

TYPE APPROVAL CERTIFICATE

Certificate No:

TAA000018E

Revision No:

1**This is to certify:****That the Peripheral Equipment**

with type designation(s)

Series 100 & 1000 (Unmanaged Ethernet Switches), Series 100 & 1000 (Unmanaged Media Converters), Series 700 (Managed Ethernet Switches)

Issued to

Red Lion Controls, Inc.
York PA, USA

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Location classes:****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

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

Issued at **Hamburg** on **2018-03-09**This Certificate is valid until **2023-03-08**.DNV GL local station: **New Orleans**Approval Engineer: **Didier Girardin**for **DNV GL**

Digitally Signed By: Papanuskas, Joannis

Signing Date: 12.03.2018

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: **262.1-027654-1**
Certificate No: **TAA000018E**
Revision No: **1**

Product description

Red Lion network devices, comprising the following units:

Products	Type Designation
104TX, 105TX, 105FX, 106FX2, 108TX, 1005TX, 100-POE4, 105TX-POE, 105FX-POE, 1003GX2, 105M12, 108M12	Series 100 & 1000 Unmanaged Ethernet Switches
102MC, 1002MC	Series 100 & 1000 Unmanaged Media Converters
708TX, 708FX2, 708M12	Series 700 Managed Ethernet Switches

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.

"Compass safe distance" test results:

Compass; standard	Compass; steering / standby-steering / emergency
600 mm	400 mm

Type Approval documentation

See Annex

Tests carried out


Applicable tests according to Standard for Certification DNVGL-CG-0339 Ed. 2016

The special purpose tests "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
- manufacturer name
- serial number



Job Id: **262.1-027654-1**
Certificate No: **TAA000018E**
Revision No: **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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE



Job Id: **262.1-027654-1**
Certificate No: **TAA000018E**
Revision No: **1**

ANNEX
Hidden