



# HIRSCHMANN

A BELDEN BRAND

## New Product Bulletin

### NP 1056HE

#### RSP-Smart from Hirschmann™

The functional scope of the new RSP-Smart from Hirschmann™ has been designed with one critical aspect in mind – maximum network availability. This Industrial Ethernet switch enables cost-effective solutions for smooth production processes – even in challenging environments such as transformer stations.



**Innovative Standardized Redundancy Methods Such as PRP (Parallel Redundancy Protocol) and HSR (High-Availability Seamless Redundancy), Which are Based on IEC 62439 and Offer a Switchover Time of Zero Seconds, Ensure Completely Uninterrupted Data Communication. In Addition, the RSP-Smart Offers Comprehensive Security Mechanisms as well as Precise Time Synchronization Compliant with IEEE 1588v2.**

- Uninterrupted data communication ensures high productivity of machines and systems
- Cost-effective solution for maximum availability
- Precise time synchronization allows applications to comply with stringent real-time requirements

Today's highly automated manufacturing processes would be unimaginable without bits and bytes. High-availability networks therefore play a central role in terms of productivity. With the introduction of the new RSP-Smart from Hirschmann™, an economical variant of the proven RSP family is now available that gives you all you need when it comes to performance. As well as withstanding electrostatic discharges, magnetic fields and strong vibrations, this robust managed Fast Ethernet switch enables uninterrupted data communication even in case of a fault or failure. In other words, it provides you with permanent access to machines and systems. Precise synchronization of controls and other automation components, as well as reliable protection against network attacks, round off the functional scope of the RSP-Smart.

#### Applications

The RSP-Smart can be used anywhere where maximum network availability is demanded – even under extreme environmental conditions.

This is because it enables uninterrupted data communication even in the event of a fault or failure.

In the electricity industry, for example, this switch guarantees a reliable power supply to customers, even in case of a serious lightning strike. And in tunnels where the RSP-Smart is installed, operators can be certain that smoke extraction systems will be reliably activated in the event of fire.

The RSP-Smart can be an important part of highly available and cost-effective solutions in many other application areas too, such as in mechanical engineering or hazardous environments.

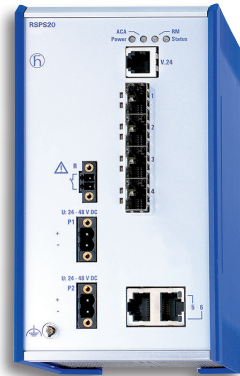
#### Your Benefits

The RSP-Smart offers you an affordable alternative to the proven RSP switches. Like its "big brother", the RSP-Smart offers innovative redundancy methods with zero switchover times, thus ensuring a maximum level of stability for your production processes. Extensive security mechanisms protect your network against attacks. Such attacks now also represent an increasing threat to data communication within the automation area. Last but not least, thanks to precise time synchronization, the RSP-Smart can likewise be used to reliably network applications with stringent real-time requirements.

**A new product to serve your needs. Be certain.**



## Hirschmann™ Industrial Ethernet-Switch RSP-Smart



The RSP-Smart features six Fast Ethernet ports designed for twisted-pair cables (100 BASE-TX), which can also be equipped with two/four SFP transceivers (100 BASE-FX). All ports support precise time synchronization compliant with IEEE 1588v2. Security mechanisms such as role-based access protect against unauthorized access. MRP (Media Redundancy Protocol) and RSTP (Rapid Spanning Tree) redundancy methods ensure high network availability. Switch versions also available provide support for the PRP (Parallel Redundancy Protocol) and HSR (High-Availability Seamless Redundancy) redundancy methods, ensuring zero switchover times. Power can be supplied via 24/36/48 V DC or alternatively via 110/250 V DC and 110/230 V AC. Other features of the RSP-Smart include IP30 protection rating, an extended operating temperature range from -40°C to +70°C, compact stainless steel housing and user-friendly configuration and diagnostics.

### Benefits at a Glance

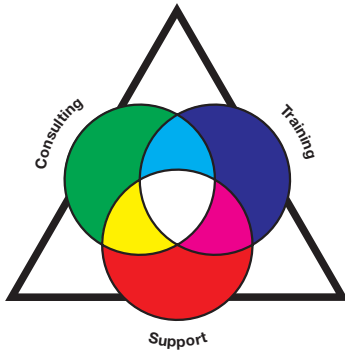
- High network availability based on PRP, HSR, MRP, RSTP redundancy methods
- Comprehensive security mechanisms: Role-based access, port security, SSHv2; HTTPS, SFTP
- Precise time synchronization compliant with IEEE 1588v2
- High level of vibration resistance
- Broad immunity to electrostatic discharges and magnetic fields
- Operating temperature range from -40°C to +70°C
- Compact stainless steel housing for DIN rail mounting
- Six Fast Ethernet ports for twisted pair cables (100 BASE-TX) or alternatively there are variants with two or four SFP bays for (100 BASE-FX) MM, SM, LH transceivers
- Power can be supplied via 24/36/48 V DC or 110/250 V DC and 110/230 V AC
- Configuration and diagnosis using HiDiscovery, Industrial HiVision or web interface
- Storage of all configuration data and upgrading of operating software via SD card
- Management via standard web browser and SNMP interface
- Standards and approvals:
  - Safety: EN 60950-1, cUL508
  - Substations: IEC 61850-3, IEEE 1613
  - Hazardous environment: ISA 12.12.01, CSA 22.2 No. 213 (hazLoc)
  - Transportation: NEMA TS2, EN 50121-4
- Perfectly adapted to the Industrial Ethernet switches of the RSP, RSR and MACH1000 families from Hirschmann™

The functional scope of the RSP-Smart can be customized conveniently by means of the online configurator.



## Technical Information

Product Description	
Type	RSPS20-xx RSPS25-xx
Description	Managed, Industrial Switch DIN Rail, fanless Design
Port Type and Quantity	Ports in total: 6 6 x 10/100 TX, or 4 x 10/100 TX/2 x FE SFP, or 2 x 10/100 TX/4 x FE SFP ports
More Interfaces	
V.24 Interface	1 x RJ11 socket
SD Card Slot	1 x to connect auto-configuration adapter ACA31 (SD-card)
Fast ETHERNET Network Size	
Twisted Pair (TP)	0 to 100 m
Multimode Fiber (MM)	50/125 $\mu$ m, 0 to 5000 m, 8 dB link budget 62.5/125 $\mu$ m, 0 to 4000 m, 11 dB link budget (with M-Fast SFP-MM/LC)
Singlemode Fiber (SM) 9/125 $\mu$ m	0 to 25 km, 13 dB link budget (with M-Fast SFP-SM/LC) 25 to 65 km, 10 to 29 dB link budget (with M-Fast SFP-SM+/LC)
Singlemode Fiber (LH) 9/125 $\mu$ m	40 to 104 km, 10 to 29 dB link budget (with M-Fast SFP-LH/LC)
Network Size – Cascadability	
Line-/Star Topology	any
Ring Structure	>200 switches
Fault Recovery Time	0 ms with PRP or HSR
Power Requirements	
Operating Voltage	24/36/48 V DC redundant, or 110/250 V DC and 110/230 V AC
Software	
Management	V.24, Telnet, SSHv2, HTTP, HTTPS, TFTP, SFTP, SNMP v1/v2/v3, Traps
Diagnostics	LED, persistent logging, syslog, signal contact, device status indication, port mirroring N:1, RMON (1,2,3,9), TCPDump, LLDP, SFP management (temperature, optical input and output power), switch dump, configuration check dialog, system information, self tests on cold start
Configuration	Command line interface (CLI), web based management, full featured MIB support, BOOTP/DHCP client with auto configuration, HiDiscovery, auto-configuration adapter ACA31 (SD card), Automatic configuration undo (roll-back), text based configuration file, CLI scripting
Security	MAC based port security, Restricted management access, Local user accounts, different privilege levels, management authentication via RADIUS, account locking, configurable password policy, audit trail, configurable login attempts, HTTPS certificate management, CLI/SNMP logging
Redundancy Functions	MRP, RSTP 802.1w
Enhanced Redundancy Functions	– PRP, HSR (pending)
Filter	QoS (4 classes), CoS queue management, interface trust mode, TOS/DSCP prioritization, port priority (IEEE802.1D/p), VLAN (IEEE802.1Q), IGMP snooping/querier per VLAN (v1/v2/v3), unknown multicast filtering, independent VLAN learning, static unicast/multicast address entries, fast aging
Time Synchronization	PTPv2 TC two-step, SNTP server and client, Buffered RTC (real time clock)
Flow Control	Flow control (IEEE 802.3X), egress interface shaping, ingress storm protection
Miscellaneous	Port power down, cable crossing, VLAN unaware mode, access to management restricted by VLAN
Ambient Conditions	
Operating Temperature	0°C to 60°C or -40°C to +70°C, IEC 60068-2-2 Dry Heat Test +85°C, 16 Hours, optional conformal coating
Relative Humidity (non-condensing)	10% to 95%
Mechanical Construction	
Dimensions (WxHxD)	90 (98) x 164 x 120 mm (EEC)
Weight	1.2 kg (1.5 kg EEC)
Protection Class	IP30
Approvals	
Safety of Industrial Control Equipment	EN 60950-1, cUL508 (pending)
Substation	IEC 61850-3, IEEE 1613
Hazardous Location	ISA 12.12.01, CSA 22.2 No. 213 (pending)
Transportation	NEMA TS2 (pending), EN 50121-4 (pending)



## The Belden® Competence Center

As the complexity of communication and connectivity solutions has increased, so have the requirements for design, implementation and maintenance of these solutions. For users, acquiring and verifying the latest expert knowledge play a decisive role in this. As a reliable partner for end-to-end solutions, Belden offers expert consulting, design, technical support, as well as technology and product training courses from a single source: Belden Competence Center. In addition, we offer you the right qualification for every area of expertise through the world's first certification program for industrial networks. Up-to-date manufacturer's expertise, an international service network and access to external specialists guarantee you the best possible support for products from Belden®, Hirschmann™ and Lumberg Automation™. Irrespective of the technology you use, you can rely on our full support – from the implementation to the optimization of every aspect of daily operations.

### Always Stay Ahead with Belden

In a highly competitive environment, it is crucial to have reliable partners who are able to add value to your business. When it comes to signal transmissions, Belden is the number one solutions provider. We understand your business and want to know your specific challenges and targets to see how effective signal transmission solutions can push you ahead of the competition. By combining the strengths of our three leading brands, Belden®, Hirschmann™; and Lumberg Automation™, we are able to offer the solution you need. Today it may be a single cable, a switch or a connector, thus solving a specific issue; tomorrow it can be a complex range of integrated applications, systems and solutions.

We guarantee the superior performance of your mission-critical systems, even in the most demanding circumstances. If signal transmission is vital to your business, get in touch with the partner that delivers. Be certain. Belden.

Product Overview

