TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA000022N
Revision No:
3

This is to certify:

that the Safety Unit for Rotating Machinery

with type designation(s)
Wireless Temperature Monitoring System "SENTRY GB-300"

issued to
Kongsberg Maritime AS Avd Skonnertvegen
Ranheim, Norway

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**D (Tested to 85°C)**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**B**

Issued at **Høvik** on **2025-07-11**

This Certificate is valid until **2027-07-10**.
DNV local unit: **Trondheim**

Approval Engineer: **Krzysztof Aleksander Jankowski**

for **DNV**
This document has been digitally signed and will therefore not have handwritten signature

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Wireless Temperature Monitoring System "SENTRY GB-300" is used for near real time monitoring of the bearing temperatures of rotating machinery.

System elements:	
Description	Type
Signal Processing Unit	GBP300/A[1] or B[2]
Stationary Antenna with Coax cable	GBS---
Wireless Temperature Sensor	GBW---
1) Unit with CAN and RS 485 MODBUS 2) Unit with CAN, RS 485 MODBUS and 4-20mA	

Software versions		
GB-300 Bootloader software[3]		
Program	Software version	Date
P1GB300-BOOT	1.2.x	2019-04-12
GB-300 main software[3]		
Program	Software version	Date
P1GB300	1.2.x	2021-05-19
KM-CT Sensor Program for GBW---		
Program	Software version	Date
KM-CT Sensor	5.1.0.x IXXAT USB to CAN driver support	2022-12-12
KM-CT Sensor	5.2.0.x IXXAT and Kvaser USB to CAN driver support	2023-05-30
x – minor changes not affecting DNV Rules requirements. Represented by fix digit for specific delivery. 3) The SENTRY "GB-300" has one microcontroller which require "Bootloader" and "main software" installation.		

Maintenance of SW versions is described in documents:
1. "Software revision history for Kongsberg Maritime Sentry System GB-300" (Doc. No.: 441782, Rev. C)
2. "Software revision history for Sentry Configuration tool KM-CT Sensor" (Doc. No.: 442145, Rev. F)

Software control

When the type approved software is revised (affecting all future deliveries) DNV is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Place of manufacture

Kongsberg Maritime AS Avd Skonnertvegen
Skonnertvegen 1
7053 Ranheim
Norway

Application/Limitation

1. The Type Approval covers hardware and software listed under Product description.
2. Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.
3. If system is used as part of required by DNV Rules safety system, it shall be arranged as independent from control and monitoring system (including power supply arrangement).
4. If system is used as part of required by DNV Rules engine safety system, installation arrangement have to be approved and tested as stated in DNV Rules for Ships Pt.4 Ch.3 Sec.1 [5.7.10].

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Software version numbers used in specific delivery
- Confirmation that Application/Limitation point 3 is fulfilled.
- Confirmation that Application/Limitation point 4 is fulfilled for specific engine.

Product certificate

As long as the units are covered by this Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 will **not be** required for system applications made and delivered with accordance to requirements listed in this Type Approval Certificate. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Application software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board.

Type Approval documentation

Technical documentation

Document name	Document number	Revision	Dated
SENTRY GB-300 Block Diagram	442138	B	2021-01-27
SENTRY GB-300 Product Sheet	P-GB300/CE/A	A	2019-09-06
SENTRY GB-300 Product Sheet Ex	P-GB300_Ex/CE/A	A	2018-11-07
User Manual SENTRY GB-300 Wireless Temperature Measuring System	P-GB300/FE	D	2024-01-18
GBP300 Framework drawing sone 1	GB-1236	B	2020-03-02
SENTRY wireless temp. monitoring GBP300, Signal processing Unit (SPU) ORDERING KEY Layout Drawing	GB-1235	F	2023-03-28
Safety control drawing GBP300 Instruction for using GBP300 in Hazardous area System Drawing	GB-1233	C	2022-01-12
Name label for GBP300/– for zone 1 and zone 2 Detail Drawing	E-2782	G	2022-01-12
Comm. settings labels for GBP300 Detail Drawing	E-2779	C	2019-04-10
Instructions for GBP300 specific to hazardous area installations	447662	D	2023-12-06
User Manual KM-CT Sensor GB-200/GB-300 Commissioning and Monitoring Software for SENTRY	P-KMCTGB200/300FE	H	2019-06-03
SW Revision history for Sentry Configuration tool KM-CT Sensor	442145	F	2025-03-24
Type Approval Test Procedure Wireless Temperature Monitoring System SENTRY GB-300 onboard Color Magic	448163	A	2019-02-19
Software revision history for Kongsberg Maritime Sentry System	441782	C	2021-09-23

EMC and ENV documentation

Document name	Document number	Revision	Dated
NEMKO GB-300 ENV and EMC test report	E18061.00	00	2018-04-25

Type approval initial assessment report, DNV Trondheim 2025-03-11.

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021
Functional Type Tests of Sentry GB-300 system, performed onboard MS Color Magic, dated 2019-03-12.

Marking of product

The products to be marked with:
- GBP300/Y[4)]
- Serial no:
- Date:
- Node id:
- Baud rate CAN:
- COM RS485:

4) Y – replaced by "AK10W", "BK10W" or "—-" for other versions.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE