



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-12198**

Holder of Certificate

Phoenix Contact GmbH & Co. KG
BLOMBERG LIPPE, Germany

This is to certify that the
Ethernet Switch

with type designation(s)
FL SWITCH SFNT ...

is found to comply with

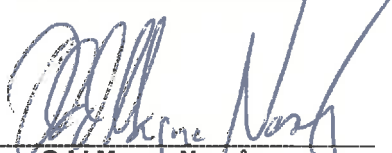
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
Location classes:

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

* Extended temperature range, see page 2.

Høvik, 2011-01-31
for **Det Norske Veritas AS**


Odd Magne Nesvåg
Head of Section



DNV local office:
Essen

This Certificate is valid until
2013-12-31


Ståle Sneen
Surveyor

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.



Certificate No.: A-12198
File No.: 899.60
Job Id.: 262.1-008315-2

Product description

Phoenix Contact Modular Managed Switch System comprising the following modules:

Art. No.	Designation	Description
2891003	FL SWITCH SFNT 5TX	Ethernet Switch wide temperature with five RJ45 ports for 10/100 Mbps
2891004	FL SWITCH SFNT 4TX/FX	Ethernet Switch wide temperature with four RJ45 10/100 Mbps ports and one fiber optic port in SC format for 100 Mbps
2891005	FL SWITCH SFNT 8TX	Ethernet Switch wide temperature with eight RJ45 ports for 10/100 Mbps
2891006	FL SWITCH SFNT 7TX/FX	Ethernet Switch wide temperature with seven RJ45 10/100 Mbps ports and one fiber optic port in SC format for 100 Mbps
2891007	FL SWITCH SFNT 7TX/FX-ST	Ethernet Switch wide temperature with seven RJ45 10/100 Mbps ports and one fiber optic port in ST format for 100 Mbps

Manufactured by

Phoenix Contact
586 Fulling Mill Road
Middletown, PA 17057
USA

Etherwan Systems Inc.
Far East World Center 4th FL-7, 79 HSIN TAI WU RD, SEC 1
TAIPEI HSIEN 221
TAIWAN

Responsibility

The Holder of Certificate takes the responsibility that both design and production are in compliance with the Rules and standards listed on page 1 and 2 of this Type Approval Certificate.

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.

Application/Limitation

The FL SWITCH SFNT... modules are designed exclusively for SELV or PELV operation according to IEC 61140/EN 61140.

Type Approval documentation

Binder set VO010326-09-11111537, Ethernet Switch FL..., containing:

General documents

Documents of article

- Data sheet 2665_en_E dated 10/2009
- User Manuals for modules covered by the type approval

Test Reports

- Phoenix Testlab E091569E1 – EMC
- Phoenix Testlab U091569E1 – Environmental
- Phoenix Testlab E091569E2 – EMC
- Phoenix Testlab E091569E2 – Environmental
- Phoenix Testlab U102784E1 – Environmental, extreme conditions (2nd version, dated 2009-10-05)

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Extreme power supply test according to IEC 60945, 4th edition (2002), with the following parameters:

- Temperature: - Dry Heat: +75°C (16h)
- Cold: -40°C (16h)
- Power supply: - Voltage variation: ±10%
- Frequency variation: ±5%



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Marking of product

Manufacture:	Phoenix Contact
Type designation:	As listed under Product description
Article no.:	As listed under Product description
Serial no.:	Unique for each delivered item

Certificate Retention Survey

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE