Certificate no.:
TAA00003RK

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Engine Telegraph Systems

with type designation(s)
MTS-5, MTS-5/4

issued to

Egon Harig GmbH

Oststeinbek, Schleswig-Holstein, Germany

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	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**Required protection according to relevant rules shall be provided upon installation on board**

Issued at **Hamburg** on **2025-09-19**

This Certificate is valid until **2030-08-11**.
DNV local unit: **Hamburg – CMC North/East**

Approval Engineer: **Jens Dietrich**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

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

Emergency Telegraph system with stations for displaying and ordering transmission of rate of speed for a single propulsion unit.

A minimum of 2 and maximum of 8 telegraph stations can be applied in one RS-485 bus system.

Two main versions of emergency / engine telegraph system MTS-5 are available:
- **MTS-5** comprising telegraph stations without station selection buttons
- **MTS-5/4** comprising telegraph stations with 4 station selection buttons

The devices are 144mmx144mm flush mounted and feature front foil keyboard (front degree of protection IP44). Illumination control by light sensitive sensor and push buttons.

Devices maybe configured as MASTER, SUBMASTER, SLAVE or DISPLAY:
- MASTER: Switch on and off the system power supply, transmit order for rate of speed and acknowledge orders for rate of speed.
- SUBMASTER: Transmit order rate of speed and acknowledge orders for rate of speed.
- SLAVE: Acknowledgement of orders for rate of speed only.
- DISPLAY: Display of ordered rate of speed and acknowledged orders for rate of speed only.

A system with emergency engine telegraph system MTS-5/4 may consist of:
-1 MASTER,
-0 or 1 SUBMASTERs,
-1 to 3 SLAVEs,
-DISPLAYS
in total max. 8 stations.

Alarm relay	potential free change-over contact, open circuit principle Contact load: max. 1 A at max. 36 V DC
Fault relay	potential free change-over contact, closed circuit principle Contact load: max. 1 A at max. 36 V DC
Data interface Bus	RS485 (in- and output) 9600 baud, 8 data bits, 1 stop bit
Data interface VDR	D-Sub female socket, 9-pole, RS485/RS422, Protocol NMEA 0183 19200 baud, 8 data bits, 1 stop bit
Degree of protection:	Front plate vs. panel: IP44, Rear side: IP20.

Power supply 24 VDC.

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case by inclusion in an instrument list. Reference is made to DNV Rules for ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Test reports: paconsult no.17-9731, dated 2017-12-22; TÜV Nord no.20085-1-R00, dated 2017-12-01; TÜV Nord no.20085-1-R01, dated 2020-11-24.
Transfer and modification 2025: Egon Harig Instruction Manual MTS-5_V3_BHB-EN, HW Vers.V3, Firmware V1.0., Version 0, 2025-07-92; Data sheet MTS-5/4-V3…Emergency Telegraph, 4.25106.3-1, Rev.1, 2025-07-23; Connection Diagram 3.25106.1-1, Rev.1, 2025-07-14. Additional test reports: TÜV Nord EMC Test Report No.25106-1-R00, issued 2025-08-25; PAConsult Environmental Test Report No.25DE-00866, Rev.0, issued 2025-08-13.
Initial assessment report issued by DNV 2025-08-12.

Tests carried out

Applicable tests according to DNV CG-0339, August 2021.

Marking of product

Label showing:

Part numbers	For panel installation	In cabinet	In cabinet with shock absorber
With four station buttons	MTS-5/4-V3 TKZ 81111	MTS-5/4-V3-G TKZ 81114	MTS-5/4-V3-SG TKZ 81112
No station buttons	MTS-5-V3 TKZ 81137	MTS-5-V3-G TKZ 81139	MTS-5-V3-SG TKZ 81138

Code, Serial No./Date (mm/yyyy), power supply rating,
Egon Harig GmbH, Gewerbering 4, D-22113 Osteinbek, Germany.

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