

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Miscellaneous

with type designation(s)
Power Distribution Module, PDM-10

Issued to

Controle Mesure Regulation S.A.S.U.
MARSEILLE, France

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	B
Humidity	B
Vibration	B
EMC	A
Enclosure	Required protection according to relevant rules shall be provided upon installation on board

This Certificate is valid until **2021-06-30**.

Issued at **Høvik** on **2016-07-07**

for **DNV GL**

DNV GL local station: **Marseille**

Approval Engineer: **Ståle Sneen**

Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Power Distribution Module (PDM-10):

To be used as power supply module in control systems for Wärtsilä engines.

Technical Data

Unit for the delivery of two main and two auxiliary 24 VDC power supplies.

- Two monitored input power supplies (18...32 VDC)
- Power Outputs:
 - BUS1: 5 x 2 wires, max. total current: 5 A
 - BUS2: 5 x 2 wires, max. total current: 5 A
 - AUX1: 5 x 2 wires, max. total current: 5 A
 - AUX2: 5 x 2 wires, max. total current: 5 A
- Earth fault monitoring with selectable limits and alarm delays
- Opto relay output for power fault alarm and earth fault alarm
- LED Indications (total 8):
 - Power Supply Input 1 present, Power Supply Input 2 present
 - Power Supply Output BUS1 present, Power Supply Output BUS2 present
 - Power Supply Output AUX1 present, Power Supply Output AUX2 present
 - Earth Fault +, Earth Fault -

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE