



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. A-10539**

This Certificate consists of 3 pages

*This is to certify that the*  
**Personal Computer**

*with type designation*  
**A6100M Maritime Computer**

*Manufactured by*  
**Data Respons Norge AS**  
HØVIK, Norway

*is found to comply with*  
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and  
Det Norske Veritas' Offshore Standards

*Application*  
Location classes:

Type	A6100M Maritime Computer
Temperature	B*
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board

\* Low temperature tested to -15°C

*Place and date*  
Høvik, 2008-10-01  
for DET NORSKE VERITAS AS

*Odd Magne Nesvåg*

*for* Odd Magne Nesvåg  
Head of Section



Local Office  
DNV Oslo

*This Certificate is valid until*  
2012-12-31

*Ståle Sneen*

Ståle Sneen  
Surveyor

*Janik*

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: A-10539  
File No.: 899.30  
Job ID: 262.1-004499-1

## **Type Approval documentation**

User Manual: A6100M rev.1.0 dated 2008-09-11  
Test Reports: DNV 2007-3159 rev.01, 2003-3405 rev.02

## **Tests carried out**

Applicable tests according to Standard for Certification No. 2.4, April 2006.  
Tested as protected equipment according to relevant parts of IEC 60945, 4<sup>th</sup> edition (2002), except for IEC 60945 test 7.2 Excessive conditions.

## **Marking of product**

A6100M

## **Certificate retention survey**

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE





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## Product description

A6100M Maritime Computer consisting of the following units:

Module	Manufacturer	Type	Test report
Power supply	Vicor	V24VC28T100BF	2007-3159
Motherboard	Aaeon	AOP-8150	“
CPU	Intel	Pentium M 2.0 GHz	“
RAM	Kingston	DDR SDRAM DIMM 1GB	“
Hard Disk Drive	Fujitsu	2,5” Automotive drive	“
Graphics adapter	Gainward	GeForce FX5200 128MB DDR	“
CanBus	Adlink	PCI-7841 Dual-port Isolated CAN Interface Module	“
Multi IO card	Moxa	Industrial Multiport	2003-3405

\* See limitations below

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

### Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

### Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Compass safe distances for A6100M:

Standard Compass Safe Distance: 170 cm, Steering Compass Safe Distance: 105 cm

## Limitations

Performance tests have not been performed on the integrated digital I/O card. The card satisfies the EMC requirements regarding emission limits, but neither immunity requirements nor functionality have been verified.