DNV·GL

Certificate No:
TAA000028W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Engine Safety, Control and Alarm System

with type designation(s)
Diesel Engine Control and Safety System "DECSS"

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

is found to comply with
DNV GL 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 GL.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
DEC-U100 (Control Unit)	**B**	**B**	**B**	**B**	***)**
DEC-U200 (Engine Condition Display)	**B**	**B**	**B**	**B**	***)**
DEC-U1000 (LCD Gauge Board)	**B**	**B**	**B**	**B**	***)**
***) Required protection according to relevant rules shall be provided upon installation on board**					

Issued at **Høvik** on **2019-03-15**
This Certificate is valid until **2021-03-14**.
DNV GL local station: **Hiroshima**

Approval Engineer: **Sergey Gilmiyarov**

for **DNV GL**

Jan Tore Grimsrud
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.

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Job Id: **262.1-013620-2**
Certificate No: **TAA000028W**

Product description

Diesel Engine Control and Safety System "DECSS" can be used as engine safety, control and local indication system for emergency, auxiliary and propulsion diesel marine engines.

List of system hardware	
Hardware name	**Unit description**
DEC-U100	Control Unit with independent Safety System
DEC-U200	Engine Condition Display
DEC-U1000	LCD Gauge Board

List of system software	
Hardware name	**Relevant software version**
DEC-U100	2.0XX
DEC-U200	2.0XX
DEC-U1000	1.1XX

"XX" shall be represented by fixed digit, minor changes not affecting DNV GL Rules requirements are acceptable, major changes shall be evaluated by DNV GL.

Place of manufacture

JRCS Co.Ltd.
1-2-14 Higashi Yamato-cho,
Shimonoseki, Yamaguchi-ken
750-8515 Japan

Application/Limitation

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

System does not provide alarm presentation and handling functions, only alarm signals to connection interface. System has to be connected to external alarm handling and interface system.

Surge filter required. WLAN to be used for maintenance only.

Approval Conditions

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

- Reference to this Type Approval Certificate
- Information about Engine type (name, power rating, number of cylinders, number of turbochargers)
- System block diagram
- Power supply arrangement (may be part of the system block diagram)
- List of controlled and monitored points showing alarms and safety functions (including type, range and threshold)
- Test program for certification

Product certificate

Each delivery of the application system **is to be certified** according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system, preferably at the engine/system application maker integrating control, monitoring and safety system, before the system is shipped to the yard.

Clause for 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 GL for evaluation and approval before implemented on board.

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.
Type testing for DECSS performed at JRCS Mfg. Co. Ltd. 2014-07-09.

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