


# EU-Type Examination Certificate

- [2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU
- [3] EU-Type Examination Certificate Number: Presafe 16 ATEX 8940X Issue 0
- [4] Product: Burst Indicators (Burst Alert Sensors), Reed Relay Sensors & Magnetic Burst Indicators
- [5] Manufacturer: BS & B Safety Systems Ltd.
- [6] Address: Raheen Business Park, Limerick, Ireland
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Nemko Presafe AS, notified body number 2460, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in confidential reports listed in section 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0:2012/A11:2013 and EN 60079-11:2012
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- [11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:

 II 1 GD Ex ia IIC T\* Ga, Ex ia IIIC T\* Da, - \* °C ≤ Ta ≤ + \* °C  
\*Refer to schedule

Date of issue: 2017-04-19

Asle Kaastad  
For DNV GL Nemko Presafe AS

The Certificate has been digitally signed.  
See [www.presafe.com/digital\\_signatures](http://www.presafe.com/digital_signatures) for more info



*This certificate may only be reproduced in its entirety and without any change, schedule included.*

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## Schedule

[14] EU-TYPE EXAMINATION CERTIFICATE No.: Presafe 16 ATEX 8940X Issue 0

[15] **Description of Product**

**Burst Indicators (Burst Alert Sensors):** 'Simple Apparatus' as defined in IEC 60079-11 operating as a 'normally closed' circuit via a tantalum electrical conductor supported on a backing membrane. The 'normally closed' circuit changes to an 'open circuit when the rupture disk ruptures. Supplied as standard with flying leads or can be supplied with integrated Connection head. The essential difference in the burst indicator types is the way the conductive strip is laid out on the membrane and the physical dimensions.

**Reed Relay Sensors:** 'Simple Apparatus' as defined in IEC 60079-11 operating as a 'normally closed' electrical circuit when the reed switch contained within the sensor probe assembly is in contact with the rupture disk. The 'normally closed' circuit changes to an 'open circuit when the rupture disk ruptures. Supplied as standard with flying leads or can be supplied with integrated connection head for direct process connection (RBS-CH version only).

**Magnetic Burst Indicator:** 'Simple Apparatus' as defined in IEC 60079-11 operating as a 'normally closed' electrical circuit. Typically consists of two components an encapsulated magnet and an encapsulated reed switch which are attached to carrier plates on opposing segments of the rupture disk or explosion vent. The 'normally closed' circuit changes to an 'open circuit when the rupture disk or explosion vent ruptures.

This certificate replaces and updates DNV-2003-OSL-ATEX-0005, DNV-2006-OSL-ATEX -0007 and FTZU 03 ATEX 0229X

**Ambient Temperature Rating, Ex Marking and Type Designations:**

<b>Burst Indicators (Burst Alert Sensors):</b> ABAS+, ABAS+CH, ABASS+, BAS+, BASS, BASS+, ADAS+, ADASS, DAS+, DAS for Monobloc, DASS, ALDAS+, ALDASS+, LDAS+, LDASS+, ECAS+, AECAS+, GAS+, AGAS+, KBA, AKBA, AKBAS, AKBAS+, KBSAS+, AVB Alert, Integral Sensor for AV-EL Rupture Disk.		
<b>Ex Marking</b>		<b>Ambient temperature rating</b>
Ex ia IIC T260°C Ga	Ex ia IIIC T260°C Da	-40°C ≤ Ta ≤ +245°C
Ex ia IIC T3 Ga	Ex ia IIIC T200°C Da	-40°C ≤ Ta ≤ +190°C
Ex ia IIC T4 Ga	Ex ia IIIC T135°C Da	-40°C ≤ Ta ≤ +125°C
Ex ia IIC T5 Ga	Ex ia IIIC T100°C Da	-40°C ≤ Ta ≤ +90°C
Ex ia IIC T6 Ga	Ex ia IIIC T85°C Da	-40°C ≤ Ta ≤ +75°C

## Ambient Temperature Rating, Ex Marking and Type Designations (Continued):

<b>Burst Indicators (Burst Alert Sensors): SAS, KBAS+, KBA-S, KBA-SS, GCR-SS, GCR-SES, GCR-SMS, GCR-NS, GFR-SS, GFR-SES, GFR-SMS, GFR-NS, SLP-SS, SLP-SES, SLP-SMS, SLP-NS</b>		
<b>Ex Marking</b>		<b>Ambient temperature rating</b>
Ex ia IIC T232 <sup>0</sup> C Ga	Ex ia IIIC T232 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +217 <sup>0</sup> C
Ex ia IIC T3 Ga	Ex ia IIIC T200 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +190 <sup>0</sup> C
Ex ia IIC T4 Ga	Ex ia IIIC T135 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +125 <sup>0</sup> C
Ex ia IIC T5 Ga	Ex ia IIIC T100 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +90 <sup>0</sup> C
Ex ia IIC T6 Ga	Ex ia IIIC T85 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +75 <sup>0</sup> C

<b>Reed Relay Sensors: RBS-CH</b>			
<b>Ex Marking</b>		<b>Ambient temperature rating</b>	<b>IP Rating</b>
Ex ia IIC T2 Ga	Ex ia IIIC T300 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +285 <sup>0</sup> C	IP66/68
Ex ia IIC T3 Ga	Ex ia IIIC T200 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +190 <sup>0</sup> C	IP66/68
Ex ia IIC T4 Ga	Ex ia IIIC T135 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +125 <sup>0</sup> C	IP66/68
Ex ia IIC T5 Ga	Ex ia IIIC T100 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +90 <sup>0</sup> C	IP66/68
Ex ia IIC T6 Ga	Ex ia IIIC T85 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +75 <sup>0</sup> C	IP66/68

<b>Reed Relay Sensors: RBS-HT (IP rating only applies when the sensor is terminated in an IP67 enclosure)</b>			
<b>Ex Marking</b>		<b>Ambient temperature rating</b>	<b>IP Rating</b>
Ex ia IIC T3 Ga	Ex ia IIIC T200 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +190 <sup>0</sup> C	IP67
Ex ia IIC T4 Ga	Ex ia IIIC T135 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +125 <sup>0</sup> C	IP67
Ex ia IIC T5 Ga	Ex ia IIIC T100 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +90 <sup>0</sup> C	IP67
Ex ia IIC T6 Ga	Ex ia IIIC T85 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +75 <sup>0</sup> C	IP67

<b>Reed Relay Sensors: RBS-ST (IP rating only applies when the sensor is terminated in an IP67 enclosure)</b>			
<b>Ex Marking</b>		<b>Ambient temperature rating</b>	<b>IP Rating</b>
Ex ia IIC T80 <sup>0</sup> C Ga	Ex ia IIIC T80 <sup>0</sup> C Da	-25 <sup>0</sup> C ≤ Ta ≤ +70 <sup>0</sup> C	IP67

<b>Magnetically Activated Sensors: MBS</b>			
<b>Ex Marking</b>		<b>Ambient temperature rating</b>	<b>IP Rating</b>
Ex ia IIC T80 <sup>0</sup> C Ga	Ex ia IIIC T80 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +70 <sup>0</sup> C	IP67

<b>Magnetically Activated Sensors: GFR-SSM, GFR-SEM &amp; GFR-SMM</b>			
<b>Ex Marking</b>		<b>Ambient temperature rating</b>	<b>IP Rating</b>
Ex ia IIC T125 <sup>0</sup> C Ga	Ex ia IIIC T125 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +115 <sup>0</sup> C	IP67
Ex ia IIC T5 Ga	Ex ia IIIC T100 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +90 <sup>0</sup> C	IP67
Ex ia IIC T6 Ga	Ex ia IIIC T85 <sup>0</sup> C Da	-40 <sup>0</sup> C ≤ Ta ≤ +75 <sup>0</sup> C	IP67

**Electrical Safety Parameters:** Ui: 30V, Ii: 250mA, Pi: 3 W (Maximum values, Ohms law applies U x I=P); Ci: 0, Li: 0

**Degrees of protection (IP Code):** Refer to tables above

**Routine tests:** None

**[16] Report No.:** 2017-3043

**Project No.:** PRJC-518028-2015-PRC-USA

**[17] Specific Conditions of Use Specific Conditions of Use**

1. User must ensure that installation is performed in accordance with current versions of EN 60079-14, EN 60079-25 and EN 60079-26.
2. Burst Indicators (Burst Alert Sensors), Reed Relay Sensors or Magnetic Burst Indicators may be used in an external dust atmosphere, but shall not to be used in dust atmospheres within a pipeline due to the possibility of electrostatic charging.
3. Clean plastic parts with a damp or wet cloth to prevent electrostatic charging.
4. Refer to the tables in this certificate to determine the maximum surface temperatures allowed. Burst Indicators (Burst Alert Sensors), Reed Relay Sensors or Magnetic Burst Indicators are in intimate contact with the burst disks or panels; the temperature of the process media often determines the maximum surface temperatures of the sensor.
5. Each Burst Indicator (Burst Alert Sensor), Reed Relay Sensor or Magnetic Burst Indicator is supplied with mechanical mounting instructions that are specific to the burst disk or panel onto which they will be mounted. Failure to follow these positioning instructions may result in a failure to detect a burst or rupture.

**[18] Essential Health and Safety Requirements**

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

**[19] Drawings and documents**

Number	Title	Rev.	Date
K0-0-5163-000	Burst Indicator Schedule Drawing	0	2017-02-28
K0-0-5164-000	Reed Relay Sensor Schedule Drawing	0	2017-02-28
K0-0-5165-000	Magnetically Activated Sensor Schedule Drawing	0	2017-02-28
II-K0-5000	User Instructions for Burst Indicators	0	2017-03-15
II-K0-5001	User Instructions for Reed Relay Sensors	0	2017-03-15
II-K0-5002	User Instructions for Magnetically Activated Sensors	0	2017-03-15

**[20] Certificate History**

Issue	Description	Report no.	Issue date
0	Initial Issue	2017-3043	2017-04-19

END OF CERTIFICATE