DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-12093**

This is to certify that the
Programmable Controller

with type designation(s)
Embedded Computers UC-7400, UC-7100 & IA240 Series

Manufactured by
Moxa Inc.
Taipei, **Taiwan**

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	**B**
Enclosure	**Required protection according to the Rules shall be provided upon installation on board**

Høvik, **2010-12-01**
for **Det Norske Veritas AS**

This Certificate is valid until
2012-06-30

Odd Magne Nesvåg
Head of Section

DNV local office:
Kaohsiung

Andrzej Gdaniec
Surveyor

Product description

RISC-based Ready-to-Run Embedded Computers. The approved units are listed below:

- UC-7420-LX Plus
- UC-7420-LX
- UC-7420-CE
- UC-7410-LX Plus
- UC-7410-LX
- UC-7410-CE
- UC-7408-LX Plus
- UC-7408-LX
- UC-7408-CE
- UC-7402-LX Plus
- UC-7402-LX

Mini RISC-based Ready-to-Run Embedded Computers. The approved units are listed below:

- UC-7112-LX Plus
- UC-7112-LX
- UC-7110-LX
- UC-7110-T-LX

RISC-based Industrial Ready-to-Run Embedded Computers. The approved units are listed below:

- IA240-LX
- IA240-T-LX
- IA241-LX
- IA241-T-LX

Place of manufacture

Moxa Inc.
FL8, No.128, Lane 235
Pao-Chiao Rd., Shing-Tien City
Taipei, Taiwan

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.

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.

Type Approval documentation

Tests carried out

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

For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4th edition (2002).
Shock Test 15g, 11ms.

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