SPE Media Switch

Conversion from 100 Mbit RTE to 10 Mbit SPE

- Integration in PROFINET and EtherNet/IP (configured or transparent) or Open Modbus/TCP (transparent)
- Integrated rate limiter defines data prioritization
- 10BASE-T1L SPE for cable length up to 1.000 m
- Supporting connector formats IEC 63171-2 and IEC 63171-6
- Slim design for narrow applications

PROFINET EtherNet/IP Modbus SPE INDUSTRIAL PARTNER NETWORK Single Pair Ethernet System Alliance

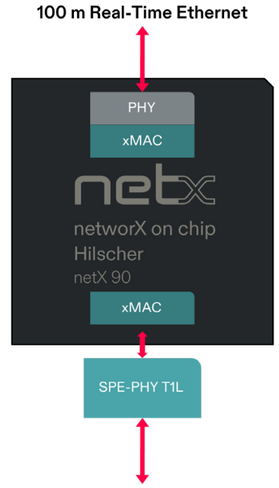
Available formats

	NS 90-RE-SPE\2I20	NS 90-RE-SPE\6I20
Dimensions (L x W x H)	94 × 25 × 86 mm	94 × 25 × 86 mm
Mounting	DIN 60715 rail	DIN 60715 rail
RTE Port	1x RJ45, 100 Mbit	1x RJ45, 100 Mbit
SPE Port	1x IEC 63171-2, 10 Mbit	1x IEC 63171-6, 10 Mbit

→ SPE Media Switch
Sales Hotline: +49 (0)6190 9907-90
www.hilscher.com

SPE Media Switch

Integration of remote sensors in sizable facilities



SPE Media Switch setup

netX 90

» Core of the SPE Media Switch is Hilschers latest multiprotocol SoC, the netX 90
» netX 90 is security ready: Build in security functions for secure connectivty
» Energy-efficient SoC with lowest power consumption

SPE PHY

» Low power, single port SPE PHY
» Supporting Ethernet standard 10BASE-T1L

SPE connectors

» Compact SPE connectors supporting various industry standards for SPE

SPE Media Switch operation

Operating modes

» Transparent mode: Simple plug and play solution. The SPE Media Swich passes data transparent in the network.
» Configured mode: The SPE Media Switch is visible and recognized by the network master and receives dedicated frames. By loading the PROFINET or EtherNet/IP device description file into the configuration tool of the PLC, the SPE Media Switch is imported to the project.

IP address allocation

» IP address is assigned by DHCP for EtherNet/IP and Open Modbus/TCP as well as by DCP service for PROFINET
» Configured mode: A fixed IP address can be given via the controller (e.g. TIA Portal)

Firmware Update

» An integrated webserver provides the option for firmware updates

Rate limiter

» Significant bandwidth reduction from 100 Mbit RTE to 10 Mbit SPE can lead to uncontrolled data loss at high data load
» The rate limiter avoids uncontrolled data loss providing reliable data consistency and network stability by frame prioritization
» Ensures highest data quality with predefined fixed settings

Rate limiter operation

» PROFINET and EtherNet/IP prioritization by frame type
» Flow meter for bandwidth allocation acc. priority
» RTE telegrams get minimum 5 Mbit SPE bandwidth reserved
» Multicast and broadcast limitation

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Protocol Highlights

PROFINET
» IO Device
» Rate limiter
» IP based communication*
» IP address assignment by DCP
» FW update by web interface

EtherNet/IP
» Explicit Messaging Server
» Rate limiter
» Address Conflict Detection
» Link Layer Discovery Protocol (LLDP)
» IP based communication*
» IP address assignment by DHCP
» FW update by web interface

Modbus
» Server
» IP based communication*
» IP address assignment by DHCP
» FW update by web interface

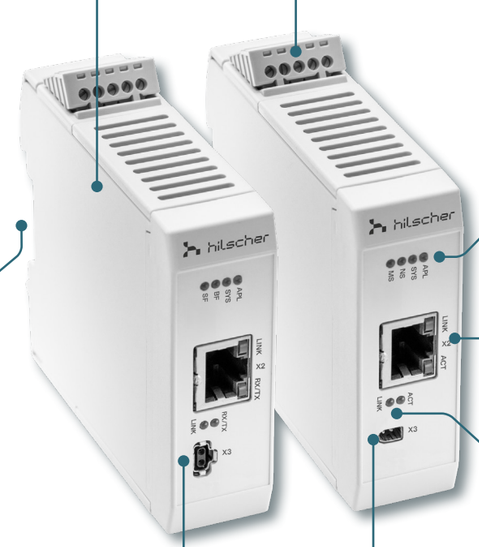
*IP communication supports TCP and UDP

Housing

→ Slim and compact housing
→ Suitable for narrow applications

Power supply

→ Pin 1: 24 V supply
→ Pin 2: 0 V
→ Pin 3: Ground



Mounting

→ Easy and fast installation on a DIN 60715 rail

Status LEDs

→ COM0, COM1 RTE network
→ System status

Industrial Ethernet LEDs

→ Link
→ Activity

SPE LEDs

→ Link
→ Activity

Single Pair Ethernet

→ Slim connector
→ 1x IEC 63171-6
→ IP20, rectangular, robust mechanical locking

Single Pair Ethernet

→ Slim connector
→ 1x IEC 63171-2
→ IP 20, rectangular, sturdy metal latch

empowering communication

Product Information

Technical Data

	NS 90-RE-SPE\2I20	NS 90-RE-SPE\6I20
Dimensions (LxWxH)	94 × 25 × 86 mm	94 × 25 × 86 mm
Weight	76 g	76 g
Operating voltage	18,3 ... 30 VDC	18,3 ... 30 VDC
Max. power consumption	792 mW	792 mW
Operating temperature	-25 ... +75 °C	-25 ... +75 °C
Storage temperature	-40 ... +85 °C	-40 ... +85 °C
Relative humidity (non-condensing)	10 ... 95 %	10 ... 95 %
Ports	1x RJ45, 100 Mbit 1x IEC 63171-2, 10 Mbit	1x RJ45, 100 Mbit 1x IEC 63171-6, 10 Mbit
IP class	IP20	IP20
CE	✓	✓
UKCA	✓	✓
RoHS	✓	✓

Product name	Brief description	Part number	Plug type
NS 90-RE-SPE\2I20/EIS	SPE Media Switch for IP communication and EtherNet/IP Explicit Messaging Server	1794.831	IEC 63171-2
NS 90-RE-SPE\2I20/PNS	SPE Media Switch for IP communication and PROFINET IO Device	1794.851	IEC 63171-2
NS 90-RE-SPE\2I20/OMB	SPE Media Switch for IP communication and Open Modbus/TCP Server	1794.861	IEC 63171-2
NS 90-RE-SPE\6I20/EIS	SPE Media Switch for IP communication and EtherNet/IP Explicit Messaging Server	1794.830	IEC 63171-6
NS 90-RE-SPE\6I20/PNS	SPE Media Switch for IP communication and PROFINET IO Device	1794.850	IEC 63171-6
NS 90-RE-SPE\6I20/OMB	SPE Media Switch for IP communication and Open Modbus/TCP Server	1794.860	IEC 63171-6

Note: All technical data may be changed without further notice.