

RSP Managed Industrial Ethernet Switch with Fanless Design



Fast and Gigabit Ethernet Networks

The new RSP family of switches with robust hardware and a powerful operating system, are able to withstand extremely harsh environmental conditions. For the first time, the integration of new redundancy protocols allows uninterrupted data communication. These new techniques, PRP (Parallel Redundancy Protocol) and HSR (High-availability Seamless Redundancy), are based on the international IEC 62439 standard and therefore guarantee future security and interoperability. Precision time synchronization in accordance with IEEE 1588v2, synchronizes sensors, drives, and measuring equipment. Gigabit Ethernet provides for a fast connection to the backbone, while connections to terminal equipment use 100Base-TX – either alone or in combination with 100Base-FX.



Technical Information

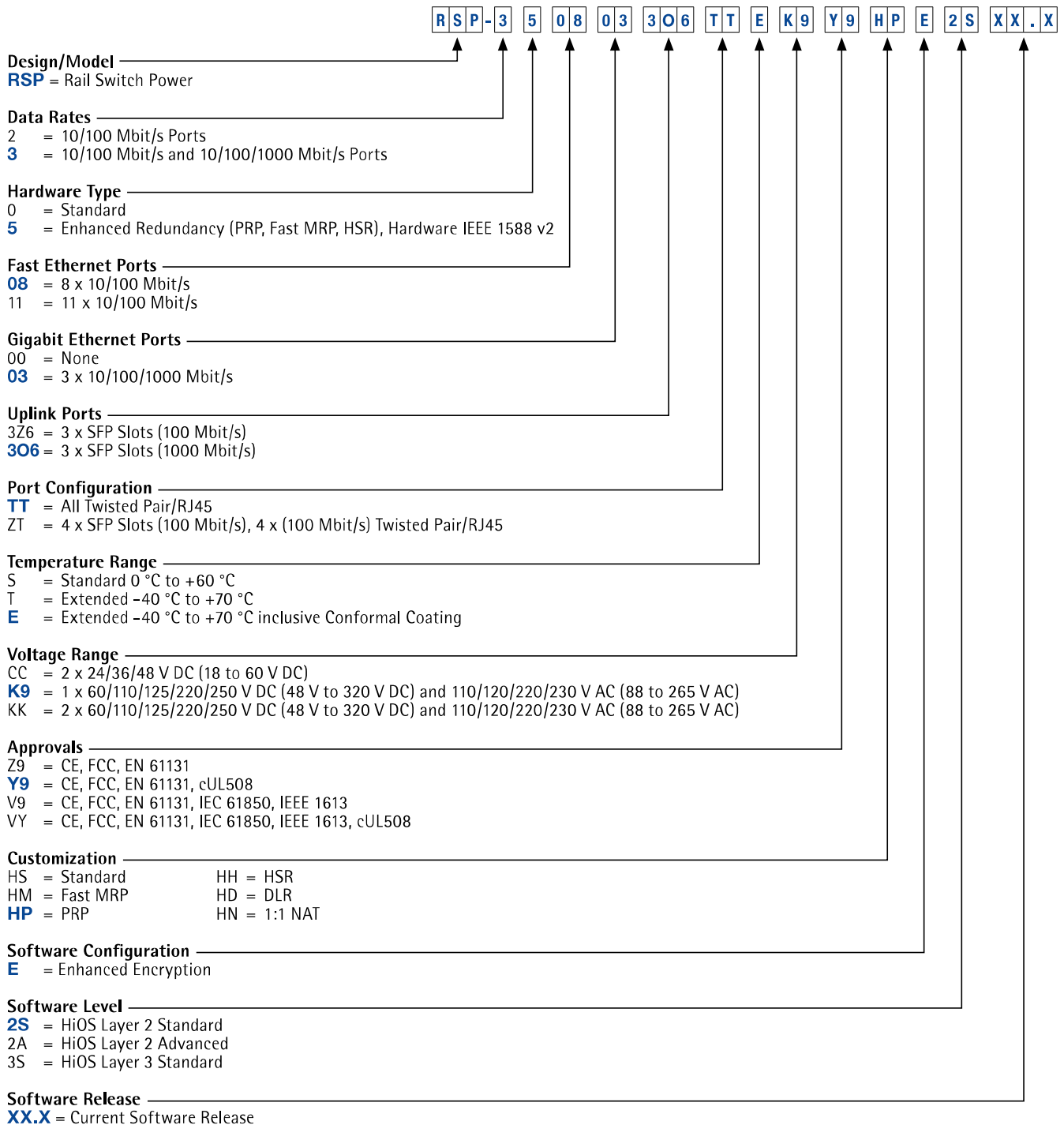
Product Description		
Type	RSP Series Standard Temperature	RSP Series Extended Temperature
Available Ports	11	
Enhanced Redundancy Functions	Fast MRP, HSR, PRP, DLR (variant dependent)	
Construction		
Mounting	DIN Rail	
Protection Class	IP30	
Dimensions (WxHxD)	90 x 164 x 120 mm	98 x 164 x 120 mm
Weight	1.2 kg	1.5 kg
Ambient Conditions		
Operating Temperature	0 °C to +60 °C, -40 °C to +70 °C, or -40 °C to +70 °C (inclusive Conformal Coating), IEC 60068-2-2 Dry Heat Test +85°C 16 Hours	
Storage/Transport Temperature	-40 °C to +85 °C	
Relative Humidity (non-condensing)	10% to 95%	
Conformal Coating	Yes (variant dependent)	
Interfaces		
V.24 Interface	1 x RJ11 socket	
USB Interface	1 x to connect auto-configuration adapter ACA31 (SD-card)	
Software		
Supported HiOS Software Levels	Layer 2 Standard (L2S), Layer 2 Advanced (L2A), Layer 3 Standard (L3S)	
Power Requirements		
Operating Voltage	24 - 48 V DC redundant, or 60 - 250 V DC and 110 - 230 V AC	
PoE (802.3af) Ports Supported	n/a	
PoE Plus (802.3at) Ports Supported	n/a	
Regulatory Approvals		
Safety of Industrial Control Equipment	cUL508	
Hazardous Locations	IECEx, ISA12.12.01 Class 1 Div. 2 Group A, B, C, D, ATEX 100a Zone 2	
Ship	Germanischer Lloyd GL (pending)	
Transportation	NEMA TS2	
Railway (norm)	EN 50121-4	
Substation	IEC 61850-3, IEEE 1613	
Reliability		
MTBF Range	www.hirschmann.com	
Warranty	5 years standard	

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com/hirschmann



RSP Series Managed Industrial DIN Rail Switch Configurations

Fast and Gigabit Ethernet Networks



NOTE: The part number categories (**Configuration** and **Software Release**) are optional.

RSPS-Smart Managed Industrial DIN Rail Switch with Fanless Design



Fast and Gigabit Ethernet Networks

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.



Technical Information

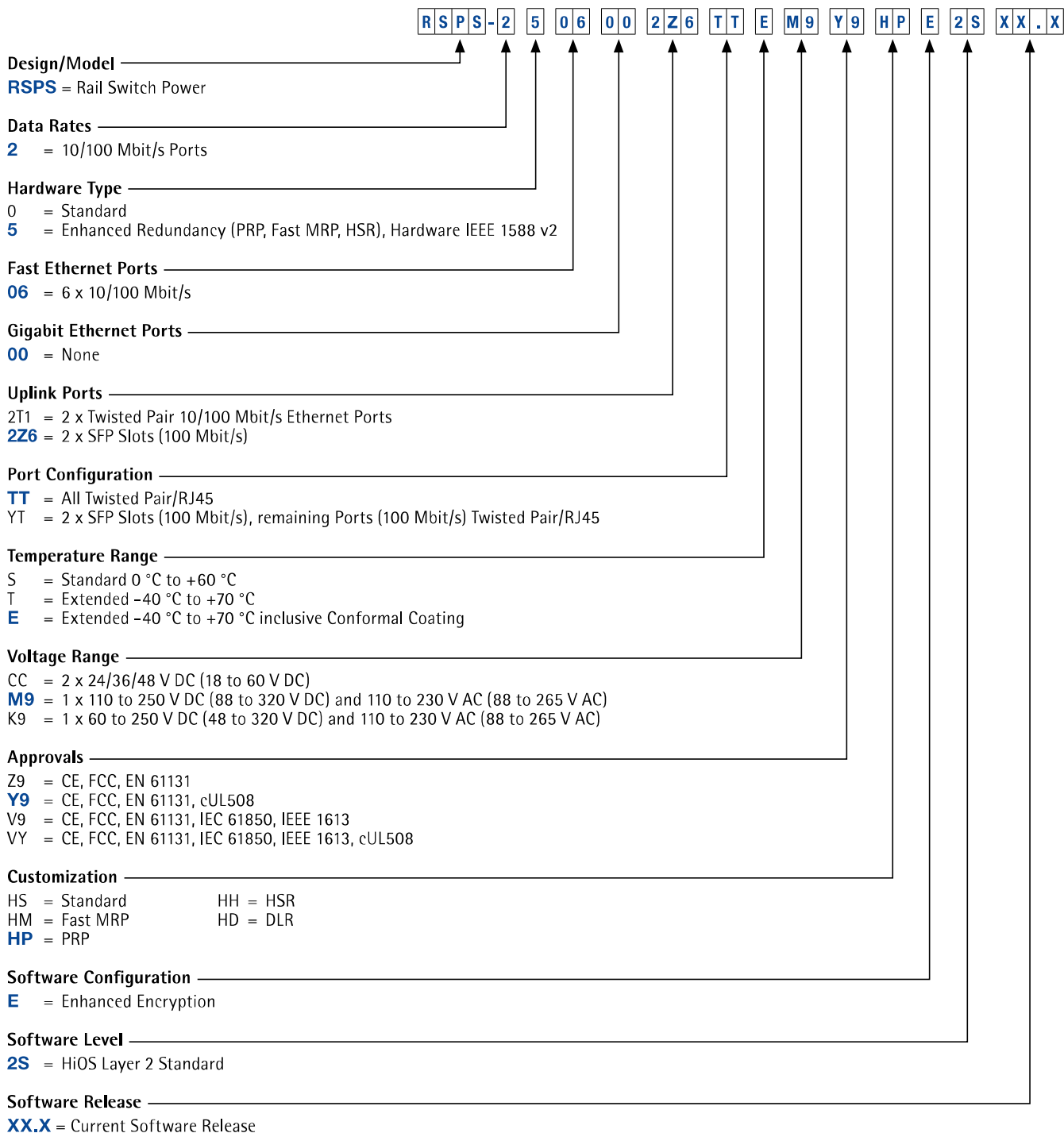
Product Description	
Type	RSPS20-xx Series
Available Ports	Ports in total: 6; 6 x 10/100 TX, or 4 x 10/100 TX/2 x FE SFP, or 2 x 10/100 TX/4 x FE SFP Ports
Enhanced Redundancy Functions	–
Construction	
Mounting	DIN Rail
Protection Class	IP30
Dimensions (WxHxD)	90 x 164 x 120 mm
Weight	1,2 kg
Ambient 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
Storage/Transport Temperature	-40 °C to +85 °C
Relative Humidity (non-condensing)	10% to 95%
Conformal Coating	Yes (variant dependent)
Interfaces	
V,24 Interface	1 x RJ11 socket
SD Interface	1 x to connect auto-configuration adapter ACA31 (SD-card)
Software	
Supported HiOS Software Levels	Layer 2 Standard (L2S)
Power Requirements	
Operating Voltage	24 to 48 V DC redundant, or 60 to 250 V DC and 110 to 230 V AC
PoE (802.3af) Ports Supported	n/a
PoE Plus (802.3at) Ports Supported	n/a
Regulatory Approvals	
Safety	EN 60950-1, cUL508
Hazardous Locations	n/a
Ship	n/a
Transportation	NEMA TS2
Railway (norm)	EN 50121-4
Substation	IEC 61850-3, IEEE 1613
Reliability	
MTBF Range	www.hirschmann.com
Warranty	5 years standard

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RSPS-Smart Managed Industrial DIN Rail Switch Configurations

Fast Ethernet Networks



NOTE: The part number categories (**Configuration** and **Software Release**) are optional.

RSPL-Lite Managed Industrial Ethernet Switch with Fanless Design



Fast and Gigabit Ethernet Networks

RSPL-Lite switches from Hirschmann offer eight Fast Ethernet ports and optionally, 2 Gigabit Combo Ports. The FE ports can be configured either with two SFP slots and six 100 BASE-TX or a combination of four SFP transceivers and four TX ports. The RSPL-Lite switches offer all-round carefree package for the highest level of security while insuring increased productivity and profitability. The switches feature comprehensive security functions like MAC-based port security, Authentication (IEEE 802.1x), different privilege levels, management authentication via RADIUS, account locking, configurable password policy, audit trail, configurable login attempts, HTTPS certificate management, DoS prevention to provide all-round protection against network attacks.



Technical Information

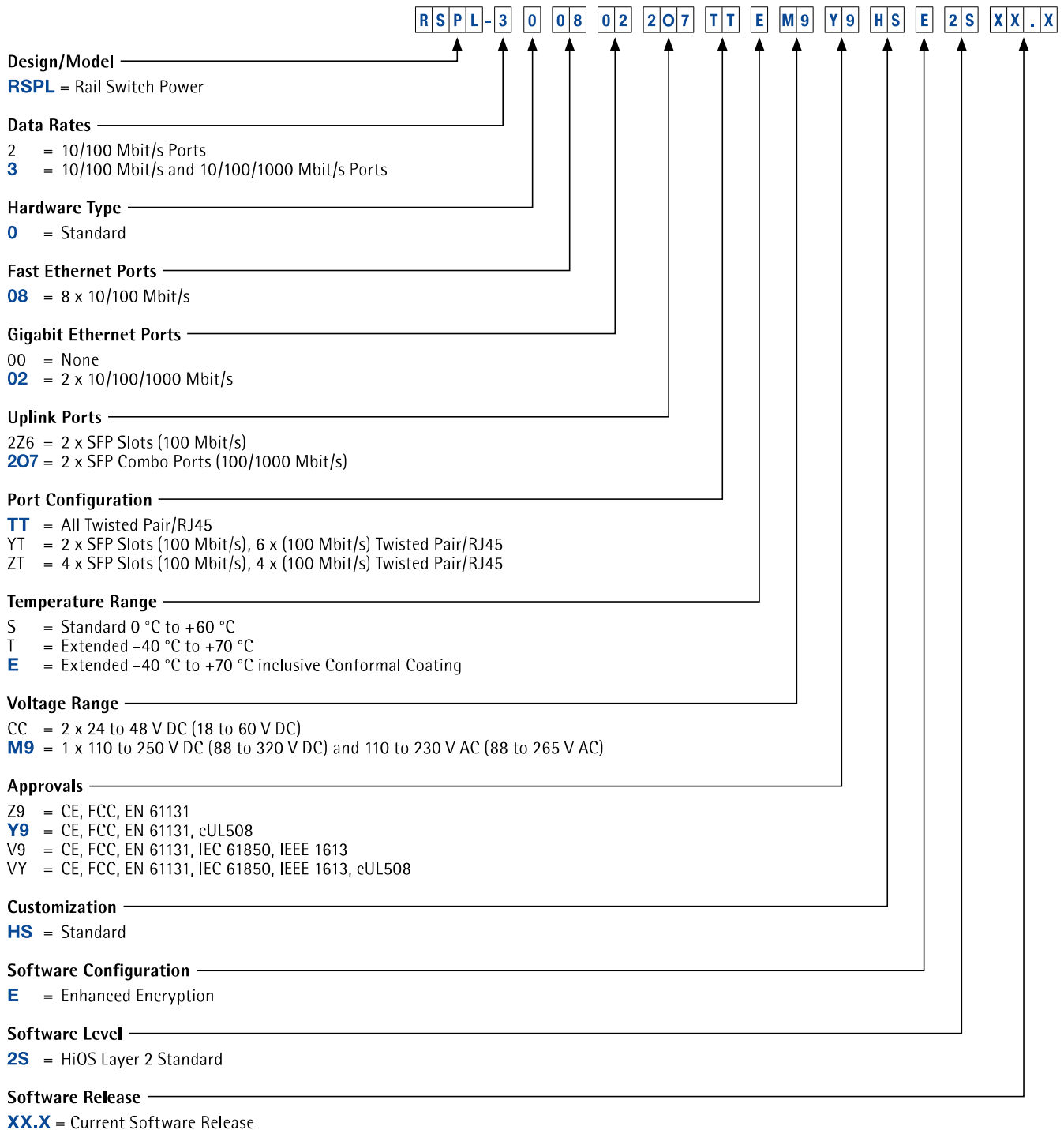
Product Description		
Type	RSPL20-xx Series	RSPL30-xx Series
Available Ports	Ports in total: 8; 4 x 10/100 TX/4 x FE SFP, or 6 x 10/100 TX/2 x FE SFP ports	Ports in total: 10; 2 x GE Combo ports and 4 x 10/100 TX/4 x FE SFP, or 2 x GE Combo ports and 6 x 10/100 TX/2 x FE SFP ports
Construction		
Mounting	DIN Rail	
Protection Class	IP30	
Dimensions (WxHxD)	90 x 164 x 120 mm	118 x 164 x 120 mm
Weight	1.0 kg	1.2 kg
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	
Storage/Transport Temperature	-40 °C to +85 °C	
Relative Humidity (non-condensing)	10% to 95%	
Conformal Coating	Yes (variant dependent)	
Interfaces		
V.24 Interface	1 x RJ11 socket	
SD Interface	1 x to connect auto-configuration adapter ACA31 (SD-card)	
Software		
Supported HiOS Software Levels	Layer 2 Standard (L2S)	
Power Requirements		
Operating Voltage	24 to 48 V DC redundant, or 110 to 250 V DC and 110 to 230 V AC	
PoE (802.3af) Ports Supported	n/a	
PoE Plus (802.3at) Ports Supported	n/a	
Regulatory Approvals		
Safety	EN 60950-1, cUL508	
Hazardous Locations	n/a	
Ship	n/a	
Transportation	NEMA TS2	
Railway (norm)	EN 50121-4	
Substation	IEC 61850-3, IEEE 1613	
Reliability		
MTBF Range	www.hirschmann.com	
Warranty	5 years standard	

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com/hirschmann



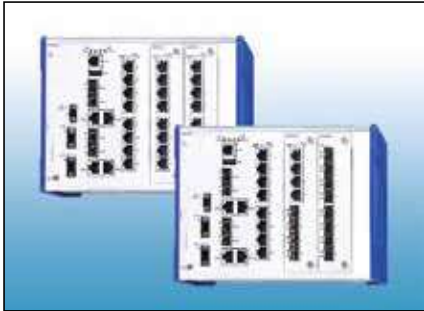
RSPL-Lite Managed Industrial Ethernet Switch Configurations

Fast and Gigabit Ethernet Networks



NOTE: The part number categories (**Configuration** and **Software Release**) are optional.

RSPE – Expandable Managed Industrial DIN Rail Switch with Fanless Design



Fast and Gigabit Ethernet Networks

The compact and extremely robust RSPE switches comprise a basic device with eight twisted pair ports and four combination ports that support Fast Ethernet or Gigabit Ethernet. The basic device – optionally available with the HSR (High-availability Seamless Redundancy) and PRP (Parallel Redundancy Protocol) uninterruptible redundancy protocols, plus precise time synchronization in accordance with IEEE 1588 v2 – can be extended to provide up to 28 ports by adding two media modules. Different combinations of copper or fiber ports (plus PoE/PoE+) can be selected depending on the module type.

The RSPE switches also provide comprehensive management, diagnostic and filtering features, as well as numerous redundancy methods, bringing all-around security to your network. The Layer 3 version offers full wired speed IPv4 routing with lowest latency.

Further features include an extended operating temperature range from -40 °C to +70 °C, high vibration resistance and broad immunity to electrostatic discharges.






Technical Information

Product Description	
Type	RSPE30-xx, RSPE32-xx RSPE35-xx, RSPE37-xx
Description	Modular Managed Industrial Switch DIN Rail, fanless design
Port Type and Quantity	Ports in total up to 28, Basic unit: 4 x FE/GE Combo ports plus 8 FE TX ports, expandable with two slots for media modules with 8 FE ports each
Number of Fiber Ports	16 fiber ports: 4 GE/FE basic unit plus 12 FE with media modules
Power over Ethernet (PoE)	PoE, PoE+ option with up to 24 Ports and 120 Watts
Construction	
Mounting	DIN Rail
Protection Class	IP30
Dimensions (WxHxD)	209 (217) x 164 x 120 mm (EEC)
Weight	2.2 kg; 2.5 kg EEC, plus media modules
Power Requirements	
Operating Voltage	24 to 48 V DC redundant, or 60 to 250 V DC and 110 to 230 V AC optional redundant, PoE/PoE+ with 48/54 V DC
Power Consumption	maximum 34 W plus PoE maximum 36 W plus PoE
Interfaces	
V.24 Interface	1 x RJ11 socket
USB and SD Card Slot	1 x to connect auto-configuration adapter ACA22 (USB) or ACA31 (SD-card)
Software	
Supported HiOS Software Levels	Layer 2 Standard (L2S), Layer 2 Advanced (L2A) or Layer 3 Standard (L3S)

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com/hirschmann



Technical Information

Product Description Media Modules for RSPE			
Type	RSPM20-4Z64Z6xx	RSPM20-4T14Z6xx RSPM22-4T14Z6xx (PoE type)	RSPM20-4T14T1xx RSPM22-4T14T1xx (PoE type)
			
Port Type and Quantity	8 FE SFP slots	4 FE SFP slots / 4 FE TX ports (PoE option)	8 FE TX ports (PoE option)
Weight	290 g	220 g	130 g

Common Technical Data Basic Units and Media Modules	
Type	RSPE30, RSPE32, RSPE35, RSPE37, RSPM20, RSPM22
Gigabit ETHERNET Network Size	
Twisted Pair (TP)	0 to 100 m
Multimode Fiber (MM) 50/125 µm	0 to 550 m, 7.5 dB link budget; 62.5/125 µm 0 to 275 m, 7.5 dB link budget (with M-SFP-SX/LC)
Singlemode Fiber (SM) 9/125 µm	0 to 20 km, 11 dB link budget (with M-SFP-LX/LC); 14 to 42 km, 5 to 20 dB link budget (with M-SFP-LX+/LC)
Singlemode Fiber (LH) 9/125 µm	23 to 80 km, 5 to 22 dB link budget (with M-SFP-LH/LC); 71 to 128 km, 15 to 30 dB link budget (with M-SFP-LH+/LC)
Fast ETHERNET Network Size	
Twisted Pair (TP)	0 to 100 m
Multimode Fiber (MM) 50/125 µm	0 to 5000 m, 8 dB link budget; 62.5/125 µm, 0 to 4000 m, 11 dB link budget (with M-Fast SFP-MM/LC)
Singlemode Fiber (SM) 9/125 µm	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 µm	47 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 MRP
Fault Recovery Time	0ms with PRP or HSR
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
Storage/Transport Temperature	-40 °C to +85 °C
Relative Humidity (non-condensing)	5% to 95%
Approvals Configurable	
Safety of Industrial Control Equipment	EN 60950-1, EN 61131-2, UL61010-1/-2-201
Substation	IEC 61850-3, IEEE 1613
Ship	GL – Germanischer Lloyd (pending)
Hazardous Locations	IECEX, ISA12.12.01 Class 1 Div. 2 Group A, B, C, D, ATEX 100a Zone 2
Transportation	NEMA TS2, EN 50121-4
Scope of Delivery and Accessories	
Device Replacement and Logging	ACA31 (SD card) 942 074-001, ACA22-USB EEC 942 124-001
Empty Module Slot Cover	RSPM-cover: Order No. 942 131-001
Reliability	
Warranty	5 years (standard)

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com/hirschmann

RSPE Switch Configurations

RSPE35-2404407T99-TK9VT99HHPE2A.XX.X

Design

- RSPE30 = Standard Version
- RSPE32 = Standard Version with PoE(+) Capability
- RSPE35** = Standard Version with Enhanced Redundancy HSR, PRP, Fast MRP
- RSPE37 = Standard Version with Enhanced Redundancy HSR, PRP, Fast MRP and PoE(+)

Number of Fast Ethernet Ports

24 = 24 x 10/100 Mbit/s

Number of Gigabit Ethernet Ports

04 = 04 x 10/100/1000 Mbit/s

Uplink Ports

407 = 04 x Combo Ports (10/100/1000 Mbit/s)

Port Configuration

T99 = 04 x Combo Ports (10/100/1000 Mbit/s)

Temperature Range

- S** = 0 °C to +60 °C
- T** = -40 °C to +70 °C
- E** = -40 °C to +70 °C inclusive Conformal Coating

Power Supply

- CC** = 02 x 24 to 60 V DC
- K9** = 01 x 60 to 250 V DC and 110 to 230 V AC
- KK** = 02 x 60 to 250 V DC and 110 to 230 V AC
- KK** = 2 x 60/110/125/220/250 V DC (48 V to 320 V DC) and 110/120/220/230 V AC (88 to 265 V AC)
- PP** = 02 x 47 to 57 V DC (PoE) or 53 to 57 V DC (PoE+)

Approvals

- | | |
|---|--|
| Z9 = CE, FCC, EU Safety | Y9 = CE, FCC, EU Safety, US Safety |
| X9 = CE, FCC, EU Safety, US Safety, Hazardous Locations | V9 = CE, FCC, EU Safety, Substation |
| VY = CE, FCC, EU Safety, US Safety, Substation | U9 = CE, FCC, EU Safety, Marine |
| VU = CE, FCC, EU Safety, US Safety, Substation, Marine | T9 = CE, FCC, EU Safety, Transportation |
| VT = CE, FCC, EU Safety, US Safety, Substation, Transportation | TY = CE, FCC, EU Safety, US Safety, Transportation |
| UY = CE, FCC, EU Safety, US Safety, Marine | |
| UT = CE, FCC, EU Safety, US Safety, Marine, Transportation | |

Software Packages

99 = Reserved NA = 1:1 NAT

OEM Type

HH = Standard

Hardware Configuration

S = Standard **M** = Fast MRP **P** = PRP **H** = HSR **D** = DLR

Software Configuration

E = Hirschmann Standard Configuration

Software Version

2S = HiOS Layer 2 Standard **2A** = HiOS Layer 2 Advanced **3S** = HiOS Layer 3 Standard

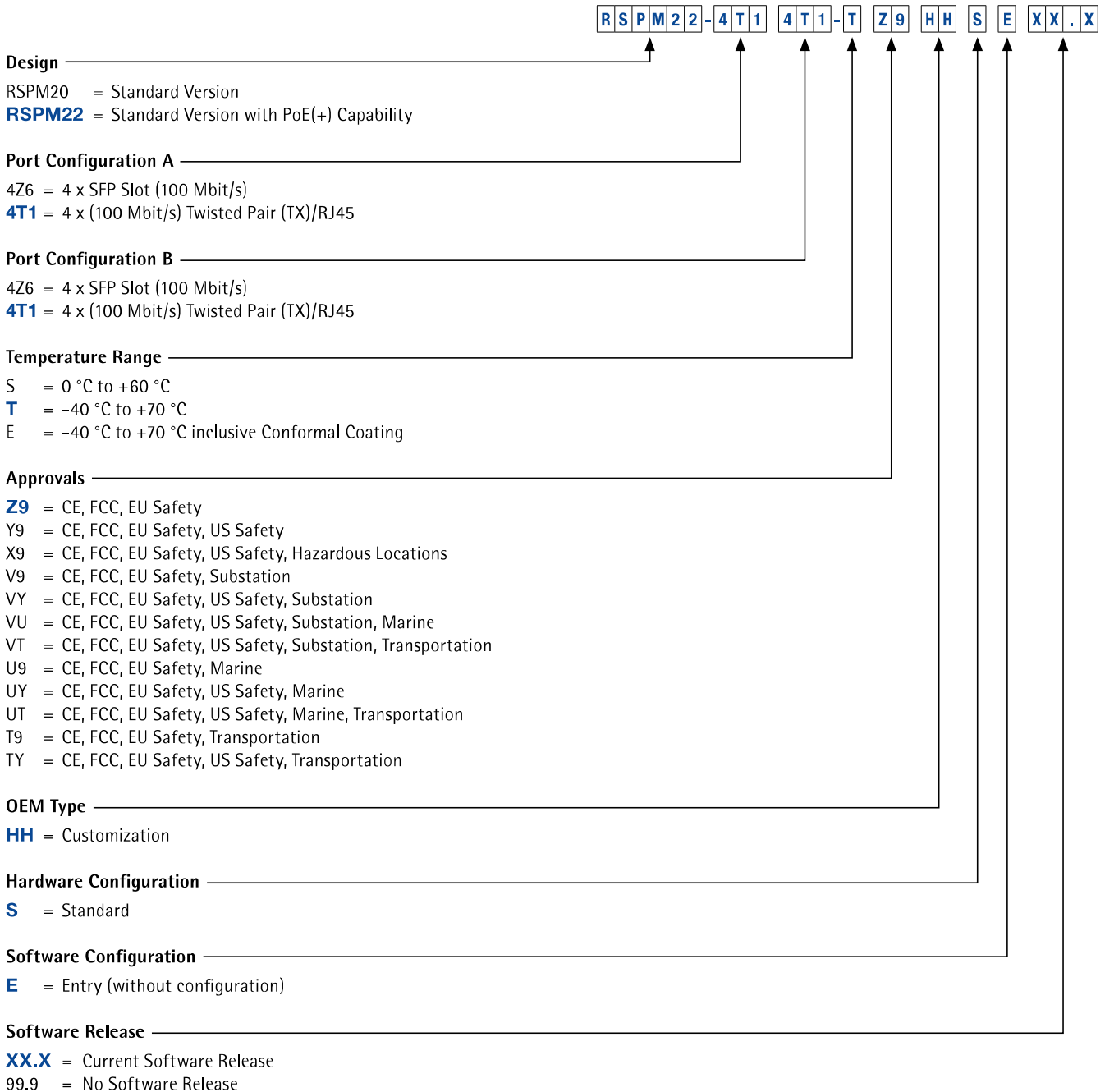
Software Release

XX.X. = Current Software Release

NOTE: The last four categories (OEM type, configurations, software version and software release) are optional.



RSPM Media Module Configurations



NOTE: The last four categories (**OEM type**, **hardware configuration**, **software configuration** and **software release**) are optional.