



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000YV
Revision No:
7

This is to certify:

That the Network and Communication Components

with type designation(s)
FL SWITCH 2000 and FL NAT 2000 Series

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.

Location classes:

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

Issued at **Hamburg** on **2024-02-06**

for **DNV**

This Certificate is valid until **2027-02-21**.

DNV local station: **Essen**

Approval Engineer: **Heinz Scheffler**

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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.

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.



Form code: TA 251

Revision: 2021-03

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Product description

Managed Switches FL SWITCH 2xxx

Order designation*	Order Nr.	Copper ports		Fiberglass ports	
		10/100 Mbps	10/100/1000 Mbps	100 Mbps	100/1000 Mbps
FL SWITCH 2205	2702326	5 x RJ45			
FL SWITCH 2208	2702327	8 x RJ45			
FL SWITCH 2208 PN	1044024	8 x RJ45			
FL SWITCH 2207-FX	2702328	7 x RJ45		1 x MM SC	
FL SWITCH 2207-FX SM	2702329	7 x RJ45		1 x SM SC	
FL SWITCH 2206-2FX	2702330	6 x RJ45		2 x MM SC	
FL SWITCH 2206-2FX SM	2702331	6 x RJ45		2 x SM SC	
FL SWITCH 2206-2FX ST	2702332	6 x RJ45		2 x MM ST	
FL SWITCH 2206-2FX SM ST	2702333	6 x RJ45		2 x SM ST	
FL SWITCH 2206-2SFX	2702969	6 x RJ45		2 x SFX	
FL SWITCH 2206-2SFX PN	1044028	6 x RJ45		2 x SFX	
FL SWITCH 2204-2TC-2SFX	2702334	4 x RJ45		2 x Combo 2 x SFX	
FL SWITCH 2216	2702904	16 x RJ45			
FL SWITCH 2216 PN	1044029	16 x RJ45			
FL SWITCH 2214-2FX	2702905	14 x RJ45		2 x MM SC	
FL SWITCH 2214-2FX SM	2702906	14 x RJ45		2 x SM SC	
FL SWITCH 2214-2SFX	1006188	14 x RJ45		2 x SFX	
FL SWITCH 2214-2SFX PN	1044030	14 x RJ45		2 x SFX	
FL SWITCH 2212-2TC-2SFX	2702907	12 x RJ45		2 x Combo 2 x SFX	
FL SWITCH 2308	2702652		8 x RJ45		
FL SWITCH 2308 PN	1009220		8 x RJ45		
FL SWITCH 2306-2SFP	2702970		6 x RJ45		2 x SFP
FL SWITCH 2306-2SFP PN	1009222		6 x RJ45		2 x SFP
FL SWITCH 2304-2GC-2SFP	2702653		4 x RJ45		2 x Combo 2 x SFP
FL SWITCH 2316	2702909		16 x RJ45		
FL SWITCH 2316 PN	1031673		16 x RJ45		
FL SWITCH 2314-2SFP	1006191		14 x RJ45		2 x SFP
FL SWITCH 2314-2SFP PN	1031683		14 x RJ45		2 x SFP
FL SWITCH 2312-2GC-2SFP	2702910		12 x RJ45		2 x Combo 2 x SFP
FL SWITCH 2408	1043412	8 x RJ45			
FL SWITCH 2408 PN	1089133	8 x RJ45			
FL SWITCH 2406-2SFX	1043414	6 x RJ45		2 x SFX	
FL SWITCH 2406-2SFX PN	1089126	6 x RJ45		2 x SFX	
FL SWITCH 2404-2TC-2SFX	1088853	4 x RJ45		2 x Combo, 2 x SFX	
FL SWITCH 2416	1043416	16 x RJ45			
FL SWITCH 2416 PN	1089150	16 x RJ45			
FL SWITCH 2414-2SFX	1043423	14 x RJ45		2 x SFX	
FL SWITCH 2414-2SFX PN	1089139	14 x RJ45		2 x SFX	
FL SWITCH 2412-2TC-2SFX	1088875	12 x RJ45		2 x Combo, 2 x SFX	
FL SWITCH 2508	1043484		8 x RJ45		
FL SWITCH 2508 PN	1089134		8 x RJ45		
FL SWITCH 2506-2SFP	1043491		6 x RJ45		2 x SFP
FL SWITCH 2506-2SFP PN	1089135		6 x RJ45		2 x SFP
FL SWITCH 2504-2GC-2SFP	1088872		4 x RJ45		2 x Combo,

Order designation*	Order Nr.	Copper ports		Fiberglass ports	
		10/100 Mbps	10/100/1000 Mbps	100 Mbps	100/1000 Mbps
					2 x SFP
FL SWITCH 2516	1043496		16 x RJ45		
FL SWITCH 2516 PN	1089205		16 x RJ45		
FL SWITCH 2514-2SFP	1043499		14 x RJ45		2 x SFP
FL SWITCH 2514-2SFP PN	1089154		14 x RJ45		2 x SFP
FL SWITCH 2512-2GC-2SFP	1088856		12 x RJ45		2 x Combo, 2 x SFP
FL SWITCH 2506-2SFP/K1	1215329		6 x RJ45		2 x SFP
FL SWITCH 2508/K1	1215350		6 x RJ45		

*Above listed devices with Order designation may have additional name suffix /K1 to /K9 or /KA to /KZ. These devices are certified devices that are only preconfigured with application-relevant software settings.

Firmware: 3.x.y

Managed Switches / Router FL NAT 2xxx

Order designation*	Order Nr.	Copper ports		Fiberglass ports	
		10/100 Mbps	10/100/1000 Mbps	100 Mbps	100/1000 Mbps
FL NAT 2208	2702882	8 x RJ45			
FL NAT 2304-2GC-2SFP	2702981		4 x RJ45		2 x Combo 2 x SFP

*Above listed devices with Order designation may have additional name suffix /K1 to /K9 or /KA to /KZ. These devices are certified devices that are only preconfigured with application-relevant software settings.

Firmware: 3.x.y

Small form-factor pluggable (SFP)

- FL SFP SX2 (2702397)
- FL SFP FE WDM20-A (2702437)
- FL SFP FE WDM20-B (2702438)
- FL SFP FE WDM20-SET (2702439)
- FL SFP WDM10-A (2702440)
- FL SFP WDM10-B (2702441)
- FL SFP WDM10-SET (2702442)
- FL SFP FX (2891081)
- FL SFP FX SM (2891082)
- FL SFP SX (2891754)
- FL SFP LX (2891767)
- FL SFP LH (2989912)

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

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 and Documents: TAA00000YV_Overview_Documents_Rev.06a

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