DNV·GL

Certificate No:
TAA0000112

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network and Communication Components

with type designation(s)
Industrial Ethernet Switches, Media Converter, SFP Transceiver

Issued to
Weidmüller Interface GmbH & Co. KG
Detmold, 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	**D**
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 **2017-02-15**
This Certificate is valid until **2022-02-14**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Andrea Grün**

for **DNV GL**

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.

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Product description

The units are classed and approved for 12V to 48V DC supply voltage.
The approved components are listed below:

Unmanaged Switch – Fast Ethernet

- IE-SW-BL05-5TX
- IE-SW-BL05T-5TX
- IE-SW-BL05-4TX-1SCS
- IE-SW-BL05T-4TX-1SCS
- IE-SW-BL05-4TX-1ST
- IE-SW-BL05T-4TX-1ST
- IE-SW-BL05-4TX-1SC
- IE-SW-BL05T-4TX-1SC
- IE-SW-BL08-8TX
- IE-SW-BL08T-8TX
- IE-SW-BL08-6TX-2SC
- IE-SW-BL08T-6TX-2SC
- IE-SW-BL08-6TX-2ST
- IE-SW-BL08T-6TX-2ST
- IE-SW-BL08-7TX-1SCS
- IE-SW-BL08T-7TX-1SCS

Unmanaged Switch – Gigabit Ethernet

- IE-SW-BL05-5GT
- IE-SW-BL05T-5GT
- IE-SW-VL08-8GT
- IE-SW-VL08T-8GT
- IE-SW-VL08-6GT-2GS
- IE-SW-VL08T-6GT-2GS

Managed Switch - Gigabit Ethernet

- IE-SW-PL09M-5GC-4GT
- IE-SW-PL09MT-5GC-4GT

Managed Switch - Fast Ethernet

- IE-SW-VL08MT-5TX-3SC

Gigabit Ethernet SFP-Transceiver

- IE-SFP-1GSXLC
- IE-SFP-1GSXLC-T
- IE-SFP-1GLSXLC
- IE-SFP-1GLSXLC-T
- IE-SFP-1GLXLC
- IE-SFP-1GLXLC-T
- IE-SFP-1GLHXLC
- IE-SFP-1GLHXLC-T
- IE-SFP-1G10ALC
- IE-SFP-1G10ALC-T
- IE-SFP-1G10BLC
- IE-SFP-1G10BLC-T
- IE-SFP-1G20ALC
- IE-SFP-1G20ALC-T
- IE-SFP-1G20BLC
- IE-SFP-1G20BLC-T

Fast Ethernet SFP-Transceiver
- IE-SFP-1FEMLC-T
- IE-SFP-1FESLC-T
- IE-SFP-1FELLC-T

Industrial Media Converter (Ethernet to Fiber)
- IE-MC-VL-1TX-1SC
- IE-MC-VLT-1TX-1SC
- IE-MC-VL-1TX-1ST
- IE-MC-VLT-1TX-1ST
- IE-MC-VL-1TX-1SCS
- IE-MC-VLT-1TX-1SCS

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.

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
Test reports:
- TL1316 dated 29th June 2009
- TL1016 dated 30th October 2006
- TL826 dated 24-01-2005
- TL826A dated 18-03-2005

Product Data Sheets
- Industrial Ethernet unmanaged Switch, IE-SW-BL05 series dated 2017-02-14
- Industrial Ethernet unmanaged Switch, IE-SW-BL08 series dated 2017-02-14
- Industrial Ethernet unmanaged Switch, IE-SW-VL08 series dated 2017-02-14
- Industrial Ethernet managed Switch, IE-SW-PL09M series dated 2017-02-14
- Industrial Ethernet managed Switch, IE-SW-VL08M series dated 2017-02-14
- Industrial Ethernet Media Converter, IE-MC-VL series dated 2017-02-14
- Industrial Ethernet Gigabit Ethernet SFP-Transceiver, IE-SFP-1G series dated 2017-02-14
- Industrial Ethernet Fast Ethernet SFP-Transceiver, IE-SFP-1FE series dated 2017-02-14

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, November 2016.
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).

Marking of product

The products to be marked with:

- Model name
- Applicant name
- Serial number

Place of manufacture

Moxa Inc.
Fl. 8, No. 128, Lane 235, Pao-Chiao Rd.
Shing Tien City, Taipei, Taiwan

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 the certificate.

END OF CERTIFICATE