



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00002GY
Revision No:
3

This is to certify:

That the Network and Communication Components

with type designation(s)
MCSESM, MCSESM-E, MCSESP Managed Switch

Issued to
Schneider Electric France S.A.S.
Carros, France

is found to comply with
DNV GL 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 GL.

Location classes:

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

* see Application/Limitation

Issued at **Hamburg** on **2021-04-22**

This Certificate is valid until **2024-05-19**.

for **DNV**

DNV local station: **Augsburg**

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

The MCSESM, MCSESM-E Series devices support switched ETHERNET networks that conform to the IEEE 802.3 standard. The devices are mounted by snapping them onto the DIN rail.

The product designation of the device is made from combining the desired product characteristics in accordance with the following structure / nomenclature

Power Supply:

- Rated voltage: 12 ... 24V DC
- Voltage range incl. maximum tolerances: 9,6 ... 32 VDC

Product Name	Product Description
	4 - 6 Port devices
MCSESM043F23F0	4*100Mbit ports, Twisted Pair (TX) RJ45
MCSESM053F1CU0	4*100Mbit ports, Twisted Pair (TX) RJ45 + 1*100Mbit ports, Multimode (FX) DSC
MCSESM063F2CU0	4*100Mbit ports, Twisted Pair (TX) RJ45 + 2* 100Mbit ports, Multimode (FX) DSC
MCSESM053F1CS0	4*100Mbit ports, Twisted Pair (TX) RJ45 + 1*100Mbit ports, Single mode (FX) DSC
MCSESM063F2CS0	4*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Single mode (FX) DSC
	8 - 10 Port devices
MCSESM083F23F0	8*100Mbit ports, Twisted Pair (TX) RJ45
MCSESM093F1CU0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 1*100Mbit ports, Multimode (FX) DSC
MCSESM103F2CU0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Multimode (FX) DSC
MCSESM093F1CS0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 1*100Mbit ports, Single mode (FX) DSC
MCSESM103F2CS0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Single mode (FX) DSC
MCSESP083F23G0	8*100Mbit ports, Twisted Pair PoE (TX) PoE
	8 - 10 Port Devices - Coated
MCSESM083F23F0H	8*100Mbit ports, Twisted Pair (TX) RJ45. Coated PCBAs
MCSESM103F2CU0H	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Multimode (FX) DSC. Coated PCBAs
MCSESM103F2CS0H	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Single mode (FX) DSC. Coated PCBAs
	12 Port Devices

MCSESM123F23G0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 4*1000Mbit ports, GE (TX) RJ45
MCSESM123F2LG0	8*100Mbit ports, Twisted Pair (TX) RJ45 + 4*1000Mbit ports, SFP
	16-24 Port Devices
MCSESM163F23F0	16*100Mbit ports, Twisted Pair (TX) RJ45
MCSESM203F4LG0	16*100Mbit ports, Twisted Pair (TX) RJ45 + 4* 1000Mbit ports, SFP
MCSESM243F4LG0	20*100Mbit ports, Twisted Pair (TX) RJ45 + 4* 1000Mbit ports, SFP
	8 - 10 Port Extended Series
MCSESM083F23F1	8*100Mbit ports, Twisted Pair (TX) RJ45
MCSESM103F2CU1	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Multimode (FX) DSC
MCSESM103F2CS1	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Single mode (FX) DSC
	8 - 10 Port Extended Series - Coated
MCSESM083F23F1H	8*100Mbit ports, Twisted Pair (TX) RJ45. Coated PCBAs
MCSESM103F2CU1H	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Multimode (FX) DSC. Coated PCBAs
MCSESM103F2CS1H	8*100Mbit ports, Twisted Pair (TX) RJ45 + 2*100Mbit ports, Single mode (FX) DSC. Coated PCBAs
MCSESP083F23G0T	8*1000Mbit ports, Twisted Pair PoE (TX) PoE. Coated PCBAs
	Accessories:
MCSEAM0100	Memory Backup Adapter

Software release: HiOS Software version: 07.x; 08.x

Application/Limitation

Location class:

- EMC class B: For 4...12 port devices the provided ferrite core is mandatory on power supply cable.
- Temperature class D: Coated Devices according the Product Description

The installation requirements for naval applications are to be observed.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 DNVGL 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 GL 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 DNVGL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

See ANNEX

Place of Production

See ANNEX

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

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



Job Id: **262.1-032360-4**
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ANNEX

- Type Approval documentation (hidden)
- Place of Production (hidden)