



Certificate no.:
TAA00003D1

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Engine Control System

with type designation(s)
ED215

issued to

JiangSu Enda General Equipment Group CO.,Ltd
Haian, 100, China

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.

Temperature	A
Humidity	A
Vibration	B
EMC	A
Enclosure	B

Issued at **Høvik** on **2024-09-18**

This Certificate is valid until **2029-09-17**.

for **DNV**

DNV local unit: **Nantong**

Approval Engineer: **Torsten Dzillak**

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 AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") 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.



Product Description

ED215 Monitoring for Diesel Engine is designed for monitor and protection of auxiliary Genset Marine Diesel Engines.

Main parameters:

Power Supply: DC 24V
Ingress Protection: IP44

The **ED215** is an engine safety, control and alarm system for diesel engines driving generators and is composed in a metal cabinet.

Additional expanding modules can be connected through the CAN bus.

The system can handle tasks related to:

- Automatic starting and stopping shutdown
- Shutdown
- Data measurements
- Alarm protection
- Remote signaling
- Remote control functions

electrical modules, boards and main components:

ED215 Main module

SAFETY-MAIN Safety system main board

SAFETY-DISP Safety system display board

ED215-EX-MK1 Expanding module AINV/A16 (pressure sensor)

ED215-EX-MK2 Expanding module AINR16 (register sensor)

ED215-EX-MK3 Expanding module AINK16 (thermocouple sensor)

ED215-EX-MK4 Expanding module DIN16

ED215-EX-MK5 Expanding module DOUT16

Other relevant components like sensors/actuators and speed governor are either type approved or design-appraised on a case by case basis.

Genset engine control system consisting of following components:

A Alarm System and Start-/Stop Unit (MK1):

Display

10 analog inputs

1 RPM input, galvanic isolated Magnetoelectric, hall type

18 way digital inputs

14 binary relay outputs

Interfaces: 1 CAN bus, RS485 diagnostic, serial for I/O extensions

Functions: Alarming, Start-/Stop Control, logging SW-Version V 1.00

B: Safety System (MK2)

emergency stop inputs

6 binary inputs for automatic shut down

1 RPM input, galvanic isolated

3 output

Interfaces: 1 CAN Bus for communication, serial output.

Functions: Manual emergency stops and automatic shut-down.

SW-Version V1.0

Software update notification

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.

Application/Limitation

- This certificate is only valid for system applications made and delivered by production facilities listed under Place of Assembly above for engines holding a valid DNV Type Approval certificate
- The system is suitable for auxiliary engines
- The Type Approval covers hardware and basic software listed under Product description.
- The panel is part of the delivery project related functional description is to be submitted.

- Load sharing function is not covered by this Type Approval certificate.
- Governor is not covered by this Type Approval certificate.

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

- Reference to this Type Approval Certificate
- Specifications for Engine and/or reference to engine Type Approval Certificate
- Electric circuit diagrams showing power supply arrangement
- List of controlled and monitored points showing alarms and safety functions
- Software version for particular delivery

A product certificate according to Pt.4 Ch.9 Sec.1 will be required. Correct configuration, start-/stop and safety functions for each delivery is to be tested during genset test-run at test bed. The SW version and the project related configuration need to be recorded during this test prior to delivery.

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. Certification of modified functionality may be required for the particular vessel.

Tests carried out

Applicable tests according to DNV Class Guideline CG-0339, August 2021.
Performance test dated 2022-11-28

Marking of product

Manufacturer, Type designation, serial number, additional information (Control Box of Generator).

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

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE