



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13339**

This is to certify that the
Peripheral Equipment

with type designation(s)
ANTARES, RCU (Rail Control Unit), Remote I/O Modules

Manufactured by
BARTEC GmbH
BAD MERGENTHEIM, Germany

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:

Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2013-07-03**

DNV local station: **Essen CMC Southern Germany**

Approval Engineer: **Nils Jarem**

for **Det Norske Veritas AS**

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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. 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.

Product description

Remote I/O System ANTARES consist of the following modules:

Type 17-51*4-****/****:
ANTARES RCU (Rail Control Unit); 6 variations.

Type 17-6143-****/****:
Remote I/O Module ANTARES 8DO; 17-6143-1001/0000
Remote I/O Module 4TI; 17-6143-1003/0000
Remote I/O Module ANTARES 8AI; 17-6143-1004/0000
Remote I/O Module ANTARES 8AIH; 17-6143-1005/0000
Remote I/O Module ANTARES 4AIO; 17-6143-1006/0000
Remote I/O Module ANTARES 4AIOH; 17-6143-1007/0000
Remote I/O Module ANTARES 16DI-N; 17-6143-1008/0000
Remote I/O Module ANTARES 8DO-SCL; 17-6143-1010/0000
Remote I/O Module ANTARES 8DI-N; 17-6143-1002/0000

Nominal voltage : 24V

Application/Limitation

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.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Marking of product

Refer to Product description.

Certificate No.: A-13339
File No.: 899.60
Job Id.: 262.1-014060-1

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