DNV·GL

Certificate No:
TAA00002UN

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Main Alarm System

with type designation(s)
JMC-SMS-55

Issued to
JRCS Co.Ltd.
Shimonoseki, Yamaguchi, Japan

is found to comply with
DNV GL rules for classification – Ships

Application :

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	**Required enclosure protection according to the rules to be provided upon installation on board.**

Issued at **Hamburg** on **2020-08-21**
This Certificate is valid until **2022-08-20**.
DNV GL local station: **Kobe**

Approval Engineer: **Marco Rinkel**

for **DNV GL**

Joannis Papanuskas
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

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Product description

JMC-SMS-55 is an alarm, monitoring and system intended for the following functions: MIMIC Displays, Visualisation, Monitoring, Alarming, Alarm Groups, Logging,Trending, History, Printing.

The following hardware components are covered by this type approval:

- SMS-U5950	Field Control Unit
- SMS-U5300	Operator Station (OPS)
- SGD-5150 (15")	Operator Stations (OPS) with LCD touch panel
- SGD-5190 (19")	Operator Stations (OPS) with LCD touch panel
- SMS-U5650	Field Unit
- SMS-U790B	Hub Unit

Items referenced by type approval TAA00002NK:

- EXT-200 (LED)	Alarm Extension Panels
- EXT-210 (LCD)	Alarm Extension Panels
- SMS-U20F	Alarm-Printer
- SMS-U24E	Log-Printer
- SMS-U24G-4	Log-Printer
- SGD-6150-B-1 (15")	LCD operator station
- SGD-6190-B-1 (19")	LCD operator station
- SMS-U1300-O5	Extended OPS/GWS

Power supply: 100VAC, 24VDC.
SW-Versions: OPS 1.2.6; FCU Main 1.2.7; FCU SUB 1.0.9.

Place of manufacture

JRCS Co. Ltd.
2155 Kawatana, Toyoura-cho, Shimonoseki, Yamaguchi, 759-6301 Japan

Approval conditions

This Type Approval covers hardware listed under Product description.

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

- Reference to this Type Approval Certificate
- Functional description
- System block diagram
- User interface description
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points
- Failure mode description, including network analysis
- Test program for application software at manufacturer

Product certificate
Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The Certification is to be performed at the manufacturer before the system is shipped to the yard. After certification the clause for software control will be put into force.

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 GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Application/Limitation

Hardware to be installed at least 5 meters away from magnetic compass.
Exhaust gas temperature dynamic limit alarming to be agreed with respective engine maker requirements.
SGD-6150-B-1, SGD-6190-B-1 (19"), SMS-U24G-4 and SMS-U1300-O5 have been tested up to 6 GHz for radiated emissions and EM field test. Proofs for the remaining equipment needs to be furnished for vessels contracted on or after 2022-01-01.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.
(see Application/Limitation)

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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

An assessment will be performed at renewal of the certificate.

END OF CERTIFICATE