Certificate No:
TAA000034U

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network and Communication Components

with type designation(s)
FL SWITCH 1004NT-SFX; 1005NT; 1005NTC; 1005NT-2SFX; 1008NT; 1008NTC; 1012NT-2SFP; 1104NT-SFP; 1105NT; 1105NT-2SFP; 1108NT

Issued to
Phoenix Contact GmbH & Co. KG
Blomberg, Nordrhein-Westfalen, Germany

is found to comply with
DNV 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.

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**Required protection according to the Rules shall be provided upon installation on board.**

Issued at **Hamburg** on **2022-04-05**
This Certificate is valid until **2027-04-04**.
DNV local station: **Essen**

Approval Engineer: **Heinz Scheffler**

for **DNV**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

Unmanaged narrow Ethernet switches

Mat.No	Designation Article	Data transmission rates	RJ45 ports	SFP ports	SFX ports	Conformal coating
1085169	FL SWITCH 1004NT-SFX	10/100 Mbps	4	0	1	-
1085170	FL SWITCH 1005NT	10/100 Mbps	5	0		-
1085161	FL SWITCH 1005NTC	10/100 Mbps	5	0		x
1085164	FL SWITCH 1005NT-2SFX	10/100 Mbps	5	0	2	-
1085165	FL SWITCH 1008NT	10/100 Mbps	8	0		-
1085156	FL SWITCH 1008NTC	10/100 Mbps	8	0		x
1249598	FL SWITCH 1012NT-2SFP	10/100 Mbps	12	2		-
1343023	FL SWITCH 1104NT-SFP	10/100/1000 Mbps	4	1		-
1085163	FL SWITCH 1105NT	10/100/1000 Mbps	5	0		-
1343025	FL SWITCH 1105NT-2SFP	10/100/1000 Mbps	5	2		-
1085162	FL SWITCH 1108NT	10/100/1000 Mbps	8	0		-

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.

Type Approval documentation

Test Reports: E211990E1; U211990E1; U212644E1
Documents: User manual UM EN FL SWITCH 1000, Revision A dated 2022-03-04; TAA000034U FL SWITCH 1000 Overview_Documents_Rev.00

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

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 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