



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000026B
Revision No:
5

This is to certify:

That the Network and Communication Components

with type designation(s)
BRS20/22/30/32/40/42/50/52

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/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 BOBCAT Rail Switch BRS20/22/30/32/40/42/50/52 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

Nomenclature BRS

Position	Attribute	Attribute value	Description
1 ... 3	Product	BRS	BOBCAT Rail Switch
4	Data rate	2 3 4 5	100 MBit/s Ethernet Ports 100 & 1000 MBit/s Ethernet Ports 1000 MBit/s Ethernet Ports 1000 & 2500 MBit/s Ethernet Ports
5	Hardware type	0 2	Standard Standard + POE
6	(hyphen)	-	
7 ... 8	Number of 100 Mbit/s ports	00 04 05 06 08 09 10 11 12 16 20 24	0 x 10/100 Mbit/s Ethernet Ports 4 x 10/100 Mbit/s Ethernet Ports 5 x 10/100 Mbit/s Ethernet Ports 6 x 10/100 Mbit/s Ethernet Ports 8 x 10/100 Mbit/s Ethernet Ports 9 x 10/100 Mbit/s Ethernet Ports 10 x 10/100 Mbit/s Ethernet Ports 11 x 10/100 Mbit/s Ethernet Ports 12 x 10/100 Mbit/s Ethernet Ports 16 x 10/100 Mbit/s Ethernet Ports 20 x 10/100 Mbit/s Ethernet Ports 24 x 10/100 Mbit/s Ethernet Ports
9 ... 10	Number of 1000 (2500) Mbit/s ports	00 04 08 12 12 16 20 20 24 24	0 x 100/1000 Mbit/s Ethernet Ports 4 x 100/1000 Mbit/s Ethernet Ports 8 x 100/1000 Mbit/s Ethernet Ports 12 x 100/1000 Mbit/s Ethernet Ports 8 x 100/1000 Mbit/s + 4 x 1000/2500 Mbit/s Ethernet Ports 16 x 100/1000 Mbit/s Ethernet Ports 20 x 100/1000 Mbit/s Ethernet Ports 16 x 100/1000 Mbit/s + 4 x 1000/2500 Mbit/s Ethernet Ports 24 x 100/1000 Mbit/s 20 x 100/1000 Mbit/s + 4 x 1000/2500 Mbit/s Ethernet Ports
11 ...12	1. + 2. Uplink Port	99 2T M2 M4 S2 S4 E2 L2 G2 Z6 MM NN	identical to the other ports / unavailable 2 x Twisted Pair / RJ45 (1000 MBit/s) 1 x Multimode / SC (100 MBit/s) 1 x Multimode / ST (100 MBit/s) 1 x Singlemode / SC (100 MBit/s) 1 x Singlemode / ST (100 MBit/s) 1 x Singlemode Plus / SC (100 MBit/s) 1 x Singlemode LH / SC (100 MBit/s) 1 x Singlemode LH / SC 200km 1 x SFP Slot (100 MBit/s) 2 x Multimode / SC (100 MBit/s) 2 x Multimode / ST (100 MBit/s)

		VV UU EE LL GG ZZ OO 2Q	2 x Singlemode / SC (100 MBit/s) 2 x Singlemode / ST (100MBit/s) 2 x Singlemode Plus / SC (100 MBit/s) 2 x Singlemode LH / SC (100 MBit/s) 2 x Singlemode LH / SC 200km (100MBit) 2 x SFP Slot (100 MBit/s) 2 x SFP Slot (100/1000 MBit/s) 2 x SFP Slot (1000/2500 MBit/s)
13 ...14	3. + 4. Uplink Port	99 2T M2 M4 S2 S4 E2 L2 G2 Z6 ZZ OO 2Q	identical to the other ports / unavailable 2 x Twisted Pair / RJ45 (1000 MBit/s) 1 x Multimode / SC (100 MBit/s) 1 x Multimode / ST (100 MBit/s) 1 x Singlemode / SC (100 MBit/s) 1 x Singlemode / ST (100 MBit/s) 1 x Singlemode Plus / SC (100 MBit/s) 1 x Singlemode LH / SC (100 MBit/s) 1 x Singlemode LH / SC 200km 1 x SFP Slot (100 MBit/s) 2 x SFP Slot (100 MBit/s) 2 x SFP Slot (100/1000 MBit/s) 2 x SFP Slot (1000/2500 MBit/s)
15	(hyphen)	-	-
16	Temperature range	S C T E G	0°C --> +60°C 0°C --> +60°C, conf. coating -40°C --> +70°C -40°C --> +70°C, conf. coating -40°C --> +70°C, conf. coating, glued
17	Voltage range	T U F P	2x (12 - 24 VDC) 2x 24 VDC 2x (24 - 48 VDC + 24 VAC) 2x (48VDC (POE) / 54VDC (POE+))
18	Housing	C D E	IP30 Plastic IP30 Metall IP40 Metall
19 ...20	Approvals / Declarations	U9 XX	CE; FCC; EN61131; EN62368-1+ DNVGL Any letter, depending on approvals and/or declarations
21	Software Packages	9	Reserved
22 ... 23	Customization	HH XX	Hirschmann Standard Any letter depending on customization only at the front panel
24	Technology	S	Hirschmann Standard
25	Software Configuration	E P	Empty PROFINET
26	Software level	S A B	HiOS Layer 2 Standard HiOS Layer 2 Advanced Dual RSTP Support
27 ... 31	Software version	XX.X.	HiOS Software version: 07.x; 08.x
32 ... 33	Maintenance	XX	Any letter, depending on maintenance

34	(hyphen)	-	-
35 ...36	Production location	NT SZ PN	Neckartenzlingen Further manufacturing places

Accessories: Auto Configuration Adapter: ACA22-USB-C (EEC)

Application/Limitation

Location class:

- EMC zone B: For 4...12 port devices with voltage range F, T and U at nomenclature BRS Position 17 the provided ferrite core is mandatory on power supply cable
- Temperature class D: when nomenclature value at position 16 is T, E or G. For temperature derating depending on maximum PoE power, mounting position and SFP assembly, see Installation Guide.

The installation requirements of the user manual 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, December 2019.

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: **262.1-030344-5**
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ANNEX

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