

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Network and Communication Components**with type designation(s)  
**TofinoXe, Eagle One**

Issued to

**Hirschmann Automation and Control GmbH**  
**Neckartenzlingen, Baden-Württemberg, 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 (-40°C to 70°C)****Humidity B****Vibration A****EMC B****Enclosure Required protection according to DNV GL Rules shall be provided upon installation onboard.**Issued at **Hamburg** on **2019-07-04**This Certificate is valid until **2024-07-03**.DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Didier Girardin**

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**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.



Job Id: **262.1-028424-2**  
 Certificate No: **TAA00001VC**  
 Revision No: **1**

## Product description

**TofinoXe or Eagle One** devices support switched ETHERNET networks that conform to the IEEE 802.3. The devices are mounted by snapping them onto the DIN rail. The power supply inputs are designed for operation with safety extra-low voltage (SELV circuits with voltage restrictions in line with IEC/EN 60950-1).

The product designation of the device is made from combining the desired product characteristics in accordance with the following structure: **TofinoXe or Eagle One-bbccddeefghhiiiijkkllmm**

Position	Characteristic	Characteristic value	Description
1 ... 8	Product	<b>EAGLE One</b>	2-Port Eagle router
		<b>TofinoXe</b>	2-Port Tofino Security Appliance
9	(hyphen)	-	
10 ... 11 (bb)	Number of 100Mbit/s Ports	<b>02</b>	2 x 100Mbit/s
12 ... 13 (cc)	Number of 1000Mbit/s Ports	<b>00</b>	0 x 1000Mbit/s
14 ... 15 (dd)	Uplink Port Config. (Port1)	<b>T1</b>	1 x Twisted-Pair RJ45
		<b>M2</b>	1 x Multimode SC
		<b>S2</b>	1 x Singlemode SC
16 ... 17 (ee)	Port Configuration (Port 2)	<b>T1</b>	1 x Twisted-Pair RJ45
		<b>M2</b>	1 x Multimode SC
		<b>S2</b>	1 x Singlemode SC
18 (f)	Temperature Range	<b>S</b>	0°C ... +60°C
		<b>T</b>	-40°C ... +70°C
		<b>E</b>	-40°C ... +70°C Conformal Coating
19 ... 20 (gg)	Nominal Voltage	<b>DD</b>	12 ... 48 VDC / 24 VAC
			12 ... 48 VDC / 24 VAC
21 ... 22 (hh)	Approvals/Declarations	<b>Z9</b>	CE, FCC, EN 61131, EN 60950
		<b>xx</b>	Any character/number depending on approvals
23 ... 26 (iiii)	Software Packages	<b>0000</b>	Basic SW-Packages
		<b>xxxx</b>	Any character depending on SW Package
27 ... 28 (jj)	Customization	<b>HH</b>	Hirschmann standard
		<b>TA</b>	Tofino Security Standard
29 (k)	Software Configuration	<b>E</b>	Entry (Hirschmann Standard)
		<b>T</b>	Tofino Standard Configuration
30 ... 34 (llll)	Software Version	<b>0x.x</b>	Software Version
35 ... 36 (mm)	Bugfix	<b>xx</b>	Any character or number depending on bugfix

Software Release: 02.x (TofinoXe)  
 Software Release: 03.x (TofinoXe)  
 Software Release: 05.x (EAGLE One)

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## **Application/Limitation**

Equipment not for installation within a distance of 5 m from magnetic compass.

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 GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

## **Type Approval documentation**

See ANNEX

## **Place of manufacture**

See ANNEX

## **Tests carried out**

Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2016.

## **Marking of product**

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

## **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 typeapproved 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

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**ANNEX**  
**Type Approval documentation**  
(hidden)

**Place of manufacture**  
(hidden)