



**Product:** BRS20-4TX/2FX-SM-EEC-HL

**Configurator:** BRS20-4TX/2FX-SM-EEC-HL

### Configurator Description

The Hirschmann BOBCAT Switch is the first of its kind to enable real-time communication using TSN. To effectively support the increasing real-time communication requirements in industrial settings, a strong Ethernet network backbone is essential. This compact managed switches allow for expanded bandwidth capabilities by adjusting your SFPs from 1 to 2.5 Gigabit – requiring no change to the appliance.

### Technical Specifications

#### Product description

Type	BRS20-4TX/2FX-SM-EEC-HL (Product code: BRS20-0600S2S2-TTCX99HHSESXX.X.XX)
Description	Managed Industrial Switch for DIN Rail, fanless design Fast Ethernet Type
Part Number	942170038
Configurator Part Number	942170999
Port Type and Quantity	6 Ports in total: 4x 10/100BASE TX / RJ45; 2x 100Mbit/s fiber ; 1. Uplink: 1 x 100BASE-FX, SM-SC ; 2. Uplink: 1 x 100BASE-FX, SM-SC

#### More Interfaces

Power supply/signaling contact	1 x plug-in terminal block, 6-pin
Digital Input	1 x plug-in terminal block, 2-pin
Local Management and Device Replacement	USB-C

#### Network size - length of cable

Twisted pair (TP)	0 - 100 m
Single mode fiber (SM) 9/125 µm	0 - 32.5 km, 16 dB Link Budget at 1300 nm, A = 0.4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km) 0 - 32.5 km, 16 dB Link Budget at 1300 nm, A = 0.4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km)

#### Network size - cascadiability

Line - / star topology	any
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#### Power requirements

Operating Voltage	2 x 12 VDC ... 24 VDC
Power consumption	7 W
Power output in BTU (IT)/h	24

#### Software

Switching	CoS Queue Management, Egress Interface Shaping, Fast Aging, Flow Control (802.3X), Forward unknown multicast to query ports per vlan, GARP Multicast Registration Protocol (GMRP), GARP VLAN Registration Protocol (GVRP), IGMP Snooping/Querier per VLAN (v1/v2/v3), Independent VLAN Learning, Ingress Storm Protection, Interface Trust Mode, Jumbo Frames, Multiple MAC Registration Protocol (MMRP), Multiple Registration Protocol (MRP), Multiple VLAN Registration Protocol (MVRP), QoS / Port Prioritization (802.1D/p), Queue-Shaping / Max. Queue Bandwidth, Static Unicast/Multicast Address Entries, TOS/DSCP Prioritization, TSN 802.1Qbv Support on interfaces 1/1 - 1/3., Unknown Multicast Filtering, VLAN (802.1Q), Voice VLAN
Redundancy	HIPER-Ring (Ring Switch), Link Aggregation with LACP, Link Backup, Media Redundancy Protocol (MRP) (IEC62439-2) - Redundancy Client, Media Redundancy Protocol (MRP) (IEC62439-2) - Redundancy Manager, Redundant Network Coupling, RSTP 802.1D-2004 (IEC62439-1), RSTP Guards
Management	Dual Software Image Support, TFTP, SFTP, SCP, LLDP (802.1AB), LLDP-MED, SSHv2, HTTP, HTTPS, IPv6 Management, Traps, SNMP v1/v2/v3, SNMPv3 Traps, Telnet

Diagnostics	Configuration Check Dialog, Copper Cable Test, Device Status Indication, Duplex Mismatch Detection, LEDs, Link Flap Detection, Link Speed and Duplex Monitoring, MAC Notification, Management Address Conflict Detection, Overload Detection, Persistent Logging on ACA, Port Mirroring 1:1, Port Mirroring 8:1, Port Mirroring N:1, Port Mirroring N:2, Port Monitoring with Auto-Disable, RMON (1,2,3,9), Self-Tests on Cold Start, SFP Management, Signal Contact, Switch Dump, Syslog, System Information, TCPDump
Configuration	Auto Disable, AutoConfiguration Adapter ACA21/22 (USB), Automatic Configuration Undo (roll-back), Backup config on a remote server when saving, BOOTP/DHCP Client with Auto-Configuration, Clear config but keep IP settings, CLI script handling over ENVN at boot, CLI Scripting, Command Line Interface (CLI), Configuration Fingerprint, Context-sensitive Help, DHCP Relay with Option 82, DHCP Server: per Port, DHCP Server: Pools per VLAN, Full-featured MIB Support, HiDiscovery, HTML5 based Management, USB-C Management support, XML-based Configuration File
Security	Access to Management restricted by VLAN, Appropriate Use Banner, Audit Trail, Basic ACL, CLI Logging, Configurable Number of Login Attempts, Configurable Password Policy, Denial-of-Service Prevention, Device Security Indication, DoS Prevention Drop Counter, Guest/unauthenticated VLAN, HTTPS Certificate Management, Ingress VLAN-based ACL, Integrated Authentication Server (IAS), Local User Management, MAC-based Port Security, Multiple Privilege Levels, Password change on first login, Port-based Access Control with 802.1X, RADIUS Client, RADIUS VLAN Assignment, Remote Authentication via RADIUS, Restricted Management Access, Secure Boot, Signed Firmware Images, SNMP Logging, User Account Locking, VLAN-based ACL
Time synchronisation	802.1AS, 802.1AS-2020, BC with Up to 8 Sync / s, Buffered Real Time Clock, PTPv2 Boundary Clock, PTPv2 Transparent Clock two-step, SNTP Client, SNTP Server
Industrial Profiles	EtherNet/IP Protocol, IEC61850 Protocol (MMS Server, Switch Model), Modbus TCP, PROFINET Protocol
Miscellaneous	Digital IO Management, Manual Cable Crossing, Port Power Down

## Ambient conditions

MTBF (Telcordia SR-332 Issue 3) @ 25°C	2 638 177 h
Operating temperature	-40-+70
Minimum Storage Temperature	-40-+70 °C
Relative humidity (non-condensing)	1- 95 %

## Mechanical construction

Dimensions (WxHxD)	57 mm x 138 mm x 115 mm
Weight	420 g
Housing	PC-ABS
Mount Type	DIN Rail
Protection class	IP30

## Mechanical stability

IEC 60068-2-6 vibration	5 Hz ... 8,4 Hz with 3,5 mm amplitude; 2 Hz ... 13,2 Hz with 1 mm amplitude; 8,4 Hz ... 200 Hz with 1 g; 13,2 Hz ... 100 Hz with 0,7 g
IEC 60068-2-27 shock	15 g, 11 ms duration

## EMC interference immunity

EN 61000-4-2 electrostatic discharge (ESD)	6 kV contact discharge, 8 kV air discharge
EN 61000-4-3 electromagnetic field	10 V/m (80-2000 MHz); 5 V/m (2000-2700 MHz); 3 V/m (5100-6000 MHz)
EN 61000-4-4 fast transients (burst)	2 kV power line, 2 kV data line
EN 61000-4-5 surge voltage	power line: 2 kV (line/earth) and 1 kV (line/line); data line: 2 kV
EN 61000-4-6 Conducted Immunity	10 V (150 kHz-80 MHz)

## EMC emitted immunity

EN 55022	EN 55032 Class A
FCC CFR47 Part 15	FCC 47CFR Part 15, Class A

## Approvals

Basis Standard	CE, FCC, EN61131, EN62368-1
Safety of industrial control equipment	cUL61010
Hazardous locations	ISA12.12.01

## Reliability

Guarantee	60 months (please refer to the <a href="https://assets.belden.com/m/1424ddb7a3280e7a/original/Hirschmann-Automation-and-Control-GmbH-Terms-of-Guarantee.pdf">https://assets.belden.com/m/1424ddb7a3280e7a/original/Hirschmann-Automation-and-Control-GmbH-Terms-of-Guarantee.pdf</a> for detailed information)
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## Scope of delivery and accessories

Accessories	AutoConfiguration Adapter ACA22-USB-C (EEC) 942239001; 6-pin terminal block with screw lock (50 pieces) 943 845-013; 2-pin terminal block with screw lock (50 pieces) 943 845-009; Industrial HiVision Network Management Software 943 156-xxx
Scope of delivery	1 × Device, 1 × Safety and general information sheet, 1 × Terminal block for supply voltage and signal contact, 1 × Terminal block for the digital input depending on device variant, 2 × Ferrites with key depending on device variant

## Further Instructions

Product Documentation	<a href="https://www.doc.hirschmann.com/index.html">https://www.doc.hirschmann.com/index.html</a>
Certificates	<a href="https://www.doc.hirschmann.com/certificates.html">https://www.doc.hirschmann.com/certificates.html</a>
Software Download	<a href="https://www.doc.hirschmann.com/releasemap.html">https://www.doc.hirschmann.com/releasemap.html</a>

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