



Certificate no.:
TAA00003RG

TYPE APPROVAL DESIGN CERTIFICATE

This is to certify:

that the **Engine Safety, Control and Alarm System**

with type designation(s)

Generator Engine Automatic Control System (GECS)

issued to

Kumoh Mach. & Elec. Co. Ltd.

Busan, Korea, Republic of

is found to comply with

DNV rules for classification – Ships Pt.6 Ch.5 Sec.21 Cyber security [2.2] Exclusion based on negligible risk

Application:

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

This type approval design certificate covers the criteria for exclusion from the mandatory application of Pt.6 Ch.5 Sec.21 Cyber security, subject to conditions stated in this certificate.

Issued at **Høvik** on **2025-09-11**

This Certificate is valid until **2027-09-10**.

for **DNV**

DNV local unit: **Busan, CMC Korea**

Approval Engineer: **Mirza Muqadam Baig**

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

The Generator Engine Automatic Control System (GECS) is a control, monitoring and safety system for H17/28, H21/32, H25/33, H32/40 type of the Himsen generator engines. This system consists of a monitoring box and a terminal box.

The monitoring box displays engine and turbocharger RPM, temperature and pressure values, and exhaust gas temperatures. It uses FNDs and LEDs for visual indication and includes channel selection and auto-scan functions. Data is received via CAN bus from MCU-56-DIO and ADU-36-TCP units.

The terminal box includes units for analog/digital conversion, speed measurement, main control, safety control, cable supervision, and relay output. It processes RPM and sensor data via a dedicated CAN bus network and communicates externally with the AMS using RS485 serial communication.

This GECS system complies with the requirements laid out for exclusion in DNV-RU-SHIP Pt.6 Ch.5 Sec.21 [2.2] (2024).

The following hardware comprising the above-mentioned system is covered by this certificate:

No.	Sub-unit	Part no.	Software no.	Software version	Main unit
1.	Operating unit	OPU-10	SW-0905	Rev.3 (2012.02.14)	Monitoring box
2.	Temperature & Pressure Monitor	MTP-12CA	SW-0907	Rev.13 (2024.11.21)	
3.	Exhaust Gas Temperature Monitor	ETM-12CA	SW-0906	Rev.9 (2022.01.20)	
4.	Main control unit	MCU-56-DIO	SW-0902	Rev.32 (2025.03.07)	Terminal box
5.	Speed monitoring unit	SMU-08-SC	SW-0903	Rev.17 (2024.01.25)	
6.	Safety control & cable supervision unit	SCCS-4-8	SW-0904	Rev.14 (2025.03.07)	
7.	Analog/digital unit	ADU-36-TCP	SW-0901	Rev.9 (2022.01.20)	
8.	Relay output unit	ROU	N/A	N/A	
9.	Main terminal board	M-TB	N/A	N/A	

Application/Limitation

The following conditions shall be met when the GERCS system is installed on board:

- The GECS system shall be installed in a restricted area.
- The GECS system shall only be connected to the AMS system using the serial communication channel as shown in the document KOR700-25-D19.

Marking of product

The type designation, serial numbers, part numbers shall be affixed in a way they are clearly visible one the onboarded for verification.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE