Marine & Offshore

Certificate number: 59339/A0 BV
File number: AP4868
Product code: 4502H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Hirschmann Automation and Control GmbH

Neckartenzlingen - GERMANY

for the type of product

NETWORK COMMUNICATION SYSTEMS

Ethernet Rail Switch
BRS 20/30/40/50

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
EC Code: 31/41

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 27 Jan 2025

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 27 Jan 2020,
Dirk Hoepfner

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **BRS 20/30/40/50** series are Ethernet Switches for mounting on DIN-Rail.

1.1 - Variants:

Digit	Attribute	Identification	Feature
1 to 3	Product Name	BRS	Rail Switch without Gigabit-Port
4	Data rate	2	100 Mbit/s
		3	100/1000 Mbit/s
		4	1000 Mbit/s
		5	1000/2500 Mbit/s
5	Hardware Type	0	Standard
6	Hyphen	-	
7 and 8	Number of 100 Mbit/s Ports	00	0 x 10/100 Mbit/s Ethernet Ports
		04	4 x 10/100 Mbit/s Ethernet Ports
		05	5 x 10/100 Mbit/s Ethernet Ports
		06	6 x 10/100 Mbit/s Ethernet Ports
		08	8 x 10/100 Mbit/s Ethernet Ports
		09	9 x 10/100 Mbit/s Ethernet Ports
		10	10 x 10/100 Mbit/s Ethernet Ports
		11	11 x 10/100 Mbit/s Ethernet Ports
		12	12 x 10/100 Mbit/s Ethernet Ports
9 and 10	Number of 1000 (2500) Mbit/s Ports	00	0 x 100/1000 Mbit/s Ethernet Ports
		04	4 x 100/1000 Mbit/s Ethernet Ports
		08	8 x 100/1000 Mbit/s Ethernet Ports
		12	8 x 100/1000 Mbit/s + 4 x 1000/2500 Mbit/s Ethernet Ports or 12 x 100/1000 Mbit/s
11 and 12	1. + 2. Uplink Port	99	not configurable
		M2	1 x Multimode / SC (100 MBit/s)
		M4	1 x Multimode / ST (100 MBit/s)
		S2	1 x Singlemode / SC (100 MBit/s)
		S4	1 x Singlemode / ST (100 MBit/s)
		E2	1 x Singlemode Plus / SC (100 MBit/s)
		L2	1 x Singlemode LH / SC (100 MBit/s)
		G2	1 x Singlemode LH / SC 200km
		Z6	1 x SFP Slot (100 MBit/s)
		MM	2 x Multimode / SC (100 MBit/s)
		NN	2 x Multimode / ST (100 MBit/s)
		VV	2 x Singlemode / SC (100 MBit/s)
		UU	2 x Singlemode / ST (100MBit/s)
		EE	2 x Singlemode Plus / SC (100 MBit/s)
		LL	2 x Singlemode LH / SC (100 MBit/s)
		GG	2 x Singlemode LH / SC 200km (100MBit)
		ZZ	2 x SFP Slot (100 MBit/s)
		OO	2 x SFP Slot (100/1000 MBit/s)
		2Q	2 x SFP Slot (1000/2500 MBit/s)
13 and 14	3. + 4. Uplink Port	99	not configurable
		M2	1 x Multimode / SC (100 MBit/s)
		M4	1 x Multimode / ST (100 MBit/s)
		S2	1 x Singlemode / SC (100 MBit/s)
		S4	1 x Singlemode / ST (100 MBit/s)
		E2	1 x Singlemode Plus / SC (100 MBit/s)
		L2	1 x Singlemode LH / SC (100 MBit/s)
		G2	1 x Singlemode LH / SC 200km
		Z6	1 x SFP Slot (100 MBit/s)
		ZZ	2 x SFP Slot (100 MBit/s)
		OO	2 x SFP Slot (100/1000 MBit/s)
		2Q	2 x SFP Slot (1000/2500 MBit/s)
15	Hyphen	-	

16	Temperature range	S	Standard, 0 ... +60 °C
		C	Standard with Conformal Coating, 0 ... +60 °C
		T	Extended, -40 ... +70°C
		E	Extended with Conformal Coating -40 ... +70°C
17	Voltage range	T	2 x 24V DC
		F	2 x 24V DC ... 48V DC/ 24V DC
18	Housing	C	IP30 Plastic
		E	IP40 Metal

Accessories: Auto Configuration Adapter: ACA22-USB-C (EEC)
Software Version: 08.x

2. DOCUMENTS AND DRAWINGS:
- 837-827-X01 dated 02.10.18; 837-828-XXX dated 28.01.19; 942-170-999 dated 22.09.17
- Installation BRS20/30/40/50/60 Release 04 dated 04/2019; SQP HiOS Software 08.0.00 dated 01.08.2019

3. TEST REPORTS:
Hirschmann Automation and Control GmbH:
- PTR_94242002_PS_Navy_1v0 dated 2019-07-18; PTR_94242002_PE_Navy_1v0 dated 2019-07-18;
PTR_94242002_EMC_Navy_1v0 dated 2019-07-18
TELUS- Testlabor für Umweltsimulation GmbH:
- 132ea/19 dated 05th April 2019; 502e/18 dated 16th October 2018

4. APPLICATION / LIMITATION:
4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships.
4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
4.3 - Bureau Veritas Environmental Category, **EC Code: 31/41**
4.4 - The equipment fulfils the EMC requirements for installation in Bridge and Deck Zone by using ferrit core 74277255 on power supply cable.
4.5 - Only Hardware and Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.
4.6 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.
4.7 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

5. PRODUCTION SURVEY REQUIREMENTS:
5.1 - The above mentioned products are to be supplied by **Hirschmann Automation and Control GmbH** in compliance with the type described in this certificate.
5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
5.3 - **Hirschmann Automation and Control GmbH** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

Hirschmann Automation and Control GmbH
Stuttgarter Str. 45 - 51
72654 Neckartenzlingen
GERMANY

6. MARKING OF PRODUCT:
- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number

7. OTHERS:
7.1 - It is the responsibility of **Hirschmann Automation and Control GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***