



Certificate No. 03-001788/031477

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:

CONTROL AND MONITORING SYSTEM

Series CM60 including modules:
CM61, CM62, CM63

MANUFACTURER:

PINE S.r.l.
Via Padre Emilio Venturini 56
30015 Chioggia (VE)
ITALY

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

CRS RULES FOR THE CLASSIFICATION OF SHIPS, PART 9 - MACHINERY
CRS RULES FOR THE CLASSIFICATION OF SHIPS, PART 12 - ELECTRICAL EQUIPMENT
CRS RULES FOR THE CLASSIFICATION OF SHIPS, PART 13 - AUTOMATION

IACS UR E10

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

APPROVAL IS VALID UNTIL: **2024-11-24**

Place and date: Split, 2020-11-24

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:

CM60 Series is a programmable engine monitoring and control panel including the following modular units:
CM61, CM62, CM63
CM60 slave units can be connected to a CM60 master via Serial bus

Main features:

High contrast monochromatic LCD
6+6 analogue reading displayed
8+8 icons / warnings-lights for alarms / safeties / fault signalings
RPM are readable on a tachometer (optional)
Canbus line for connection to the engine electronic control units
8 ON – OFF inputs for alarm / safeties with Continuity or Short Circuit check
1 input for RPM measurement (continuity check optional)
5 inputs for analogue transducers
1 input for remote engine stop
1 input for remote engine ignition including programmable starting sequence
Internal temperature monitoring
Output “ system ready”
5 Output relays with selectable function
Alarms acknowledgment with buzzer silencing button / ISA-1 alarm sequence
Lamp test
Stop button and stop solenoid line monitoring
Override switch
System ready Led
Manual adjustment of brightness and contrast
Event recording
RS485 Serial connection for slave repeaters, real time monitoring and recording
Power supply 12 / 24Vdc_ Max Admissible supply voltage variations 9.5 to 35Vdc
Managing Preheating / Prelubrication Cycles

APPLICATION / LIMITATIONS:

Correct configuration and set up for each delivery to be tested during commissioning, after installation, under the supervision of a Society Surveyor. Major changes in the software are to be approved before being installed.

TYPE APPROVAL DOCUMENTATION:

Installation Manual: MANCM60EVA. In.docx

Test reports:

ETL Climatic test report no. 04.PI18 (2017-12-30)
ETL EMC test report n. 03.PI18 (2018-01-31)
Applus / Emilab IP 56 test report no. 18-03302 (2018-08-31)
Applus / Emilab Vibration test report no. 18-03301 (2018-08-31)
CRS test report dated 2020-11-11

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:

Engine Monitoring-alarms and Engine Controls-Protection functionalities to be managed by independent systems.