



## SPIDER III Standard und Premium Line Switches

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## Product Bulletin

# SPIDER III Premium Line Switches

## Robust, Customizable Unmanaged Fast/Gigabit Ethernet Switches

With many advanced features, these switches can reliably transmit data across long distances, while still remaining cost-effective. They also meet many required industry-specific standards to enable their use across many industries.



**Easy to install and customize** for specific applications through a USB port and easy-to-use, free software tool.



**Withstands extreme industrial conditions** due to a wide range of temperatures and a ruggedized metal case with an optional protective coating.



**Meets many required standards** for a variety of industrial markets, including process automation, transportation and marine applications.

### Key Features

- Flexible customization from 2 up to 26 ports
- Deploys in harsh environments, including temperature ranges from -40 °C to +70 °C
- Installs quickly through a plug-in terminal block – no tools needed
- USB port configuration interface for greater customization of functions, including support of jumbo frames and support of Quality of Service (QoS) to prioritize network traffic
- Suitable for use at the field level or in smaller networks, where switch management is not needed
- Saves energy and costs during low-traffic periods with the low power feature
- Enhanced network security by disabling unused ports
- Fulfills PROFINET Conformance Class A requirements to set up PROFINET networks
- Certified for multiple industry standards and approvals



The SPIDER III Premium Line is designed to offer cost-effective, unmanaged switches with a robust set of customizable features to meet individual network needs across a variety of industries.

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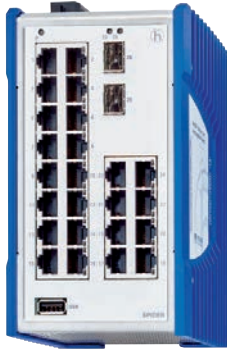
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### Your Benefits

#### Configure to Your Needs

The Hirschmann SPIDER III Premium Line allows you to quickly and easily configure basic switching parameters through the device's USB interface and the Switch Programming Tool software – available for both Windows and Linux operating systems.

As an unmanaged switch, the SPIDER III Premium's plug-and-play nature makes installation easy and gets your networks up and running faster. For networks with unique needs, the switch can also be customized for any use case. Through the USB interface, you can also turn off unused ports to better secure the network and enable or disable the transmission of large data packets (jumbo frames) to increase network efficiency.



The Hirschmann SPIDER III Premium Line switches utilize a USB interface that allows you to customize the switching parameters for your application.

SPIDER III Premium Line switches not only offer the cost benefits that come with an unmanaged switch, but they also have the flexibility and ruggedness to support any industrial environment. With up to 26 available ports, you can select the port types that meet your application needs, including Fast Ethernet, Gigabit Ethernet and fiber optic ports. The ruggedized IP40 metal enclosure also protects the switches against harsh environments.

The switches are designed to regulate energy depending on network traffic through the Energy Efficient Ethernet standard. This low-power feature uses less energy when there is no data moving through the network, which ultimately saves you money.

#### Applications

These unmanaged switches meet many required industry-specific standards and are ideal for use in a variety of applications, such as:

- Harsh environments, particularly with temperature extremes
- Industries that require adherence to specific standards, certifications and approvals including:
  - Hazardous Locations: ISA-12.12.-01 and ATEX Class 2
  - Marine: Navy GL and DNV
  - Transportation: EN 50121-4
  - Road Vehicles: E1
- Markets in need of energy efficiency requirements

#### Markets

Process automation, transportation, marine, manufacturing, machine building, water and wastewater, automotive, solar power, traffic control systems.



### Technical Information

Product Description	
Type	SPIDER III Premium Line Switches
Description	Unmanaged, Industrial ETHERNET Rail Switch, fanless design, store and forward switching mode
Port Type and Quantity	Up to 24 x FE or 8 x GE TX Ports, 3 x FE FX Ports, 1 x GE FX Port
Interfaces	
Power Supply/Signaling Contact	1 x plug-in terminal block, 6-pin
USB Interface	1 x USB for configuration
Power Requirements	
Operating Voltage	12/24/48 V DC (9.6 to 32 V DC), 24 V AC, redundant
Current Consumption at 24 V DC	Max. 350 mA depending on the variant
Power Consumption	2.4 to 9.0 W depending on the variant
Service	
Diagnostics	LEDs (power, link status, data), alarm contact
Configurable Parameters	Global settings: power supply unit alarm, aging time, QoS 802.1p mapping, QoS DSCP mapping Port settings: flow control, port admin state, broadcast storm protection/threshold, multicast storm protection/threshold, QoS Trust Mode, port based priority, link alarm TX port settings: auto-negotiation, speed, duplex mode, auto-crossing, MDI state, energy efficient ethernet FX port settings: duplex mode
Ambient Conditions	
Operation Temperature	-40 °C to +70 °C
Storage/Transport Temperature	-40 °C to +85 °C
Relative Humidity (non-condensing)	10% to 95%
Protective Paint on PCB	Conformal coating
Mechanical Construction	
Dimensions (W x H x D)	39/49/56/60,5 x 135/164 x 117/121,5 mm (w/o terminal block) depending on the variant
Mounting	DIN Rail
Weight	400 g to 1140 g depending on the variant
Protection Class	IP40
Mechanical Stability	
IEC 60068-2-27 Shock	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 Vibration	3.5 mm, 5 Hz to 8.4 Hz, 10 cycles, 1 octave/min. 1g, 8.4 Hz to 150 Hz, 10 cycles, 1 octave/min.
EMC Interference Immunity	
EN 61000-4-2 Electrostatic Discharge (ESD)	4 kV contact discharge, 8 kV air discharge
EN 61000-4-3 Electromagnetic Field	10 V/m (80 to 1000 MHz)
EN 61000-4-4 Fast Transients (Burst)	2 kV power line, 4 kV data line
EN 61000-4-5 Surge Voltage	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line
EN 61000-4-6 Conducted Immunity	10 V (150 kHz to 80 MHz)
EMC Emitted Immunity	
FCC CFR47 Part 15	FCC CFR47 Part 15 Class A
EN 55022	EN 55022 Class A
Approvals	
Safety of Industrial Control Equipment	cUL 61010-1/61010-2-201
Hazardous Locations	ISA 12.12.01 Class 1 Div. 2, ATEX Class 2
Ship	Germanischer Lloyd, DNV
Railway	EN50121-4
Road Vehicles	E1

NOTE: These are the prominent technical specifications.





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## SPIDER III Premium Line Switch Configurations

**S P I D E R - P L - 2 0 - 2 4 T 1 9 9 9 9 9 T Z 9 H H H H**

### Design

**SPIDER PL-20** = Premium Line Fast Ethernet Ports

**SPIDER PL-40** = Premium Line Gigabit Ethernet Ports

### Number of Copper Ports

**01T1** = 1 x Twisted-Pair, RJ45

**04T1** = 4 x Twisted-Pair, RJ45

**05T1** = 5 x Twisted-Pair, RJ45

**06T1** = 6 x Twisted-Pair, RJ45

**07T1** = 7 x Twisted-Pair, RJ45

**08T1** = 8 x Twisted-Pair, RJ45

**16T1** = 16 x Twisted-Pair, RJ45

**24T1** = 24 x Twisted-Pair, RJ45

### Type 1 Fiber Port

**O6** = SFP Slot (100/1000 Mbit/s)

**Z6** = SFP Slot (100 Mbit/s)

**S2** = Singlemode, SC (100 Mbit/s)

**M2** = Multimode, SC (100 Mbit/s)

**M4** = Multimode, ST (100 Mbit/s)

**99** = Empty

### Type 2 Fiber Port

**O6** = SFP Slot (100/1000 Mbit/s)

**Z6** = SFP Slot (100 Mbit/s)

**S2** = Singlemode, SC (100 Mbit/s)

**M2** = Multimode, SC (100 Mbit/s)

**99** = Empty

### Type 3 Fiber Port

**Z6** = SFP Slot (100 Mbit/s)

**99** = Empty

### Temperature Range

**T** = -40 °C to +70 °C

**E** = -40 °C to +70 °C inclusive Conformal Coating

### Approvals

**Z9** = CE, FCC, EN 61131, EN 60950

**Y9** = CE, FCC, EN 61131, EN 60950, cUL61010

**WV** = CE, FCC, EN 61131, EN 60950, cUL61010, ISA1212, ATEX, GL, EN 50121-4, E1

**WW** = CE, FCC, EN 61131, EN 60950, cUL61010, ISA1212, ATEX, GL, EN 50121-4, E1, IEC 61850, IEEE 1613

### Customization

**HK** = Plug-in Terminal Block

**HH** = Standard

### Configuration

**HV** = Extended Voltage Range: 12/24/48 V DC, 24 V AC

**HH** = Standard Voltage Range: 12/24 V DC



PB00039AG

#### Hirschmann SPIDER III Standard Line Switches

The SPIDER III Standard Line switches utilize the latest Hirschmann technology to create a cost-effective way to take advantage of the Ethernet.



**The SPIDER III Standard Line unmanaged, entry-level, industrial Ethernet rail switches can transmit large volumes of data, resulting in uninterrupted and smooth communication. This next generation of switches offers increased performance and a simple way to network devices in a line or star topology.**

- **Maximum flexibility** – up to eight Fast Ethernet or Gigabit Ethernet ports and two ports can be fiber optic
- **Future proof** – designed for Gigabit speed, making it possible to transmit high volumes of data quickly
- **Compact design** – saves space in tight areas, such as cabinets

The SPIDER III Standard Line entry-level industrial Ethernet switches employ a plug-and-play principle that allows for easy installation without compromising quality or reliability. Users can connect multiple devices without the need for a complex configuration process. Due to the increasing amount of Ethernet-based field devices like sensors and actuators, there is a need for industrial Ethernet switches like SPIDER III Standard Line with a higher port count and data rates at the field level.

#### Applications

The SPIDER III Standard Line switches are suitable for both harsh environments and applications in which switch management is not necessary, making them the ideal choice for the manufacturing, machine building, solar power and traffic control system industries.

#### Your Benefits

SPIDER III Standard Line unmanaged switches provide a low-cost entry into industrial Ethernet technology. The devices are future-proof due to Gigabit speed, providing the ability to transmit large volumes of data quickly without disruptions. These switches take advantage of the latest technology from Hirschmann, resulting in increased performance while reducing costs. All switches have been specially designed for use in harsh environments and come with all the necessary certifications.

**A new product to  
serve your needs.  
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### SPIDER III Standard Line Switches from Hirschmann



The unmanaged entry-level industrial Ethernet rail switches have up to eight Fast Ethernet or Gigabit Ethernet ports. Two of the eight ports can be fiber optic. Due to the increasing amount of Ethernet-based field devices, there is a need for switches with a higher port count and data rates. Their smaller size makes installation simple and fast and a complex configuration is also not necessary.

#### Benefits at a Glance

- High mean time between failures (MTBF) guarantees reliable operation
- Low power consumption allows for the reduction of overall lifecycle costs
- Diagnosis through LEDs which indicate status of the power supply and port status
- Different port counts, media types (copper and fiber), and socket type (RJ45, DSC connector, ST connector, SFP) are available
- Full, future-proof Gigabit switches for applications with high data volumes
- 12/24 V DC power input
- Operating temperature range from 0 °C to +60 °C

The SPIDER III Standard Line switches are ideal for industries that need to transmit large volumes of data at high speed.





## Technical Information

Product Description	
Type	SPIDER-SL-40-08T1999999SZ9HHH
Description	Unmanaged Industrial ETHERNET Rail Switch, store and forward switching mode, 10/100/1000 Mbit/s Ethernet
Port Type and Quantity	8 x 10/100/1000BASE-T, TP cable, RJ45 sockets, auto-crossing, auto-negotiation, auto-polarity
Order No.	942 132-004
More Interfaces	
Power Supply/Signaling Contact	1 plug-in terminal block, 3-pin
USB Interface	n.a.
Network Size – Length of Cable	
Twisted Pair (TP)	0 to 100 m
Network Size – Cascadability	
Line-/Star Topology	Any
Power Requirements	
Operating Voltage	9.6 V DC to 32 V DC
Current Consumption at 24 V DC	Max. 200 mA
Power Consumption	Max. 4.8 W, 16.3 Btu (IT)/h
Service	
Diagnostics	LEDs (power, link status, data)
Redundancy	
Redundancy Functions	n.a.
Ambient Conditions	
Operation Temperature	0 °C to +60 °C
Storage/Transport Temperature	-40 °C to +70 °C
Relative Humidity (non-condensing)	10% to 95%
Protective Paint on PCB	n.a.
Mechanical Construction	
Dimensions (W x H x D)	38 x 102 x 79 mm (w/o terminal block)
Mounting	DIN Rail 35 mm
Weight	170 g
Protection Class	IP30
Mechanical Stability	
IEC 60068-2-27 Shock	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 Vibration	3.5 mm, 5 to 8.4 Hz, 10 cycles, 1 octave/min. 1 g, 8.4 to 150 Hz, 10 cycles, 1 octave/min.
EMC Interference Immunity	
EN 61000-4-2 Electrostatic Discharge (ESD)	4 kV contact discharge, 8 kV air discharge
EN 61000-4-3 Electromagnetic Field	10 V/m (80 to 1000 MHz)
EN 61000-4-4 Fast Transients (burst)	2 kV power line, 1 kV data line
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EN 61000-4-6 Conducted Immunity	10 V (150 kHz to 80 MHz)
EMC Emitted Immunity	
FCC CFR47 Part 15	FCC CFR47 Part 15 Class A
EN 55022	EN 55022 Class A
Approvals	
Safety of Industrial Control Equipment	cUL 61010-1/61010-2-201
Scope of Delivery and Accessories	
Scope of Delivery	Device, terminal block, safety instruction
Accessories to Order Separately	Rail power supply RPS 15, RPS 30, RPS 80 EEC or RPS 120 EEC

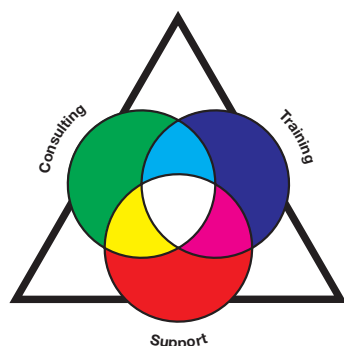
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### Belden Competence Center

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, GarrettCom, Hirschmann, Lumberg Automation and Tofino Security.

Irrespective of the technology you use, you can rely on our full support – from implementation to optimization of every aspect of daily operations.