

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Personal Computer**with type designation(s)
Fanless Embedded System tBOX324-894-FL

Issued to

Axiomtek Co., Ltd.
New Taipei City, Taiwanis 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	D
Humidity	B
Vibration	A
EMC	B
Enclosure	A

Issued at **Hamburg** on **2018-10-29**for **DNV GL**This Certificate is valid until **2023-10-28**.DNV GL local station: **Kaohsiung**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

Fanless Embedded System:

- Housing construction: aluminium and heavy duty steel
- CPU: Intel® Core™ i3-6100U 2C or Intel® Core™ i7-7600U 2C
- Modular I/O design, 4 GbE LANs (M12/RJ-45),
- 3 isolated COMs (4 COMs optional) and 1 CANbus
- RAM: 2 DDR4-1866/2133 SO-DIMM, up to 32GB
- Power supply: 24VDC
- Fanless design and suitability for wide operating temperatures from -40°C to +70°C
- 2 swappable 2.5" SATA drives
- 3 PCI Express Mini Card slots and 1 SIM Card slot

Compass safe distance (standard/steering): 120cm/80cm.

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.

Type Approval documentation

Product data sheet tBOX324-894-FL.

Test Reports: DEKRA 1860052R-ITCEP16V00, vers. 1.0; Universal Testing Inc., UT107063, dated 2018-07-18; King Design, report no.: VT-180809-1, dated 2018-08-27; Applica, report no.: 21413, rev. 0. TA assessment report, DNV GL Kaohsiung, dated 2018-05-31.

Tests carried out

Applicable tests according to DNV GL CG-0339, edition November 2016.
Applicable tests according to IACS UR E10, rev.6, October 2014
Applicable tests for the subset of IEC60945, cor1:2008, chapter 7 to 12.1.

Marking of product

Maker, model no., serial no., power rating.

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



Job Id: **262.1-028903-1**
Certificate No: **TAA000022K**

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