

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Industrial PC

with type designation(s)
PPC-IPC-S3

Issued to

Pleiger Elektronik GmbH & Co. KG
Witten, Nordrhein-Westfalen, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Temperature B

Humidity B

Vibration A

EMC B

Enclosure Required protection according to DNV GL Rules shall be provided upon installation on board

Issued at **Hamburg** on **2018-04-06**

This Certificate is valid until **2023-04-05**.

for **DNV GL**

DNV GL local station: **Essen**

Approval Engineer: **Jens Dietrich**

.....
Joannis Papanuskas
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

Compact PC for DIN-Rail Mounting in stainless steel housing:

- Intel Atom D425, 1.8GHz, 512KByte L2 Cache, with passive cooling
 - 2 Gbyte DDR3-SDRAM
 - Video Controller SM750 with 16/64MByte DDR RAM
 - 2 DVIs featuring 1920x1440 pixel resolution
 - Gigabit Ethernet Controller RJ45
 - Compact Flash Socket Ultra ATA, 100MB/s
 - 2 Sub-D Serial Interfaces RS232 with galvanic isolation, 115kBd
 - 6 isolated RS485 interfaces, 115kBd, Combicon Connectors
 - 4 USB 2.0 Interfaces
 - Award/Phoenix BIOS on Flash EPROM
 - Battery buffered Real-Time Clock
 - Binary Alarm Output Relay Contact (potential-free)
- Power Supply: 24V DC.

Application/Limitation

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 Ships Pt.4 Ch.9, Control and Monitoring Systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Tests carried out

Marking of product

Products are marked with the company, type designation, serial number and power supply specification.

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of this certificate.

END OF CERTIFICATE