



Certificate No. 03-001952/031656

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

MAN ECS

MANUFACTURER:

**MAN Truck & Bus SE
Vogelweiherstrasse 33
90441 Nuremberg
GERMANY**

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

**Croatian Register of Shipping: Rules for the classification of ships:
Part 12. – Electrical Equipment,
Part 13. – Automation**

IACS UR E10

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

APPROVAL IS VALID UNTIL: **2027-05-09**

Place and date: Split, 2023-05-09

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:

The MAN engine control system (ECS) is designed to be used with inline as well as V-type engines. One EDC unit is able to handle 6 injectors. Two EDC units are used on V12/V8 engines. Both EDC units (Master and Slave) work together as one engine control unit (ECU).

The system comprises of following components:

Description	Part Number
Electronic control unit EDC 17 CV 42 Master	51.25820-1024
Electronic control unit EDC 17 CV 42 Slave	51.25820-1024
Water level fuel pre-filter	50.27421-0001
Water level fuel pre-filter	51.27421-0350
Adapter for water level sensor 51.27421-0350	51.25413-6556
Temperature sensor cooling water, fuel oil and lube oil	51.27421-0190
Pressure sensor fuel oil and lube oil	51.27421-0340
Rail pressure sensor fuel oil	51.27421-0365
Rail pressure sensor fuel oil	51.27421-0366
Oil level sensor lube oil	51.27421-0242
Level sensor cooling water	51.27421-0265
Pressure sensor cooling water	51.27421-0243
Pressure and temperature sensor charge air	51.27421-0216
Engine speed sensor	51.27120-7038

Voltage rating: 24 VDC

Protection rating: EDC box IP65, sensors IP69K

Intended for engines: D2862LExx / D2868LExxx / D2676LExxx

APPLICATION / LIMITATIONS:

MAN ECS is only to be used as engine control and monitoring system for multi engine propulsion plants only, as well as auxiliary engines and emergency diesel engines. Alarm and safety systems are not included.

Unit certification is not required.

Correct configuration and set up for each delivery to be tested under the supervision of a Society Surveyor.

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

TYPE APPROVAL DOCUMENTATION:

List of documents and drawings for MAN engine control system (ECS), dated 2023-03-01, approved by CRS letter 1060/TSE/NP/031656, dated 2023-05-09 and stored in the CRS case file 13.06.01/031656.

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).

CONDITIONS FOR CERTIFICATION:

For each application on board CRS classed vessels complete technical documentation and drawings shall be submitted for examination and approval prior installation on board.

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. Major changes in the software are to be approved before being installed in the computer.