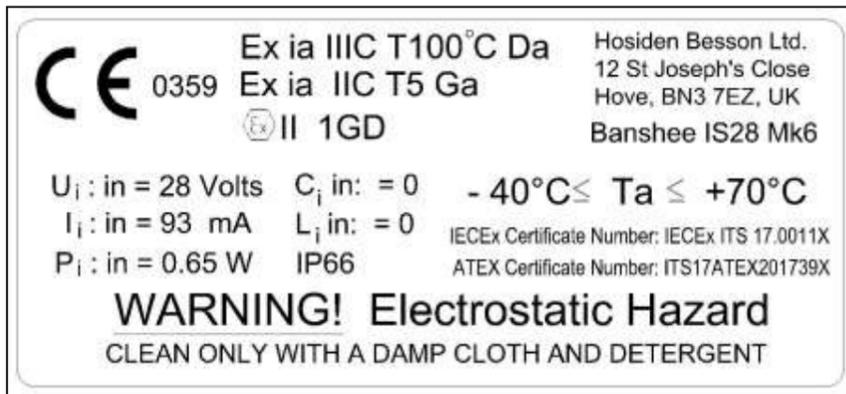


Banshee Excel IS28 MK6

Audible Warning Device



This product has been assessed to conform to the ATEX Directives and certified under IECEx scheme. It has the following approval identifications.



Notified body certificated product
 No modifications permitted without
 reference to the Notified body.

Intrinsically Safe: This document is used for a
 product for use in explosive atmospheres and
 no change is permitted without approval by
 the notified body - Intertek.

Instructions for use

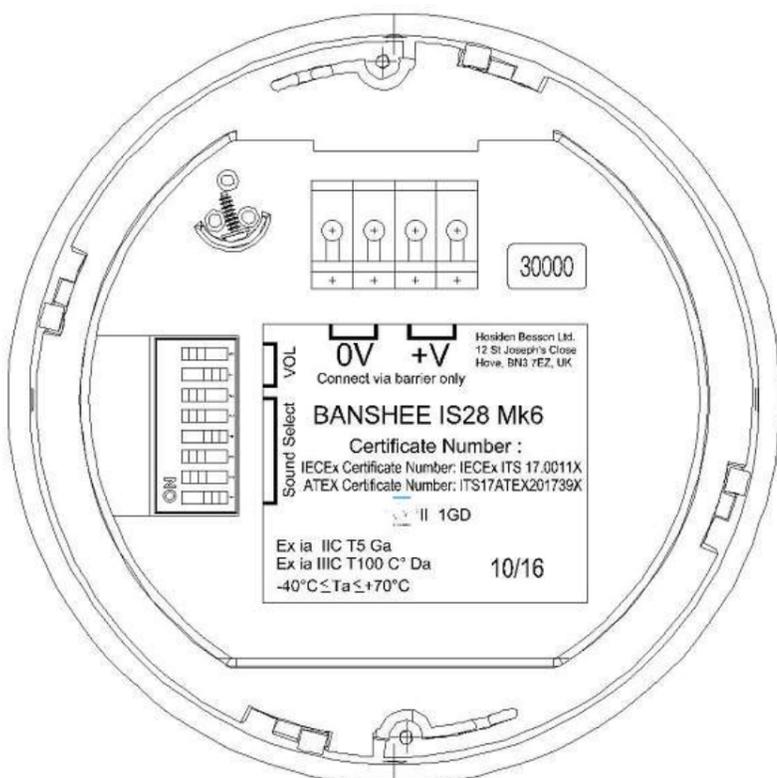
The IS 28 Banshee is intended for use in locations that are considered to present a risk due to the presence of flammable gases, vapours and explosive dust atmospheres.

Marking

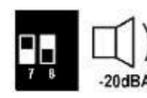
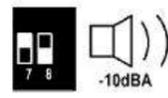
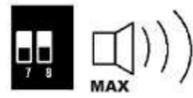
The product is marked with a label on the outside giving details of manufacturer, model name, category of hazardous protection provided, details of limiting design parameters and a statement about minimising any electrostatic hazard.

Inside the Banshee sounder is another label. This shows the location of the volume control, the name of the product and the approving authority and number.

The text shows that the apparatus is intended to conform to requirements of Intrinsic Safety operation with 2 faults present in group IIC (Hydrogen) gas environment. The maximum surface temperature of any part of the Banshee IS28 is assessed not to exceed a T5 (85 degrees C) category in an ambient air temperature of +70 degrees C. The label further reminds the installer to only connect the sounder via a safety barrier, and shows the polarity of the supply connection, the DIL Switch to select one of 32 different sounds, See the Sound Output Table.



Sound Output Table



No	Sound Frequencies & Patterns	Code 12345	Description	Typ SPL@1m on axis dBA	Typ Current mA
1	800Hz to 950Hz swept at 120Hz	00000	Banshee Buzz LF	89	12
2	800Hz to 950Hz swept at 9Hz	10000	Banshee Fast Sweep LF	89	12
3	800Hz to 950Hz swept at 3Hz	01000	Banshee Slow Sweep LF	89	12
4	Continuous at 900Hz	11000	Banshee Continuous LF	90	12
5	830Hz to 970Hz swept at 9Hz	00100	Banshee Fast Sweep LF (New)	90	12
6	800Hz to 970Hz swept at 1Hz	10100	Medium Sweep LF	90	12
7	Continuous at 950Hz	01100	Continuous LF	89	12
8	Intermittent at 950Hz 1 sec on, 1 sec off	11100	Back Up Alarm LF	89	12
9	Alternating 800Hz/1000Hz at 1Hz	00010	Alternate LF	88	12
10	800Hz to 1000Hz swept at 0.5 secs	10010	Medium Sweep LF	90	12
11	Alternating Tones 800/950Hz at 3Hz	01010	Alternate LF	89	12
12	2400Hz to 2900Hz at 120Hz	11010	Banshee Buzz HF	97	14
13	2400Hz to 2900Hz at 9Hz	00110	Banshee Fast Sweep HF	98	14
14	2400Hz to 2900Hz at 3Hz	10110	Banshee Slow Sweep HF	98	14
15	Continuous 2900Hz	01110	Banshee Continuous HF	97	14
16	2450Hz to 3100Hz swept at 9Hz	11110	Banshee Fast Sweep HF (New)	97	14
17	Intermittent at 2900Hz 1 sec on, 1 sec off	00001	Back Up Alarm HF	97	14
18	Alternating Tones 2400/2900 at 3Hz	10001	Alternate HF	97	15
19	500Hz rising to 1200Hz over 3.5 sec, silence 0.5 sec	01001	Slow Whoop	90	12
20	1200Hz falling to 500Hz over 1 sec, silence 10mS	11001	Din Tone (DK)	89	12
21	554Hz for 100mS and 440Hz for 400mS	00101	French Fire Sounder	86	11
22	420Hz repeating 0.625 sec on, 0.625 sec off	10101	Australian Alert Signal	82	11
23	500Hz to 1200Hz sweeping, 3.75 secs on, 0.25 secs off	01101	Australian Evacuation Signal	90	12
24	950Hz for 0.5 sec on, 0.5 sec off for 3 phases, silence for 1.5 secs	11101	US Temporal Tone LF	89	12
25	2900Hz for 0.5sec on, 0.5sec off for 3 phases, silence for 1.5 sec	00011	US Temporal Tone HF	97	14
26	Intermittent 660Hz 150mS on, 150mS off	10011	Swedish Tone (Fire)	80	11
27	Continuous 660Hz	01011	Swedish Tone (All Clear)	81	11
28	Intermittent 970Hz 500mS on, 500mS off	11011	ISO8201 LF	89	12
29	Intermittent 2900Hz 500mS on, 500mS off	00111	ISO8201 HF	97	14
30	Yodel 800Hz/1000Hz, 0.25sec	10111	BT Banshee (FP1063,1)	88	12
31	Continuous 1000Hz	01111	BT Banshee (FP1063,1)	85	12
32	Bell Tone	11111	Bell Tone	90	11

Typical SPL and Current consumption figures when supplied from 24V DC via a 28Volt 300 ohm barrier.

DRG NO. 81700

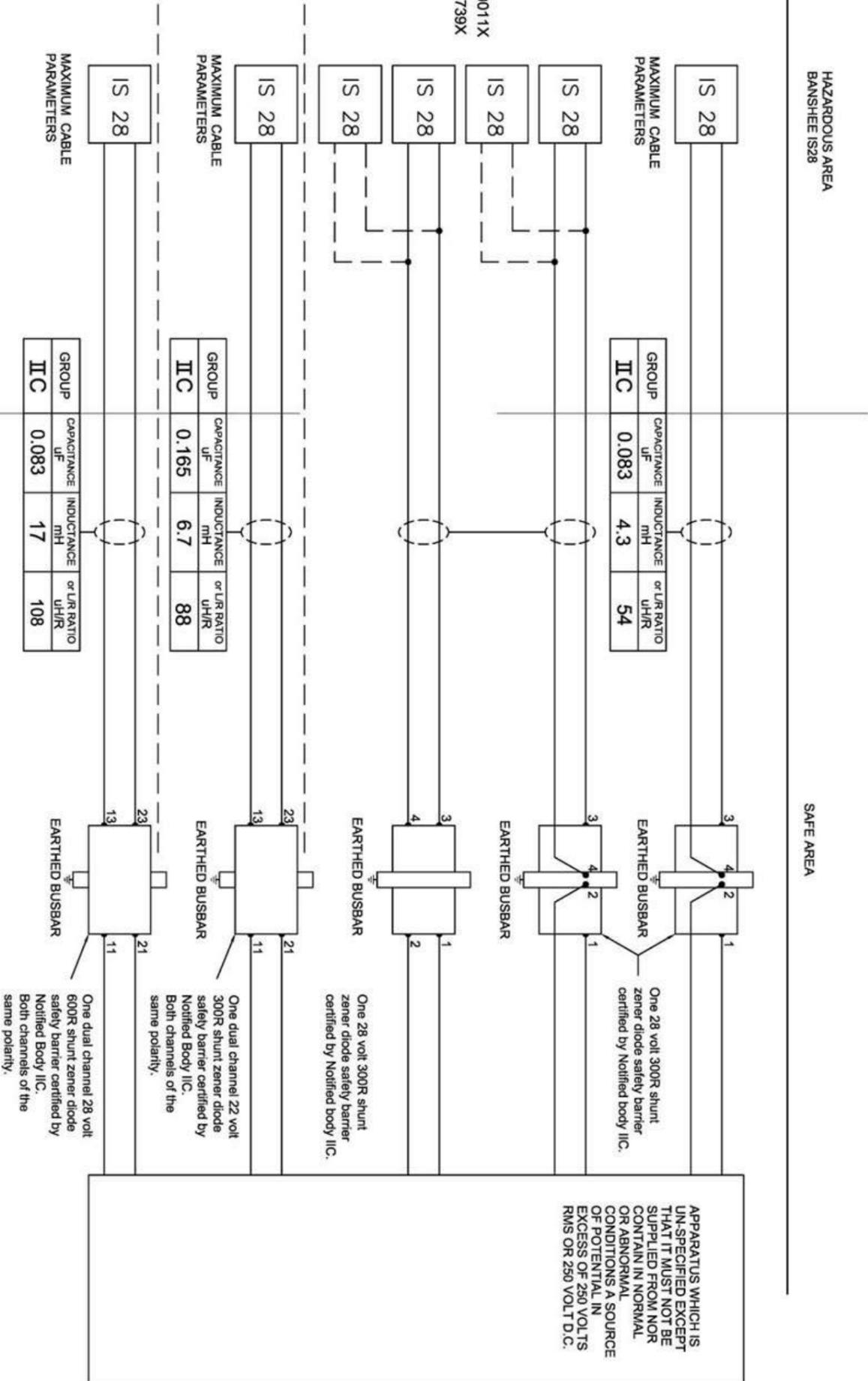
- 1, The circuit in the hazardous area must be capable of withstanding an A.C. test voltage of 500 volts RMS to earth or frame of apparatus.
- 2, Cable parameters are for group IIC. Values for groups IIB and IIA are 3 and 8 times respectively those for group IIC.
- 3, IS28 Certificate Numbers :
IECEX Certificate Number: IECEX ITS 17.0011X
ATEX Certificate Number: ITS17ATEX201739X

Intertek

Controlled Drawing
IECEX ITS 17.0011X
ITS17ATEX201739X
G102785914
26th May 2017
L. Thompson

Intrinsically Safe: This document is used for a product for use in explosive atmospheres and no change is permitted without approval by the notified body - Intertek.

Notified body certificated product
No modifications permitted without reference to the Notified body.



INSTALLATION
MUST MEET NATIONAL INSTALLATION REQUIREMENTS
(E.G. IN THE U.K. - B.S.5345 PART 4 1977)

12 St Joseph's Trading Estate
St Joseph's Close
Hove
East Sussex
BN3 7EZ
United Kingdom
Tel: +44 1273 861166

Website: www.hbl.co.uk

PK01334 Issue A

Installation

Warning: The sound pressure Level produced by the sounder is loud enough to cause hearing damage if in close proximity to the sounder.

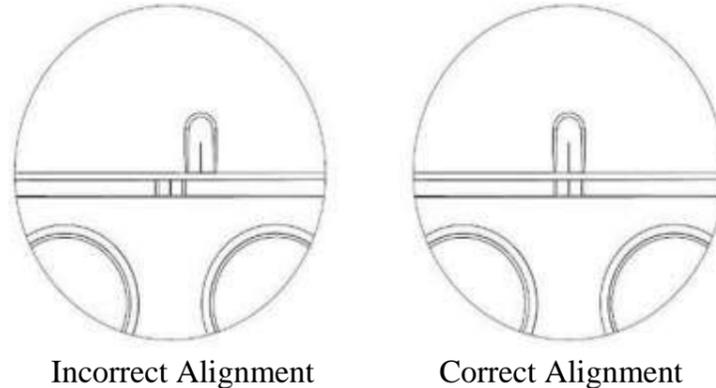
The IS 28 Banshee is intended to be mounted on a vertical surface using the fixing bracket, and secured using suitable fixings. It should normally be sited at a height of about 2 to 3 m from the floor surface, to ensure good sound coverage and without causing unnecessary hearing damage.

This drawing (81700) shows various combinations of options that installer's may care to use, but it is not exhaustive. The essence is the cable parameters and the zener barrier sections. Consultation with the installer's preferred cable and zener barrier supplier's, should enable the correct components to be selected.

Incoming wiring is to be routed directly to the sounder terminal block having checked correct polarity.

Finally with all the wiring correct and tested, the sounder may be refitted to the base, with O-ring in place and turn clockwise to retain. The whole assembly is locked together by fitting the security screw (supplied) through the hole in the side of the sounder assembly.

Note: See illustration below for the incorrect / correct alignment marks for fitting both parts together.



If it is required to change the tone or adjust the loudness of the audible tone produced. The sounder must be removed from the base for this to happen. Ensure all wiring and O-rings are correctly located before the 2 parts are re-assembled.

There are no other user controls or adjustments with the product.

For IP66 Protection

No holes must be made to any part of the Banshee IS28 MK6, except for the base side knock-outs. This allows fitting of a 20mm gland assembly (Not supplied) that must be suitably sealed to the base for wiring to pass through to maintain ingress protection. Use wall mounting bracket to fix base to vertical surface. A spacer is supplied to insure a flat fixing surface for a cable gland if mounted on the single gland entry point.

Maintenance and Servicing

The Banshee IS28 MK6 AWD needs no adjustment, providing the environment it operates in has not changed. Any such change may mean adjustment to volume control.

The sounder needs no servicing beyond avoiding the removal of any obstruction to the sound outlet “nose”. All debris should be removed as soon as possible to avoid loss of sound output.

Water should be allowed to drain from the nose area. The sounder should not be mounted on a horizontal surface facing up. Any other debris should be gently blown from the nose using low pressure (2 to 5 psi) air. High pressure, (shop) air, may result in debris getting into ‘eyes’ or ‘ears’ etc. of service personnel, and must not be used for this purpose.

A warning notice on the sounder allows for cleaning of the apparatus, only with a damp cloth, to avoid any electrostatic hazard from the plastics housings.

No hydro-carbon based solvents should be used as these will cause a chemical reaction with the (ABS) plastics mouldings, as will any other substance with similar composition.

If the Banshee IS28 MK6 sounder fails to function, there are no user parts to change, the complete product must be removed from its installation and a replacement sounder obtained and fitted.

Other Notes and warnings

This product is intended for use ONLY with Zener barrier, or similar intrinsic safety protection power supply device. It is NOT intend for direct connection to “24 volt” fire alarm panels, as the supply voltage will be too high for safe operation. Also the fire panel is unlikely to be approved for this type of operation.

Simple zener barriers are not suitable for operation from “24 volt” fire alarm panels (as the float charge voltage can exceed 27 volts dc, which is beyond the maximum rating of this type of barriers).

Some “dc/dc galvanically isolated barriers” may accept input voltages beyond 30 volts dc, and could be safe to use with the Banshee IS28 MK6. Consult the barrier manufacture for further clarification.

Note however, that these cannot generally be used in “Alarm line monitoring” applications as even if they support input polarity reversal, they will still require some current to function, when in the line monitor mode, and this would be seen by the fire alarm panel as a leakage or short circuit condition.



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: **IECEX ITS 17.0011X** issue No.: **0** [Certificate history:](#)

Status: **Current**

Date of Issue: **2017-05-26** Page 1 of 3

Applicant: **Hosiden Besson Ltd**
12 St. Joseph's Trading Estate
St. Joseph Close
Hove BN3 7EZ
United Kingdom

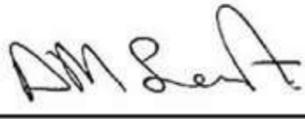
Equipment: **Audible Warning Device Banshee IS28 MK6**
Optional accessory:

Type of Protection: **Intrinsic safety 'i'**

Marking: Hosiden Besson
IECEX ITS 17.0011X
Ex ia IIC T5 Ga
Ex ia III C T100°C Da IP66
-40°C ≤ Ta ≤ +70°C

Approved for issue on behalf of the IECEX Certification Body: **A M Smart**

Position: **Certification Officer**

Signature: 
(for printed version)

Date: **2017-05-26**

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEX Website.

Certificate issued by:
Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SB
United Kingdom





IECEX Certificate of Conformity

Certificate No.: IECEX ITS 17.0011X

Date of Issue: 2017-05-26

Issue No.: 0

Page 2 of 3

Manufacturer: **Hosiden Besson Ltd**
12 St. Joseph's Trading Estate
St. Joseph Close
Hove BN3 7EZ
United Kingdom

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition: 6.0

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/ITS/ExTR17.0009/00

Quality Assessment Report:

GB/ITS/QAR08.0006/02



IECEx Certificate of Conformity

Certificate No.: IECEx ITS 17.0011X

Date of Issue: 2017-05-26

Issue No.: 0

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

An audible warning device type Banshee IS28 MK6 is designed to provide an audible warning when energized from an external source through Intrinsically Safe barrier or galvanic isolator. Equipment comprises a completely encapsulated printed circuit board with the driver and an audio transducer mounted in a moulded plastic enclosure. 8-way DIL switch and terminals are not encapsulated. Enclosure provides a degree of protection of IP66 when external connections are made and the mounting backplate secured.

The input parameters for the equipment are as follow:

$U_i = 28V$
 $I_i = 93mA$
 $P_i = 0.65W$
 $L_i = 0$
 $C_i = 0$

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Cable glands shall be suitable for cable and conditions for use and installed in accordance with their manufacturer instructions. Cable glands shall maintain IP66 rating of the enclosure.
- The enclosure of the equipment can be susceptible to electrostatic charging. Avoid electrostatic discharge by cleaning the equipment with a damp cloth only. Refer to manufacturer instructions for further guidance.

EU-Type Examination Certificate

**Intertek**

Valued Quality. Delivered.

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS17ATEX201739X Issue 0

13. Description of Equipment or Protective System

An audible warning device type Banshee IS28 MK6 is designed to provide an audible warning when energized from an external source through Intrinsically Safe barrier or galvanic isolator.

Equipment comprises a completely encapsulated printed circuit board with the driver and an audio transducer mounted in a moulded plastic enclosure. 8-way DIL switch and terminals are not encapsulated. Enclosure provides a degree of protection of IP66 when external connections are made and the mounting back plate secured.

The equipment entity parameters:

$U_i = 28V$

$I_i = 93mA$

$P_i = 0.65W$

$L_i = 0$

$C_i = 0$

14. Report Number

Intertek Report Ref: 102785914LHD-001 Issue 0 dated May 2017.

15. Special Conditions of Certification

(a). Specific Conditions of Safe Use

- Cable glands shall be suitable for cable and conditions for use and installed in accordance with their manufacturer instructions. Cable glands shall maintain IP66 rating of the enclosure.
- The enclosure of the equipment can be susceptible to electrostatic charging. Avoid electrostatic discharge by cleaning the equipment with a damp cloth only. Refer to manufacturer instructions for further guidance.

(b). Conditions of Manufacture - Routine Tests

- None.

EU-Type Examination Certificate


Intertek

Valued Quality. Delivered.

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS17ATEX201739X Issue 0

16. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref. 102785914LHD-001 Issue 0 dated May 2017.

17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
*Main Body 4 lugs Banshee Excel	22206	F	11/04/2017
*Deep Base 4 lugs Banshee Excel	22207	F	11/04/2017
*RA Capsule Holder Banshee Excel	22211	E	18-04-2017
*O-ring 29.5mm ID Banshee Excel	22214	B	11-4-17
*Gland Spacer	22342	B	11/04/17
*Serialised Label ~ I.S.28	81378	B	11-4-17
*Nose Label HBL Logo Only	81579	B	13-4-17
*Sounder Nose Banshee Excel	81602	F	11/04/2017
*LS02100 Rocking Armature Capsule	81606	G	11/04/2017
*IS28 MK6 TB Gasket	81674	B	11/04/2017
*IS28 MK6 SW Gasket	81675	B	11/04/2017
*PC80558D Gerber Issue Date 21/01/16	81679	D	11-04-2017
*IS28 Back Plate	81680	D	11/04/2017
*Main Body Approval Label IS28 MK6	81681	B	11/04/2017
*Packaging Box Label – IS28 MK6	81682	B	11/04/2017
*Terminal Label – IS28 MK6	81683	B	11/04/2017
*IS28 MK6 PC80558 – Circuit Diagram	81684	B	11/04/2017
*IS28 MK6 – PCB Potted Assembly	81696	C	11-04-2017
*IS28 MK6 General Assembly	81697	C	11-04-2017
*IS28 MK6 – User Guide Block Diagram	81700	B	11-04-2017
*IS28 MK6 BOM	81701	C	19-05-2017
*Wall mounting bracket Banshee Excel	85011	D	11-04-2017

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