

EU RO MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

This Certificate is issued to

Data Respons Norge AS
HØVIK, Norway

for

Computers and Programmable Logic Controllers

with type designation(s)

Phantom-6000M Series

The product is found to comply with

EU RO Mutual Recognition Technical Requirements for Computers and Programmable Logic Controllers

Intended service

Computers for control, monitoring, alarm, and safety functions subject to classification requirements.

System context

Application of the control, monitoring, alarm, and safety systems are subject for approval of the individual RO classing the vessel.

Temperature [°C]: 5°C and 55°C; Without slot mounted modules: -25°C and 70°C

Vibration: ±1mm / 0.7g

EMC: All locations including bridge and open deck

IP Code: IP20

This Certificate is valid until **2023-08-12**.

Issued at **Høvik** on **2018-08-13**

DNV GL local station: **Oslo Maritime and CAP**

for **DNV GL**

Approval Engineer: **Nils Jarem**

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Odd Magne Nesvåg
Head of Section



Job Id: **262.4-000141-1**
Certificate No: **MRA000001W**

Product description

Phantom-6000M Series – fanless rugged I/O platform PC for maritime use, comprising the following units:

Model/type	Comment
Phantom-6001M	Intel Core i7 CPU
Phantom-6002M	Intel Core i5 CPU
Phantom-6003M	Intel Core i3 CPU

Slot mounted modules:

Modules (tested at -25°C)	Manufacturer	Type
4 Port Serial Card	Moxa	CP-134U-I-T
Graphic card	NVIDIA /PNY	NVS 5xx series
Storage SSD	Intel	Intel 2.5" SSD DC-S4xxx series

Modules (tested at -15°C)	Manufacturer	Type
Quad Gb LAN Adaptor	Intel	Pro/1000 Series
4 Port Serial Card	Moxa	CP 114 EL-I
2 Port Serial Card	Moxa	CP 132 IS
Storage SSD	Innodisk	Innodisk 2.5" SSD
	Intel	Intel 2.5" SSD DC-S3xxxx series
CAN interface	Adlink Technology	PCI-7841
Graphic card *	NVIDIA/PNY	Quadro NVS 3xx series

Compass safe distances :

Standard : 160 cm
Steering : 100 cm

Software version tested: BIOS Version: AVBX-6000 1.04.10.RT03

Manufactured by

Data Respons Norge AS
Industriveien 25,
N-2020 Skedsmokorset
Norway

Application/Limitation

This approval covers hardware only. This excludes firmware, application software, and hardware designed for specific applications subject to classification. Firmware, system software, and application software are subject to additional separate approval, according to UR E22 and the rules of the classing RO (FAT and on-board review / tests).

* In order to comply with radiated emission requirements a Ferrite clamp Wurth Elektronik /42-712-21 or equivalent should be mounted on the power cable.

Type Approval documentation

Marking of product

Manufacture: Data Respons Norge AS
Model number: As listed under product description
Serial number: Unique for each delivered item
Power supply: 24V DC
Compass safe distance, when installed closer than 5m to a standard or steering compass.

Other Conditions

The units have been verified for compliance with EU Mutual Recognition Technical Requirements for Computers and programmable logic controllers (PLC) version 0.3, dated 2016-04-01.

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Applicable tests for protected equipment according to IEC 60945, 4th edition (2002); except salt mist test (8.12) have additionally been verified.

Environmental test parameters:

Temperature: 5°C and 55°C; Without slot mounted modules: -25°C and 70°C.

Vibration: ±1mm / 0.7g

EMC: All locations including bridge and open deck

Enclosure: IP20

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 annually and at renewal of this certificate.

END OF CERTIFICATE