Certificate No:
TAA000037T

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network Components

with type designation(s)
SCALANCE XCM-100; SCALANCE XCH-100/XCM-100; SCALANCE XC-200

Issued to
Siemens AG - Digital Industries - Process Automation
Karlsruhe, Baden-Württemberg, 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	**B**
Humidity	**B**
Vibration	**A**
EMC	**B***
Enclosure	**Required protection according to the Rules shall be provided upon installation on board.**

*** Application/Limitation**

Issued at **Hamburg** on **2023-03-29**
This Certificate is valid until **2028-03-28**.
DNV local unit: **Augsburg**

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 SCALANCE XCM-100 Industrial Ethernet media converters of the SCALANCE X-100 product line		
Device variant	Description	Article number
SCALANCE XCM102	• 1x 100/1000 Mbit/s RJ45 port for Fast Connect Connector • 1x 100/1000 Mbit/s SFP port	6GK5 102-1GS00-2AC2

Unmanaged Industrial Ethernet switches of the SCALANCE XCM-/XCH-100 product line		
Device variant	Description	Article number
SCALANCE XCM108PoE (Giga)	• 8 x 10/100/1000 Mbps RJ45 ports	6GK5 108-0RA00-2AC2
SCALANCE XCM108PoE	• 8 x 10/100 Mbps RJ-45 ports	6GK5 108-0PA00-2AC2
SCALANCE XCM108PoE	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x SFP transceiver slots with 1000/10000 Mbps	6GK5 108-2RS00-2AC2
SCALANCE XCH108PoE (Co)	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x SFP transceiver slots with 1000/10000 Mbps, • Coated printed circuit boards	6GK5 108-2RS00-2FC2

Managed Industrial Ethernet switches of the SCALANCE XC-200 product line		
Device variant	Description	Article number
SCALANCE XC206-2SFP G	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x pluggable transceiver slots with 1000 Mbps	6GK5 206-2GS00-2AC2
SCALANCE XC206-2SFP G (EIP)	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x pluggable transceiver slots with 1000 Mbps	6GK5 206-2GS00-2TC2
SCALANCE XC206-2SFP G EEC	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x pluggable transceiver slots with 1000 Mbps • Coated printed circuit board	6GK5 206-2GS00-2FC2
SCALANCE XC206-2G PoE	• 6 x 10/100/1000 Mbps RJ45 ports • 2 x pluggable transceiver slots with 1000/10000 Mbps (SFP+) • Power over Ethernet at 6 ports • Rated voltage 24 V DC	6GK5 206-2RS00-2AC2
SCALANCE XC208G	• 8 x 10/100/1000 Mbps RJ45 ports	6GK5 208-0GA00-2AC2
SCALANCE XC208G (EIP)	• 8 x 10/100/1000 Mbps RJ45 ports	6GK 5208-0GA00-2TC2
SCALANCE XC208G EEC	• 8 x 10/100/1000 Mbps RJ45 ports • Coated printed circuit board	6GK5 208-0GA00-2FC2
SCALANCE XC208G PoE	• 8 x 10/100/1000 Mbps RJ45 ports • Power over Ethernet at 6 ports • Rated voltage 24 V DC	6GK5 208-0RA00-2AC2

Managed Industrial Ethernet switches of the SCALANCE XC-200 product line (cont.)		
Device variant	Description	Article number
SCALANCE XC216-4C	• 12 x 10/100 Mbps RJ45 ports • 4 x combo ports (4 x 10/100 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps)	6GK5 216-4BS00-2AC2
SCALANCE XC216-4C G	• 12 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps)	6GK5 216-4GS00-2AC2
SCALANCE XC216-4C G (EIP)	• 12 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps)	6GK5 216-4GS00-2TC2
SCALANCE XC216-4C G EEC	• 12 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps) • Coated printed circuit board	6GK5 216-4GS00-2FC2
SCALANCE XC216-3G PoE	• 16 x 10/100/1000 Mbps RJ45 ports • 1 x pluggable transceiver slots with 1000 Mbps • 2 x pluggable transceiver slots with 1000/10000 Mbps • Power over Ethernet at 14 ports • Rated voltage 24 V DC	6GK5 216-3RS00-2AC2
SCALANCE XC224-4C G	• 20 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps)	6GK5 224-4GS00-2AC2
SCALANCE XC224-4C G (EIP)	• 20 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps)	6GK52 24-4GS00-2TC2
SCALANCE XC224-4C G EEC	• 20 x 10/100/1000 Mbps RJ45 ports • 4 x combo ports (4 x 10/100/1000 Mbps RJ45 ports/4 x pluggable transceiver slots with 1000 Mbps) • Coated printed circuit board	6GK5 224-4GS00-2FC2

Application/Limitation

Location classes EMCB:

Only with EMC filter EPCOS B84113-C-B30 for

- SCALANCE XC206-2SFP G (6GK5206-2GS00-2AC2)
- SCALANCE XC208G (6GK5208-0GA00-2AC2)
- SCALANCE XCM108PoE (6GK5108-0RA00-2AC2)
- SCALANCE XCM108PoE (6GK5108-2RS00-2AC2)

Only with EMC filter EPCOS B84111F0000B120 for

- SCALANCE XC206-2G PoE (6GK5206-2RS00-2AC2)
- SCALANCE XC208G PoE (6GK5208-0RA00-2AC2)
- SCALANCE XC216-3G PoE (6GK5216-3RS00-2AC2)

Operating Instruction is to be observed:

- SCALANCE XCM-100 (06/2022 C79000-G8900-C659-01
- SCALANCE XCH-100/XCM-100 (06/2022 C79000-G8976-C662-01)
- SCALANCE XC-200 (03/2021; C79000-G8976-C442-11).

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

23-E009704-BM-B01 List of documents, dated 2023-03-24

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