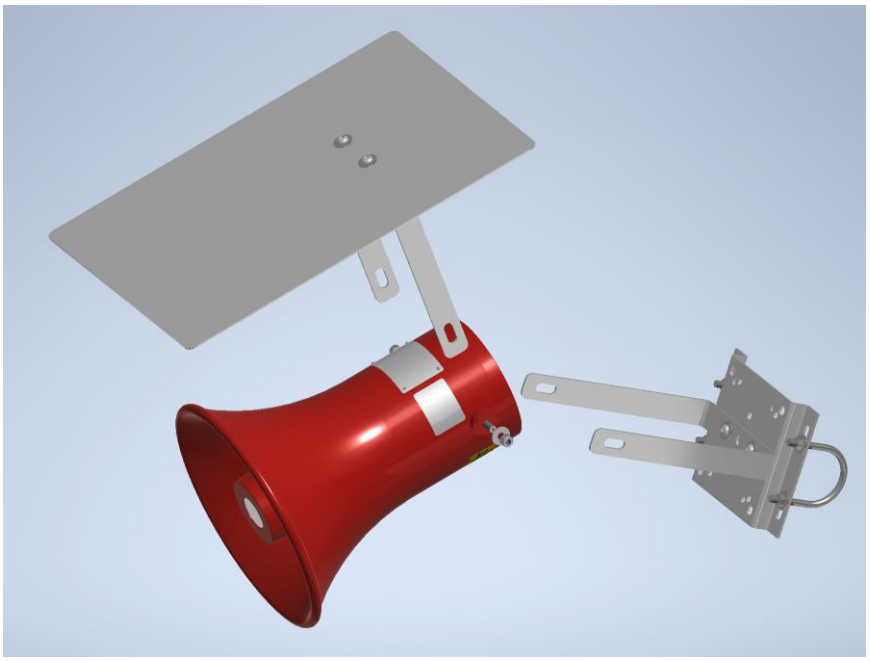
Pipe Mounting (Optional)



Wall Mounting (Optional)



Mounting with Sunshade (Optional) **vb**



Wiring

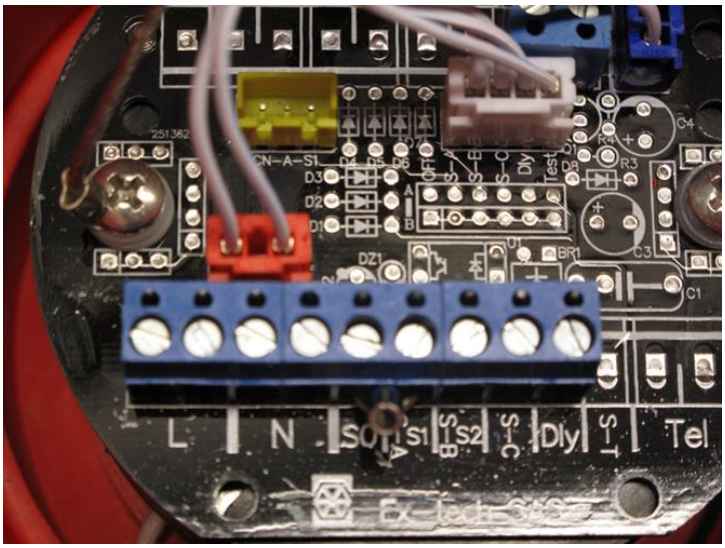
General Requirement

Ex-Tech Signalling recommends that all cables and cores should be fully identified (suggest using cable from 2.0 to 2.5 mm^2). Ensure that all nuts, bolts and screws are secured. Ensure that only certified cable glands are used and the installation is earthed correctly. Ensure that certified stopping plugs are used to blank of unused gland entry points. In order to maintain the IP rating of the product, we recommend SS316L for this application.

Cable Connection

The supply cable connection is to the terminals on the PCB located in the flameproof enclosure of the sounder. Cable connection should be carried out in accordance with the relevant technical requirement.

SD125 and SD150 Series cable connection



CAUTION: Do not connect AC or DC to terminals S0, S1, S2 or D.

For **AC Supply** – to terminals marked **L** and **N**. Terminals provide loop in loop out facility.

For **DC Supply** – connect "**+**" to **L** and connect "**-**" (0 V) to **N**.

Alarm stages –terminals '**S0**' (common), **S1** and **S2**.

Remove Cover

CAUTION: Before removing the cover, ensure the power to the sounder is isolated.

Unscrew the four (4) M5 retained Hexagon socket head screws to open the end cover (see Picture 1). Twist the end cover gently clockwise and anti-clockwise, while pulling away from the base, until it comes off.

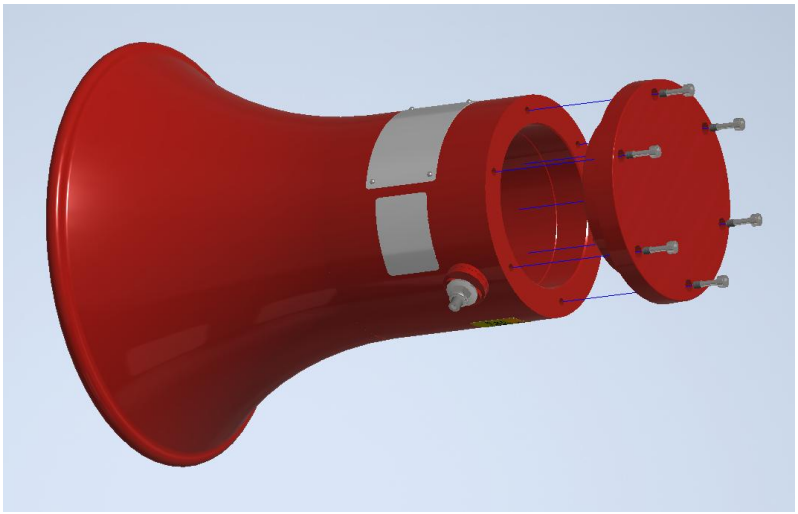
Note; it is recommended to open one blind plug to avoid internal vacuum in the unit.

This will release the cover from the base and allow the cover to hang on the retaining wire strap. Before replacing the cover, check that the flameproof joints are clean, free from damage and the gasket is still retained in its groove.

As lubrication/grease for the flameproof joint, a thin film of Acid-free Vaseline (soap-thickened mineral oils) or mineral oil can be used. Excessive lubrication/grease shall be removed before assembling.

Reinstall the cover in a similar way, but operate in reverse manner as above. The recommended bolt torque for M5 lid screws is 4.5 Nm.

Picture 1 – SD125 end cover removal



Alarm Stages

The alarm stages are set as detailed in Table 1.

Table 1 – SD125 and SD150 alarm stages

Stage	Apply Power To	Termination Connection	Tone
1	L & N	-	No sound
2	L & N	**S0** to **S1** (Factory pre-set)	Set by **DIP SW1**
3	L & N	**S0** to **S2**	Set by **DIP SW2**
4	L & N	**S0** to **S1** & **S2**	Set by **DIP SW3**

Refer to Tone Selection Sheet ref: S00526 for Tone Selection and Volume Control.

Sound Pause Option

Briefly close the loop between '**S0** – **Dly**' for one second minimum each time to give the required pause interval. The sound automatically restarts at the end of the interval.

Table 2 – Sound pause options

No. of times	Pause Interval
1	1 minute
2	5 minutes
3	10 minutes – Closing the loop again for 1 second during this interval automatically restores the sound

Cable Gland

Only cable glands approved for Exd applications can be used with Ex-Tech Signalling Explosion Proof Products. These must be suitable for the type of cable being used and also meet the requirements of the Exd flameproof installation standard EN 60079-14.

SAFETY WARNING

If units are used at high ambient temperatures, ie over +40°C, then the cable entry temperature may exceed +70°C and therefore suitable heat resisting cable glands must be used, with a rated service temperature of at least +95°C.

If a high Ingress Protection (IP) rating is required, a suitable sealing washer must be fitted under the cable gland. Any unused cable entry holes must be closed with an Exd flameproof blanking plug, which must be suitably approved for the installation requirements.

End of Line Monitoring

An End of Line monitoring Diode or an End of Line monitoring Resistor can be connected across the 24V+ and 0 terminals. Resistor values for the End of Line will be determined by the customer with a minimum value of 1.2 kΩ.

Maintenance

Little or no maintenance is required during the normal working life of the product. The Ex-Tech Signalling Exd enclosures are resistant to most acids, alkalis and chemicals and have been designed to withstand severe weather conditions. However, it is suggested that to avoid the possibility of potential electrostatic charge build up, the exterior of the product is periodically wiped down with a clean damp cloth. A visual inspection is then recommended to ensure that the product is in good working order and no damage has been sustained during its normal operation.

Conditions for Safe Usage

Do not paint or change the surface finish of the unit. The coating applied by the manufacturer is Anti-Static and UV Stable.

This apparatus is suitable only to be used in the ambient temperature stated, at the label on the product to be installed.

Table 3 – Operating temperature range

Type	Ambient Temperature
SD125	-40°C to +70°C
SD150	

Specific Condition for Use

Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 1 and 2 of IEC/EN 60079-1.

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