



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx SIR 16.0059X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 3 Issue 2 (2020-09-10)  
Date of Issue: 2021-01-06 Issue 1 (2017-08-03)  
Applicant: **Kongsberg Maritime AS** Issue 0 (2016-08-10)  
Skonnertvegen 1  
7053 Ranheim  
Norway  
Equipment: **Sentry SPU – GBP200/-----Y Antenna GBS-1 Series**  
Optional accessory:  
Type of Protection: **Flameproof db and Intrinsically Safe [ia]**  
Marking: **SPU GBP200/-----Y:**  
Ex db [ia Ga] IIC T5 Gb  
-20°C ≤ Ta ≤ +60°C  
**Antenna GBS-1 Series:**  
Ex ia IIC T6/T5/T4 Ga [ @ -20°C ≤ Ta +80/95/100°C ]  
-20°C ≤ Ta +80/95/100°C

Approved for issue on behalf of the IECEx  
Certification Body:

**Neil Jones**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**SIRA Certification Service**  
**CSA Group**  
**Unit 6, Hawarden Industrial Park**  
**Hawarden, Deeside, CH5 3US**  
**United Kingdom**

**sira**  
CERTIFICATION





# IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 16.0059X**

Page 2 of 4

Date of issue: 2021-01-06

Issue No: 3

Manufacturer: **Kongsberg Maritime AS**  
Skonnertvegen 1  
7053 Ranheim  
**Norway**

Additional  
manufacturing  
locations:

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 equipment 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 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

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

This Certificate **does not** indicate compliance with 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 Reports:

[GB/SIR/ExTR16.0212/00](#)

[GB/SIR/ExTR17.0124/00](#)

[GB/SIR/ExTR20.0235/00](#)

Quality Assessment Report:

[NO/PRE/QAR18.0016/02](#)



# IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 16.0059X**

Page 3 of 4

Date of issue: 2021-01-06

Issue No: 3

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Sentry SPU – GBP200/----Y is part of the SENTRY GB-200 system and is a wireless temperature measuring system utilized for example for the surveillance of the critical parts of rotating machinery. The system is based on radar technology and the use of wireless passive sensors. A low energy and high frequency radio (radar) pulse is generated and transmitted to the sensor. The sensor reflects the pulse back to antenna and then to the signal processing unit. The temperature of the sensor determines the shape and characteristics of this reflected pulse.

Refer to the Annexe for additional information

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

1. The equipment does not fulfil the dielectric strength requirement according to Clause 6.3.13 of IEC 60079-11:2011. Special consideration has to be taken under installation. See Safety Control Drawing no. GB-1123.
2. The Stationary Antenna GBS cannot be mounted, or screwed, directly onto the flameproof enclosure SPU GBP200/----Y.
3. The following cable glands threads shall be used for the customer supplied glands: Metric ISO pitch 1.5mm, NPT ANSI ASME B1.20.1. (M20, M25 and M32).
4. The instructions and the parameters relating to safety in the IECEx certificate, IECEx INE 14.0042X, for the flameproof enclosure shall be observed.
5. The temperature at the entry point could potentially be higher than 70°C at rated conditions. Guidance to the user on the proper selection of cable and cable gland for the communication/power entries are provided in the User Manual SENTRY GB-200 (P-GB200/FE).
6. The Flamepaths in this equipment are other than the minimums and maximums specified in IEC 60079-1, and shall not be repaired by the user.



# IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 16.0059X**

Page 4 of 4

Date of issue: 2021-01-06

Issue No: 3

## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

**This issue, Issue 3, recognises the following changes; refer to the certificate annex to view a comprehensive history:**

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the standard previously listed, IEC 60079-1:2007 Ed 6, was replaced by IEC 60079-0:2017 Ed 7 + COR1:2018. As a result of this variation, drawings 416767 and E-2685 were updated.
2. The Specific Conditions of Use were updated.

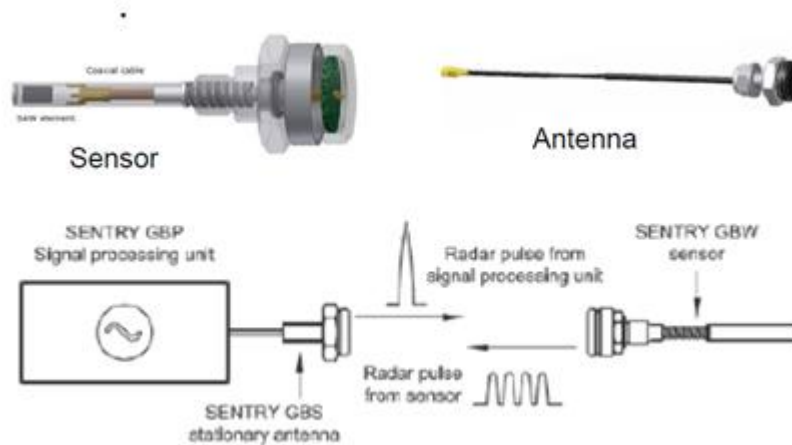
## **Annex:**

[IECEx SIR 16.0059X Annexe Issue 3.pdf](#)

Annexe to: IECEx SIR 16.0059X Issue 3  
 Applicant: Kongsberg Maritime AS  
 Apparatus: Sentry SPU – GBP200/-----Y  
 Antenna GBS-1 Series



The description is retained in full:



The Sentry SPU – GBP200/-----Y is part of the SENTRY GB-200 system and is a wireless temperature measuring system utilized for example for the surveillance of the critical parts of rotating machinery. The system is based on radar technology and the use of wireless passive sensors. A low energy and high frequency radio (radar) pulse is generated and transmitted to the sensor. The sensor reflects the pulse back to antenna and then to the signal processing unit. The temperature of the sensor determines the shape and characteristics of this reflected pulse.

The radio pulse is a 856MHz RF pulse of 250ns.

The GB-200 system comprises a Signal Processing Unit GBP-200, a Stationary Antenna GBS and a Wireless Temperature Sensor GBW, but the GBW is not included in the certification.

The SPU GBP-200 is powered by 18-32VDC (Um: 250V), on the terminal J1.

The maximum continuous dissipated power from the GBP-200 unit is 17W (Pi).

The SPU GBP-200 is mounted inside a flameproof enclosure (Ex d) type GUB 3L from Pepperl+Fuchs GmbH. The enclosure is made of aluminum alloy. The enclosure is coated with epoxy grey RAL7005. The flameproof enclosure is fitted with IECEx certified cable glands type A2F from CMP Products Ltd and Ex d stopping plugs from Pepperl+Fuchs GmbH.

Equipment	Type	Ex protection code	Temperature rating	Manufacturer	IECEx certificate
Flameproof enclosure	GUB 3L	Ex db IIC Gb	-20°C to +60°C	Pepperl+Fuchs GmbH	IECEx INE 14.0042X
Barrier gland	RA2F-M20/16	Ex db IIC Gb	-60°C to +130°C	CMP Products Ltd	IECEx SIR 13.0023X Or IECEx CML 18.0172
Stopping plug	Stopping plug	Ex db IIC Gb	-40°C to +100°C	Pepperl+Fuchs GmbH	IECEx CES 15.0006X

External dimensions GUB3L enclosure: 360mm x 360mm x 245mm

Annexe to: IECEx SIR 16.0059X Issue 3  
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Internal volume: 19000cm<sup>2</sup>. Max volume of internal parts is 3100cm<sup>2</sup>. The volume of the mounted internal parts is less than 40% of the total internal volume.

The enclosure has threads as flameproof joints. Threaded openings for cable glands and threaded lid.

Cable glands for the antenna entries are supplied with the equipment. IECEx certified barrier glands type A2F from CMP Products Ltd are used. The enclosure has 10 antenna entries.

Cable glands for communication/power entries are not supplied with the equipment. IECEx certified Stopping plugs from Pepperl+Fuchs GmbH are mounted in the entries. The enclosure has 3 communication/power entries.

The codes (-----) denote variants.

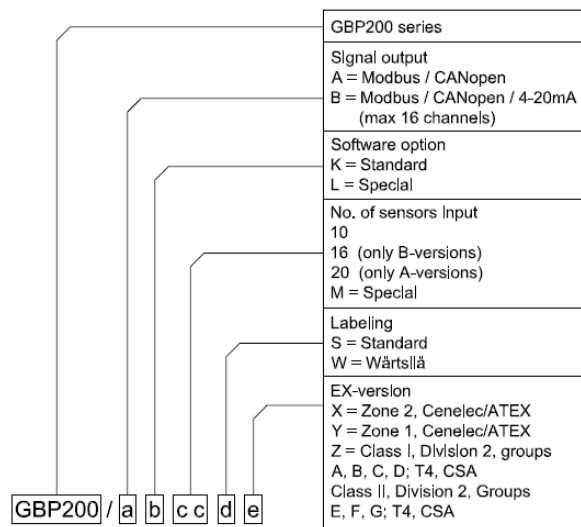


Figure 1: Variant code (Dwg. GB-1064)

### Conditions of Manufacture

- i. The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
- ii. The equipment covered by this certificate incorporates previously certified devices; it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform CSA UK of any modifications of the devices that may impinge upon the explosion safety design of the equipment.

Description	Certificate Number
Flameproof enclosure – Model GUB 3L	IECEX INE 14.0042X
Cable gland – Model RA2F-M20/16	IECEX CML 18.0172
Stopping plug	IECEX CES 15.0006X

Annexe to: IECEx SIR 16.0059X Issue 3  
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Antenna GBS-1 Series

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## Full certificate change history

Issue 1 – this Issue introduced the following change:

The Applicant's address was changed:

From:	To:
Kongsberg Maritime AS	Kongsberg Maritime AS
Haakon VIIIs gt. 4	Skonnertvegen 1
N-7005 Trondheim	7053 Ranheim
Norway	Norway

Issue 2 – this Issue introduced the following change:

1. Issued to update the QAR's to the latest issues and to remove an obsolete one. An ExTR was not required.

Issue 3 – this Issue introduced the following change:

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the standard previously listed, IEC 60079-1:2007 Ed 6, was replaced by IEC 60079-0:2017 Ed 7 + COR1:2018. As a result of this variation, drawings 416767 and E-2685 were updated.
2. The Specific Conditions of Use were updated.