

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Monitoring System

with type designation(s)
AS02

Issued to

KONGSBERG MARITIME CM AS - Deck Machinery
Ålesund, Norway

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Location classes:

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

Temperature B
Humidity B
Vibration A
EMC B
Enclosure A

Issued at **Høvik** on **2020-10-21**

This Certificate is valid until **2022-10-20**.

for **DNV GL**

DNV GL local station: **Ålesund**

Approval Engineer: **Geir Bjørn Alnes**

Head of Section

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

AS02 Series rudder alarm system comprising the following units:

Type (item no.)	Description	Software	Utilisation
AS02-0120-001	Alarm panel, Bridge	5250-W18020001-1	Aftermarket
AS02-0120-002	Alarm Panel, Bridge with NMEA output	5250-W18020001-1	Aftermarket
AS02-0120-003	Alarm panel, ECR	5250-W18020001-1	Aftermarket
AS02-0120-004	Alarm Panel, ECR with NMEA output	5250-W18020001-1	Aftermarket
5801-RRDI015	Interface card, for alarm sensors	5250-W18020001-2	Aftermarket
AS02-0120-011	Alarm panel, Bridge	5250-W18020001-11	Aftermarket
AS02-0120-012	Alarm Panel, Bridge with NMEA output	5250-W18020001-11	Aftermarket
AS02-0120-013	Alarm panel, ECR	5250-W18020001-11	Aftermarket
AS02-0120-014	Alarm Panel, ECR with NMEA output	5250-W18020001-11	Aftermarket
AS02-0120-021	Alarm Panel, ECR and Bridge w/NMEA	5250-W18020001-21	New projects/ aftermarket
74722	Interface card, for alarm sensors	5250-W18020001-2	New projects/ aftermarket

Software versions:

- 5250-W18020001-1 rev.C for Alarm Panel.
- 5250-W18020001-11 rev. A for Alarm Panel
- 5250-W18020001-21 rev. A for Alarm Panel
- 5250-W18020001-2 rev.A for interface card.

Application/Limitation

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

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- Layout of alarm panel

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 A 202 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval.

Major changes in the software are to be approved before being installed.

A Certification of Application Functions may be required for the particular vessel.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No.2.4, April 2001.

Job Id: **262.1-004957-3**
Certificate No: **TAA00001XW**

'Compass safe distance' was measured according to section 11.2 of IEC 60945 4th edition (2002).

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