



Certificate No. 03-001783/031480

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, 2020-10-30 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-M1	0281 006 434	Medium Pressure
DS-S3-TF	0281 006 435	Pressure & Temperature
DS-HD-Kv4.2-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	0261A18565M - 04	0261K0349 – 000, 02
TF-W	0280A04317 - 01	0261K02426 – 000, 01
DS-M1	0261A16609 - 03	0261K01468 – 000, 01
DS-S3-TF	0261A20346 - 01	0261K01409 – 000, 01
DS-HD-Kv4.2-TF	0261A27287 - 01	0261K01702 – 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.

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.