BOBCAT Switches
Next-Generation Compact Managed Switches

With up to 24 ports and various configuration options — including fast Ethernet speeds up to 2.5 Gigabit — the Hirschmann BOBCAT Managed Switches offer a compact, yet powerful solution for the IIoT.

++ High port density for connection of an increased number of network devices over copper or fiber cabling

++ Simultaneously support multiple services on one network through TSN technology

++ Prepare for future network growth with increased bandwidth and speed capabilities

Key Features
- Up to 24 ports for high port density in a compact housing
- Supports up to 240 W across 8 PoE/PoE+ ports without load sharing to ensure maximum power output
- Robust industrial design for extreme environmental conditions, including wide temperature ranges and power needs (12, 24 or 48 V)
- Real-time TSN Ethernet support for precise data transmission
- Advanced security features, including wire-speed access control lists (ACL) and automatic denial-of-service (DoS) prevention
- Increased bandwidth capabilities, supporting copper and tri-speed fiber SFP slots with 100Mbit/s, 1 Gbit/s and 2.5 Gbit/s speeds (SFP only)

The Hirschmann BOBCAT Switches offer enhanced flexibility and interoperability for simple maintenance and future-proof operation due to full copper or tri-speed fiber SFP ports and downwards compatibility for existing infrastructure.
Your Benefits
The Hirschmann BOBCAT Switches, including high port count variants, are designed to meet rising bandwidth needs, enabling more connected devices on the network through a compact, yet powerful solution. With real-time communication using TSN, the switches maximize performance and security, even under demanding conditions.

These managed switches also allow for expanded bandwidth capabilities with the option to adjust the SFPs from 1 to 2.5 Gigabit – requiring no change to the appliance.

Enhanced network security is another critical component of any future-facing network. The Hirschmann BOBCAT Switches support HiOS software and feature several compelling security elements, including IEEE 802.1x port-based access control, varying privilege levels, configurable password policies, security status monitor and audit trails.

Applications
The Hirschmann BOBCAT Switches are an ideal solution for classic automation applications that require real-time communication, advanced security, low latency, and the simultaneous synchronization of data and information to control operations.

In addition, the high port density options support a growing number of network devices, while the PoE option can power the growing demand of energy-hungry devices, such as pan-tilt-zoom cameras or wireless access points. The appliance is best for engineers, system integrators and machine builders looking for a powerful and future-proof device.

Markets
With advanced security and real-time communication features, the compact managed switches are an essential appliance relevant to many industrial markets, including automotive, manufacturing, machine building, water management, and oil and gas. The full copper option with speeds up to 1 Gbit/s are particularly suited for short cable runs in discrete automation applications.

The Hirschmann BOBCAT Switches are also applicable in transportation and power management applications, helping to deliver critical real-time information, like deterministic signaling and energy flow. With trackside approval according to EN50121 and fulfillment of NEMA TS2 requirements, the switches can also be deployed in mass transit and traffic control systems and railway and train stations.

The high bandwidth and port count, combined with a ruggedized design, are ideal for airports and seaports as well.

The Hirschmann BOBCAT Switches are a cost-effective and high-performance solution that enables increased bandwidth and improved network reliability.
### Technical Information

**Product Description Switch**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRS2</td>
<td>Managed, Industrial Ethernet Switch DIN Rail, fanless design, up to 24 ports and up to 4 fiber ports</td>
</tr>
<tr>
<td>BRS3</td>
<td>Managed, Industrial Ethernet Switch DIN Rail, fanless design, up to 24 ports and up to 4 fiber ports</td>
</tr>
<tr>
<td>BRS4</td>
<td>Managed, Industrial Ethernet Switch DIN Rail, fanless design, up to 24 ports and up to 4 fiber ports</td>
</tr>
<tr>
<td>BRS5</td>
<td>Managed, Industrial Ethernet Switch DIN Rail, fanless design, up to 24 ports and up to 4 fiber ports</td>
</tr>
</tbody>
</table>

**Port Type and Quantity**

- Fast Ethernet with up to 3 SFP/ST fiber ports or 4 SFP ports
- Fast Ethernet with up to 4 dual-speed 100/1000 Mbit/s SFP ports
- All Gigabit with up to 4 dual-speed 100/1000 Mbit/s SFP ports
- All Gigabit with up to 4 tri-speed 100/1000/2500 Mbit/s SFP ports

**Additional Interfaces**

<table>
<thead>
<tr>
<th>Local Management and Device Replacement</th>
<th>USB-C</th>
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</thead>
<tbody>
<tr>
<td>Digital Input</td>
<td>1 x plug-in terminal block, 2-pin</td>
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</tbody>
</table>

**Power over Ethernet**

- **Port Type and Quantity**: 8 ports; PoE/PoE+ (IEEE 802.3at/af) 90 W/24 V or 240 W/54 V
- **Power Requirements**
  - Operating Voltage: 12 - 48 V DC or 24-48 V DC and 24 V AC (redundant); 24 V DC or 48/54 V DC (redundant) for PoE variants
  - Power Consumption: 5 up to 20 W (plus PoE power consumption)

**Mechanical Construction**

- Dimensions (W x H x D) mm: 71/87/123 mm x 140 mm x 110 mm PC-ABS housing
- Dimensions (W x H x D) mm: 57/73/109 mm x 138 mm x 109 mm PC-ABS housing
- Housing: PC-ABS or metal
- Weight: 380 g up to 1050 g (PC-ABS); 870 g up to 1620 g (metal)
- Protection class: IP30 (PC-ABS), IP30 (metal housing), IP40 (metal housing)

**Software**

- Supported HGS Software Levels: Layer 2 Standard (L2S) or Layer 2 Advanced (L2A)

**Software Layer 2**

- Management: Dual Software Image Support, TFTP, SFTP, SCP, LLDP (802.1AB), LLDP-MED, SSHv2, HTTP, HTTPS, Traps, SNMP v1/v2/v3, Telnet, IPv6 Management
- 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 Client: 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
- Redundancy Functions: 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
- Switching: Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, GoS / Port Prioritization (802.1Q), 802.1D/QoS, Port VLAN, 802.1Q VLAN Registration Protocol (GVRP), Voice VLAN, 802.1Q Multicast Registration Protocol (GMRP), IEEE Snoping/Querier per VLAN (v1/v2), Unknown Multicast Filtering, Multiple VLAN Registration Protocol (MVRP), Multiple MAC Registration Protocol (MRMP), Multiple Registration Protocol (MRP)
- Standardized Real-Time Ethernet: TSN, Time Sensitive Network (802.1Qbv)
- Time Synchronization: PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, BC with Up to 8 Sync / s , 802.1AS, Buffered Real Time Clock, STP Client, NTP Server
- Miscellaneous: Digital IO Management, Manual Cable Crossing, Port Power Down PoE (802.3af), PoE+ (802.3at), PoE+ Manual Power Management, PoE Fast Startup
- Information: Please note that the feature set available at product launch can be different.

**Ambient Conditions**

- Operating Temperature: 0 °C to 60 °C, or -40 °C to +70 °C, optional conformal coating and glued components
- Relative Humidity (non-condensing): 1% to 95%

**Approvals Configurable**

- Safety of Industrial Control Equipment*: EN 62388-1, UL 61010-2-201 & CSA C22.2 N0. 61010-2-201:18*
- Ship*: DNWLS*, Bureau Veritas*, Lloyd's Register*
- Hazardous Locations*: UL 121201 & CSA C22.2 N0. 213-17 *, ATEX Ex ec **, IECEx Ex ec **
- Substation: IEC 61850-3*
- Transportation*: NEMA TS2, EN50121-4***

**Accessories**

- Device Replacement and Logging: ACA22-USB-C (ECC)

* Depending on the selected variant
** Approvals pending
*** Variants with temperature range T, E or G

NOTE: These are the prominent technical specifications. For complete technical specifications visit: catalog.belden.com
BOBCAT Rail Switch Configurations

### Design
- **BRS2** = 100 Mbit/s Ports
- **BRS3** = 100/1000 Mbit/s Ports
- **BRS4** = 1000 Mbit/s Ports
- **BRS5** = 1000/2500 Mbit/s Ports

### Number of Fast Ethernet Ports
- **00** = 0 x 100 Mbit/s Ports
- **05** = 5 x 100 Mbit/s Ports
- **10** = 10 x 100 Mbit/s Ports
- **12** = 12 x 100 Mbit/s Ports
- **20** = 20 x 100 Mbit/s Ports

### Number of Gigabit Ethernet Ports
- **00** = 0 x 1000 Mbit/s Ports
- **04** = 4 x 1000 Mbit/s Ports
- **08** = 8 x 1000 Mbit/s Ports
- **12** = 12 x 1000 Mbit/s Ports
- **20** = 20 x 1000 Mbit/s Ports

### Type 1 Uplink Ports
- **99** = None / Identical to other ports
- **2T** = 2 x TX (1000 Mbit/s)
- **M2** = 1 x Multimode SC (100 Mbit/s)
- **S2** = 1 x Singlemode SC (100 Mbit/s)
- **E2** = 1 x Singlemode + SC (100 Mbit/s)
- **Z2** = 2 x SFP Slot (100 Mbit/s)
- **Z6** = 1 x SFP Slot (100 Mbit/s)

### Type 2 Uplink Ports
- **99** = None / Identical to other ports
- **2T** = 2 x TX (1000 Mbit/s)
- **M2** = 1 x Multimode SC (100 Mbit/s)
- **S2** = 1 x Singlemode SC (100 Mbit/s)
- **E2** = 1 x Singlemode + SC (100 Mbit/s)
- **Z2** = 2 x SFP Slot (100 Mbit/s)
- **Z6** = 1 x SFP Slot (100 Mbit/s)

### Temperature Range
- **S** = 0 °C to +60 °C
- **C** = 0 °C to +60 °C, conformal coating
- **T** = -40 °C to +70 °C
- **E** = -40 °C to +70 °C, conformal coating, glued
- **G** = -40 °C to +70 °C, conformal coating, glazed

### Voltage Range
- **F** = 2 x 24 V DC
- **P** = 2 x 48 V DC (PoE variants) / 54 V DC (PoE+ variants)

### Housing
- **C** = IP30
- **D** = IP40 metal
- **E** = IP40 metal

### Approvals Part 1
- **Z** = CE, FCC, EN 61131-2, EN 62368-1
- **X** = CE, FCC, EN 61131-2, EN 62368-1, cUL 61010-2-201
- **Y** = CE, FCC, EN 61131-2, EN 62368-1, IEC 61850-3
- **U** = CE, FCC, EN 61131-2, EN 62368-1, DNVGL
- **W** = CE, FCC, EN 61131-2, EN 62368-1, ATEX, IECEX
- **T** = CE, FCC, EN 61131-2, EN 62368-1, EN 50121-4

### Approvals Part 2
- **9** = None
- **V** = IEC 61850-3
- **U** = DNVGL
- **W** = ATEX, IECEX
- **X** = cUL 61010-2-201, cUL 121201
- **S** = DNVGL + extended ship approval

### Software Packages
- **9** = No software packages

### OEM Type
- **HH** = Standard

### Technology
- **S** = Standard

### Software Configuration
- **E** = Hirschmann Standard Configuration

### Software Version
- **S** = HiOS Layer 2 Standard
- **A** = HiOS Layer 2 Advanced

### Software Release
- **XX.X.** = Current Software Release

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