DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000012Y
Revision No:
3

This is to certify:

That the Network and Communication Components

with type designation(s)
MICE Switch Power MSP30/32/40/42 and Media Modules MSM20/22/24/40/42/46/50

Issued to
Hirschmann Automation and Control GmbH
Neckartenzlingen, Baden-Württemberg, Germany

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**
Humidity	**B**
Vibration	**A/B***
EMC	**B**
Enclosure	**Required protection according to DNVGL Rules shall be applied upon installation onboard**

***see Application/Limitation**

Issued at **Hamburg** on **2019-10-04**

This Certificate is valid until **2023-05-16**.
DNV GL local station: **Augsburg**

Approval Engineer: **Heinz Scheffler**

for **DNV GL**
Digitally Signed By:
Papanuskas, Joannis

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.

Product description

The **MSP30/32/40/42** devices support switched ETHERNET networks that conform to the IEEE 802.3 standard.
The devices are mounted by snapping them onto the DIN rail.
Devices with customization = HX or MX: wall mounting installation.

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

Nomenclature MSP

Position	Characteristic	Characteristic value	Description
1 … 3	Product	MSP	MICE Switch Power
4	Data rate	3 4	10/100 Mbps and 10/100/1000 Mbps Ports 10/100/1000 Mbps and 1000/2500 Mbps Ports
5	Hardware type	0 2	Standard PoE or PoE+ capable
6	(hypen)	-	
7 … 8	Number of 10/100 Mbps ports	08 16 24	8 * 10/100 Mbps Ethernet ports 16 * 10/100 Mbps Ethernet ports 24 * 10/100 Mbps Ethernet ports
9 … 10	Number of 10/100/1000 Mbpsports	04	4 * 10/100/1000Mbps Ethernet ports
11	Number of 10/100/1000/10000 Mbps ports	0	0 * 10/100/1000/10000 Mbps Ethernet ports
12	Temperature range	S T E	Standard 0°C … +60°C Extended -40°C … +70°C Extended with conformal coating 40°C+70°C
13	Voltage range	C P	24 … 48 VDC PoE: 48 VDC, PoE+: 54 VDC
14 … 15	Approvals / Declarations	Z9 XX	CE, FCC, EN61131, EN60950-1 Any letter, depending on approvals and/or declarations
16 … 17	Software packages	XX	Any letter, depending on SW package
18 … 19	Customization	HH HX MX	Hirschmann Standard Hirschmann Extreme Condition MAN Extreme Condition
20	Software configuration	X	Any letter, depending on SW configuration
21 … 22	Software level	2A	HiOS Layer 2 Advanced

23 … 27	Software version	3A 02.x 03.x 04.x 05.x 06.x 07.x 08.x	HiOS Layer 3 Advanced SW version 02.x SW version 03.x SW version 04.x SW version 05.x SW version 06.x SW version 07.x SW version 08.x
28 … 29	Maintenance	XX	Any letter, depending on maintenance

The **MSM20/22/24/40/42/46/50** media modules support the option to choose various media to connect terminal devices and other infrastructure components.
The devices are mounted by snapping them onto the DIN rail.
Devices with customization = HX or MX: wall mounting installation.

Nomenclature MSM

Position	Characteristict	Characteristic value	Description
1 … 3	Product	MSM	MICE Switch Media Modul
4	Data rate	2 4 5	10/100 Mbps ports 10/100/1000 Mbps ports 1000/2500 Mbps Ports
5	Hardware type	0 2 4 6	Standard PoE or PoE+ capable I/O capable PoE or POE+ capable with external power
6	(hypen)	-	
7 … 8	Port 1	T1 T5 M2 M4 S2 S4 L2 G2 C1 IO Q6 99	Twisted Pair (TX) / RJ45 Twisted Pair (TX) / M12 Multimode FX DSC (100 Mbps only) Multimode FX ST (100 Mbps only) Singlemode FX DSC (100 Mbps only) Singlemode FX ST (100 Mbps only) Singlemode Long Haul FX DSC Singlemode Long Haul FX DSC 200km (100 Mbps only) Combo port: Twiste Pair (TX) / RJ45 and Fiber Optic SFP Cage SFP Slot 1000/2500 Mbps Digital Input / output Empty
9 … 10	Port 2	…	Same as position 7 … 8
11 … 12	Port 3	…	Same as position 7 … 8
13 … 14	Port 4	…	Same as position 7 … 8

15	Temperature range	S T E	Standard 0°C … +60°C Extended -40°C/70°C Extended with conformal coating -40°C/70°C
16 … 17	Certificates and declarations b	Z9 XX	CE, FCC, EN61131, EN60950-1 Any letter, depending on approvals and/or declarations
18 … 19	Customization	HH HX MX	Hirschmann Standard Hirschmann Extreme Condition Only valid with Port T5 and MSP Backplane MAN Extreme Condition
20	Hardware configuration	9	Only valid with Port T5 and MSP Backplane No FPGA
21	Software configuration	E	Entry, without configuration
22 … 26	Software version	99.9	No software
27 … 28	Maintenance	99	No maintenance version

Application/Limitation

Location Class Vibration B:

- MSP 30/32: Customization = HX or MX
- MSM 20/40: Port 1…4 = T5 and Customization = HX or MX

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.The Type Approval covers hardware listed under Product description. When the hardware is used in
applications to be classed by DNV GL, 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 GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

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