



Certificate No. 03-001783/031480 rev.1

## TYPE APPROVAL CERTIFICATE

This is to certify that this product complies with the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products.

TYPE AND DESCRIPTION OF PRODUCT:

### Engine Control System and Engine Sensors

### EDC17CV41-4.60-M0

MANUFACTURER:

**Robert Bosch GmbH**  
Wernerstrasse 51  
70469 Stuttgart-Feuerbach  
GERMANY

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

**Croatian Register of Shipping: Rules for the classification of ships,  
Part 9. – Machinery, Part 13. – Automation**

**IACS UR E10**

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

APPROVAL IS VALID UNTIL: **2024-10-04**

Place and date: Split, 2021-06-30

Seal

Marinko Popović, dipl.ing.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

**DETAILED PRODUCT DESCRIPTION:**

*EDC17CV41-4.60-M0 Engine Control Unit is controlling the fuel injectors and the high pressure fuel system on 4 stroke Diesel Engines with Common Rail system up to 16 cylinders. CAN-BUS communication with the ships control system provide speed commands as well as submission of diagnostics information.*

*This certificate covers the following components:*

| Item              | Part #            | Description            |
|-------------------|-------------------|------------------------|
| EDC17CV41-4.60-M0 | Customer specific | Engine Control Unit    |
| PG3.8             | 0281 006 448      | CAM-Speed              |
| DG6S              | 0281 006 449      | Crank-Speed            |
| RPS4-18           | 0281 006 433      | High Pressure          |
| TF-W              | 0281 006 450      | Temperature            |
| DS-MI             | 0281 006 434      | Medium Pressure        |
| DS-S3-TF          | 0281 006 435      | Pressure & Temperature |
| DS-HD-Kv4.2-TF    | 0281 006 650      | Temperature            |
| HPS4-TF           | 0281 006 650      | Temperature            |

**APPLICATION / LIMITATIONS:**

*These systems are to be used as engine control and monitoring system for multi engine propulsion plants only. In case with single engine propulsion, system is to be duplicated or added with separate different safety system. Alarm and safety systems are not included.*

*Correct configuration and set up for each delivery to be tested during commissioning, after installation on board, under the supervision of a Society Surveyor.*

*Approval also valid for ships to be granted with class notations: AUT 1, AUT 2 and AUT 3.*

**TYPE APPROVAL DOCUMENTATION:**

| Item              | AGZ Drawing      | Technical Customer Information (TCI) |
|-------------------|------------------|--------------------------------------|
| EDC17CV41-4.60-M0 | 0281A01091 - 01  | 0281 Y03 8ZD, 02                     |
| PG3.8             | 0232A00537 - 760 | 0232K00051-000                       |
| DG6S              | 0261A22317 - 01  | 0261K01490 – 000, 01                 |
| RPS4-18           | 0261A18565 - 06  | 0261K000HC – 000, 01                 |
| TF-W              | 0280A04317 - 01  | 0261K02426 – 000, 01                 |
| DS-MI             | 0261A16609 - 03  | 0261K01468 – 000, 01                 |
| DS-S3-TF          | 0261A20346 - 01  | 0261K01409 – 000, 01                 |
| DS-HD-KV4.2-TF    | 0261A27287 - 01  | 0261K01702 – 000, 01                 |
| HPS4-TF           | 0261A27287 - 03  | 0261K000HD – 000, 01                 |

*Test Reports – Phoenix Testlab: U141249E1 dated 2014-11-10 and E141249E1 dated 2015-01-28.*

*Test Reports – Phoenix Testlab: S120165E1 dated 2012-05-18 and S120165E2 dated 2012-05-18.*

*Test Reports – Phoenix Testlab: E191699E1 dated 2019-11-28.*

*Test Reports – Phoenix Testlab: U201760E1 dated 2021-03-08 and E201760E1 dated 2021-04-19.*

**MARKING OF PRODUCT:**

*In accordance with IEC60945 – Marking and identification (The Manufacturer and Type Designation of the product, serial number, date of manufacture, safe distance to magnetic compass, supply voltage, software version...).*

**CONDITIONS FOR CERTIFICATION:**

*All changes in components and software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to CRS for evaluation and approval. For each application on board CRS classed vessels, technical documentation and drawings shall be submitted for examination and approval prior installation on board. Major changes in the software are to be approved before on board application.*