



Certificate No:
TAA0000382

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network and Communication Components

with type designation(s)
FL MGuard 4302

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	A

Issued at **Hamburg** on **2023-02-08**

This Certificate is valid until **2028-02-07**.

for **DNV**

DNV local unit: **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.



Product description

Router - FL MGUARD 4302 (1357840)

Interfaces

Ethernet

- Connection method: RJ45
- Transmission speed: 0/100/1000 Mbps
- Transmission physics: Ethernet in RJ45 twisted pair
- Transmission length: 100 m (per segment)
- Signal LEDs: Supply voltage, data transmission, error, link, activity
- No. of channels: 2 (RJ45 ports)

2x digital output, 2x digital input

- Connection method: Push-in-/Spring-cage connection
- Additional text: not electrically isolated

VPN - release button

- Connection method: Push-in-/Spring-cage connection

Security functions

- 1:1 Network Address Translation (NAT) in the VPN: Supported
- Number of VPN tunnels: 250
- Authentication: X.509v3 certificates with RSA or PSK
- Data integrity: MD5, SHA-1, SHA 256, SHA-512
- Dynamic Host Configuration Protocol (DHCP) support: Server or Relay Agent
- Filtering: MAC and IP addresses, ports, protocols
- Firewall data throughput: max. 940 Mbps (Router mode, default firewall rules, unidirectional throughput)
max. 850 Mbps (Stealth mode, default firewall rules, unidirectional throughput)
- Firewall rules: Configurable stateful inspection firewall with full scope of functions
- Basic functions; Security appliance with intelligent firewall and VPN for 250 tunnels, plastic housing, slot for SD memory card, extended temperature range, Gigabit wire speed
- Internet Protocol Security (IPsec) mode: ESP tunnel / ESP transport
- Link Layer Discovery Protocol (LLDP): As per protocol 802.2
- Network Time Protocol (NTP) client: Client/server
- Remote Syslog Logging: On external server
- Routing: Standard routing, NAT, 1:1-NAT, port forwarding
- Protection against: IP spoofing, DoS and Syn Flood Protection
- Encryption methods: DES, 3DES, AES-128, -192, -256
- Virtual private network (VPN) throughput: max. 250 Mbps (Router mode, VPN unidirectional throughput)

Electrical Properties

- Local diagnostics: US1, US2 Supply voltage US1, US2 Green LED
One LED per port Link active / Speed Green / green/yellow LED
- Supply voltage (DC): 24 V DC (redundant)
- Supply voltage range: 12 V DC ... 36 V DC
- Power supply connection: via COMBICON, max. conductor cross section 1.5 mm²Function
- Signal contact control voltage: 24 V DC (typical)
- Signal contact control current: 250 mA (short-circuit-proof)

Software Version

- 10.1.y

Application/Limitation

Location classes D: FL MGUARD 4302 has been tested down to -40°C

Approval conditions

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. If the control system is intended for remote software maintenance the functionality shall be part of the system documentation as required in 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 & Documents: TAA0000382_Overview_Documents_Rev.02

Tests carried out

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

IEC 60945:2002/COR1:2008: Section 8.2/8.3/8.4/8.7/9.2/9.3/10.3/10.4/10.5/10.8/10.9/11.2

IACS Unified Requirements E10 Rev.8

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