



# TYPE APPROVAL CERTIFICATE

N. ELE160118CS

This is to certify that the product below is found to be in compliance with the applicable requirements of the RINA type approval system.

<i>Description</i>	<b>Control and monitoring system</b>
<i>Type</i>	<b>Series CM60 including modules: CM61, CM62, CM63</b>
<i>Applicant</i>	<b>PINE S.r.l.</b> Via Padre Emilio Venturini 56 30015 Chioggia (VE) Italy
<i>Manufacturer</i>	<b>PINE S.r.l.</b> Via Padre Emilio Venturini 56 30015 Chioggia (VE) Italy
<i>Testing Standards</i>	<b>Rules for the Classification of Ships, Part C Machinery, Systems and Fire Protection ; Ch. 3, Sec. 6, Table 1</b>

Issued in **Genova** on **February 05, 2020**

This certificate is valid until **February 05, 2025**

This is an electronically signed document and does not require a handwritten signature

**Luigi Benedetti**

**RINA Services S.p.A.**



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**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 signalling

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

**Technical Specification:**

Installation Manual: n. MANCM60EVA. In.doc

**Test reports:**

*ETL* Climatic test report n. 04.PI18 (30/12/2017)

*ETL* EMC test report n. 03.PI18 (31/01/2018)

*Applus / Emilab* IP 56 test report n. 18-03302 (31/08/2018)

*Applus / Emilab* Vibration test report n. 18-03301 (31/08/2018)

*RINA* performance tests / diagnostics \_ Venezia 2019/VE/01/2244 (e-mail 29/01/2020)

**Remarks:**

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