



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

**Configurator:** BRS20-4TX/2FX-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-EEC-HL (Product code: BRS20-0600M2M2-TTCX99HHSESXX.X.XX)  |
| Description            | Managed Industrial Switch for DIN Rail, fanless design Fast Ethernet Type   |
| Software Version       | HiOS 09.6.00  |
| Part Number            | 942170036   |
| Port type and quantity | 6 Ports in total: 4x 10/100BASE TX / RJ45; 2x 100Mbit/s fiber ; 1. Uplink: 1 x 100BASE-FX, MM-SC ; 2. Uplink: 1 x 100BASE-FX, MM-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   |
| Multimode fiber (MM) 50/125 µm   | 0-5000 m, 8 dB Link Budget at 1300 nm, A=1 dB/km, 3 dB Reserve, B = 800 MHz x km 0-5000 m, 8 dB Link Budget at 1300 nm, A=1 dB/km, 3 dB Reserve, B = 800 MHz x km           |
| Multimode fiber (MM) 62.5/125 µm | 0 - 4000 m, 11 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km 0 - 4000 m, 11 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km |

#### Network size - cascading

|                        |     |
|------------------------|-----|
| Line - / star topology | any |
|------------------------|-----|

#### Power requirements

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

#### Software

|            |  |
|------------|--|
| Switching  | Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, QoS / Port Prioritization (802.1D/p), TOS/DSCP Prioritization, Interface Trust Mode, CoS Queue Management, Queue-Shaping / Max. Queue Bandwidth, Flow Control (802.3X), Egress Interface Shaping, Ingress Storm Protection, Jumbo Frames, VLAN (802.1Q), GARP VLAN Registration Protocol (GVRP), Voice VLAN, GARP Multicast Registration Protocol (GMRP), IGMP Snooping/Querier per VLAN (v1/v2/v3), Unknown Multicast Filtering, Multiple VLAN Registration Protocol (MVRP), Multiple MAC Registration Protocol (MMRP), Multiple Registration Protocol (MRP) |
| Redundancy | HIPER-Ring (Ring Switch), Link Aggregation with LACP, Link Backup, Media Redundancy Protocol (MRP) (IEC62439-2), 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, Traps, SNMP v1/v2/v3, Telnet, IPv6 Management , OPC UA Server  |

|                      |   |
|----------------------|---|
| Diagnostics          | Management Address Conflict Detection, MAC Notification, Signal Contact, Device Status Indication, TCPDump, LEDs, Syslog, Persistent Logging on ACA, Port Monitoring with Auto-Disable, Link Flap Detection, Overload Detection, Duplex Mismatch Detection, Link Speed and Duplex Monitoring, RMON (1,2,3,9), Port Mirroring 1:1, Port Mirroring 8:1, Port Mirroring N:1, Port Mirroring N:2, System Information, Self-Tests on Cold Start, Copper Cable Test, SFP Management, Configuration Check Dialog, Switch Dump  |
| Configuration        | Automatic Configuration Undo (roll-back), Configuration Fingerprint, Text-based Configuration File (XML), Backup config on a remote server when saving, Clear config but keep IP settings, BOOTP/DHCP Client with Auto-Configuration, DHCP Server: per Port, DHCP Server: Pools per VLAN, AutoConfiguration Adapter ACA21/22 (USB), HiDiscovery, USB-C Management support, Command Line Interface (CLI), CLI Scripting, CLI script handling over ENVM at boot, Full-featured MIB Support, Context-sensitive Help, HTML5 based Management  |
| Security             | ISASecure CSA / IEC 62443-4-2 certified, MAC-based Port Security, Port-based Access Control with 802.1X, Guest/unauthenticated VLAN, Integrated Authentication Server (IAS), RADIUS VLAN Assignment, Denial-of-Service Prevention, DoS Prevention Drop Counter, VLAN-based ACL, Ingress VLAN-based ACL, Basic ACL, Access to Management restricted by VLAN, Device Security Indication, Audit Trail, CLI Logging, HTTPS Certificate Management, Restricted Management Access, Appropriate Use Banner, Configurable Password Policy, Configurable Number of Login Attempts, SNMP Logging, Multiple Privilege Levels, Local User Management, Remote Authentication via RADIUS, User Account Locking, Password change on first login |
| Time synchronisation | PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, BC with Up to 8 Sync / s , 802.1AS, Buffered Real Time Clock, 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 (Telecordia SR-332 Issue 3) @ 25°C | 2 638 177 h |
| Operating temperature                   | -40-+70     |
| Storage/transport 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                  |
| Mounting           | 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 terms of guarantee for detailed information) |
|-----------|---|

## 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://hirschmann-support.belden.com/en-US/downloads">https://hirschmann-support.belden.com/en-US/downloads</a> |

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