



**Product:** BRS20-12TX

**Configurator:** BRS20-12TX

## 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                     | BRS20-12TX (Product code: BRS20-12009999-STCY99HHSESXX.X.XX)              |
| Description              | Managed Industrial Switch for DIN Rail, fanless design Fast Ethernet Type |
| Part Number              | 942170073                                                                 |
| Configurator Part Number | 942170999                                                                 |
| Port Type and Quantity   | 12 Ports in total: 12x 10/100BASE TX / RJ45                               |

### 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 |
|-------------------|-----------|

### Network size - cascadiability

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

### Power requirements

|                            |                       |
|----------------------------|-----------------------|
| Operating Voltage          | 2 x 12 VDC ... 24 VDC |
| Power consumption          | 9 W                   |
| Power output in BTU (IT)/h | 31                    |

### 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 ENVM 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 | 3 070 388 h |
| Operating temperature                  | 0-+60       |
| Minimum Storage Temperature            | -40-+70 °C  |
| Relative humidity (non-condensing)     | 1- 95 %     |

Mechanical construction

|                    |                         |
|--------------------|-------------------------|
| Dimensions (WxHxD) | 73 mm x 138 mm x 115 mm |
| Weight             | 600 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                    |

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) |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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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