

A detailed view of a Siemens SCALANCE X-500 network switch. The device is a rack-mountable industrial Ethernet switch with a grey metal chassis. The front panel is partially open, revealing a green printed circuit board (PCB) populated with several integrated circuits and components. On the left side of the front panel, there are four RJ45 ports. On the right side, there are two SFP (Small Form-factor Pluggable) ports labeled '1' and '2'. The top of the chassis has several ventilation holes. The overall design is robust and industrial-grade.

SIEMENS

Automation meets IT

SCALANCE X-500 – central interface
between Industrial Ethernet and IT networks

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SCALANCE X-500 – maximum efficiency and flexibility

Automation meets IT

The availability of large networks and reliable data communication provide the basis for dependable, productive automation plants. In this context, data transfer between the enterprise and automation network continues to gain in importance. At the same time, greater connection densities, high transmission rates and extremely large routing configurations are in demand.

Not to be forgotten: The transition from the automation to the IT environment is a very sensitive area in every system and this demands secure and reliable data transfer. This means that powerful Industrial Ethernet switches such as SCALANCE X-500 are indispensable.

Greater availability thanks to intelligent structuring

The SCALANCE X-500 Industrial Ethernet switches allow structuring of large automation networks that can, for example, be divided up into smaller subnets with their own IP address spaces. This significantly increases the availability of the entire network because data can be transferred reliably via redundant structures (for example, layer 3 switching).

With a transmission rate of up to 10 Gbps on the backbone, SCALANCE X-500 now allows the establishment of complete and totally integrated networking from the field level to the management level.



SCALANCE X-500 – powerful and highly available

Flexible and powerful

- Full modularity thanks to a variety of plug-in media modules for network expansions, retrofitting or conversions, for example, when large numbers of end devices are involved
- Increased transmission rate (up to 10 gigabit)
- Large-scale configuration limits for high routing performance
- Replacement of the media module during operation
- Use of Power-over-Ethernet
- Simple expansion from layer 2 to layer 3 with KEY PLUG without hardware replacement
- Future-proof thanks to IPv6 support
- Simple device replacement with C-PLUG plug-in exchangeable medium
- Avoidance of downtimes thanks to media modules that can be replaced during operation (hot swappable)

Totally integrated communication and diagnostics

- Seamless interfacing of the control level, operations level and management level to IT network structures
- Redundancy concepts, for example
 - Redundant power supply
 - Redundant network structures
- End-to-end diagnostics thanks to Totally Integrated Automation (STEP 7, PN IO diagnostics etc.)
- Very fast reconfiguration of the network if faults occur



SFP and SFP+ transceiver

SFP and SFP+ transceivers (Small Form-Factor Pluggable) are connectors for extremely fast data transfer (up to 10 Gbps). They can be used with the SFP media module MM992-4SFP and in the integrated SFP+ slots of the SCALANCE X-500 switches. The transceivers have an optical LC port (multi-mode or single-mode) and they can be used for different distances.

10 Gbps SFP+ transceiver

- from 300 m up to 40 km

1 Gbps SFP transceiver

- from 750 m up to 200 km

100 Mbps SFP transceiver

- from 5 km up to 70 km

Advantages at a glance

- Extremely fast data transmission (up to 10 Gbps)
- Simple switchover to other data rates
- Fast replacement of transceivers if a fault occurs
- Port-by-port networking options

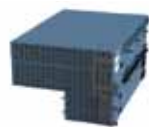
Power supply

The 24 V power supply is designed for installation in 19" cabinets but can also be mounted directly on the SCALANCE X-500 switches.

SCALANCE XR552-12M with power supply PS598-1



with single power supply unit, mounted below device



with redundant power supply mounted below device



with single power supply unit, mounted behind device



with redundant power supply mounted behind device

Advantages at a glance

- Flexible installation options depending on space available
- High availability of the network thanks to redundant power supply
- Worldwide use due to wide-range input (85 to 264 V AC)

Media modules

The 4-port media modules allow flexible configuration of the SCALANCE X-500 Industrial Ethernet switches.

Electrical media modules



- 4 x 10/100/1000 Mbps RJ-45 ports – optionally with or without a securing collar and with or without Power-over-Ethernet

Optical media modules



- 4 x 1000 Mbps SC port (multi-mode, glass) – up to max. 750 m
- 4 x 1000 Mbps SC port (single-mode, glass) – up to max. 10 km
- 4 x 100 Mbps BFOC port (multi-mode, glass) – up to max. 5 km
- 4 x 100 Mbps BFOC port (single-mode, glass) – up to max. 26 km

SFP media modules



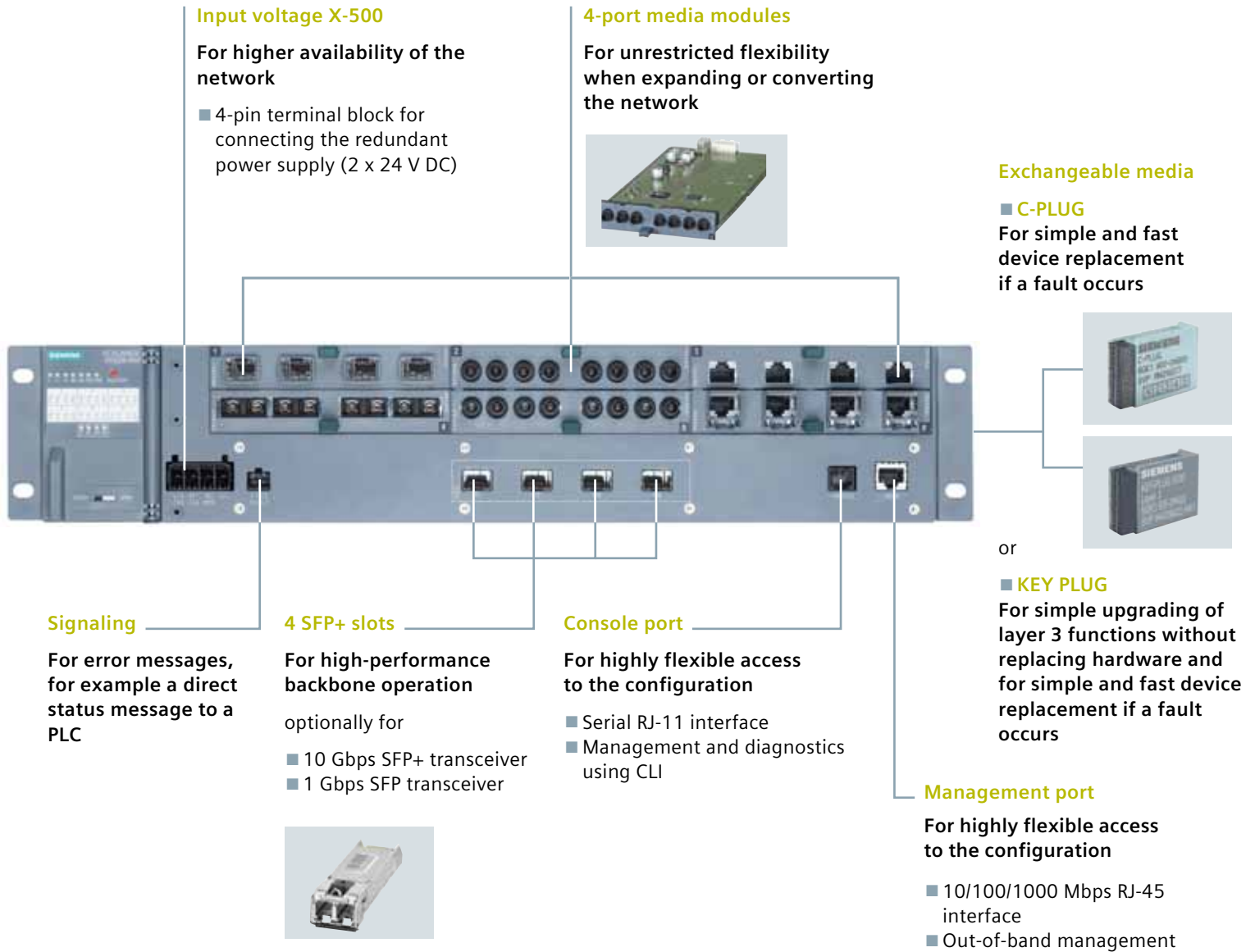
- 4 x 100/1000 Mbps SFP slot

Advantages at a glance

- Future-proof due to simple switchover to other media and data rates
- Cost optimization due to individual port configuration
- Reduced storage requirements due to fewer basic device types

SCALANCE X-500 – ideally equipped for the job

Whatever demands you have for your network: With SCALANCE X-500, you are ideally equipped for the job.

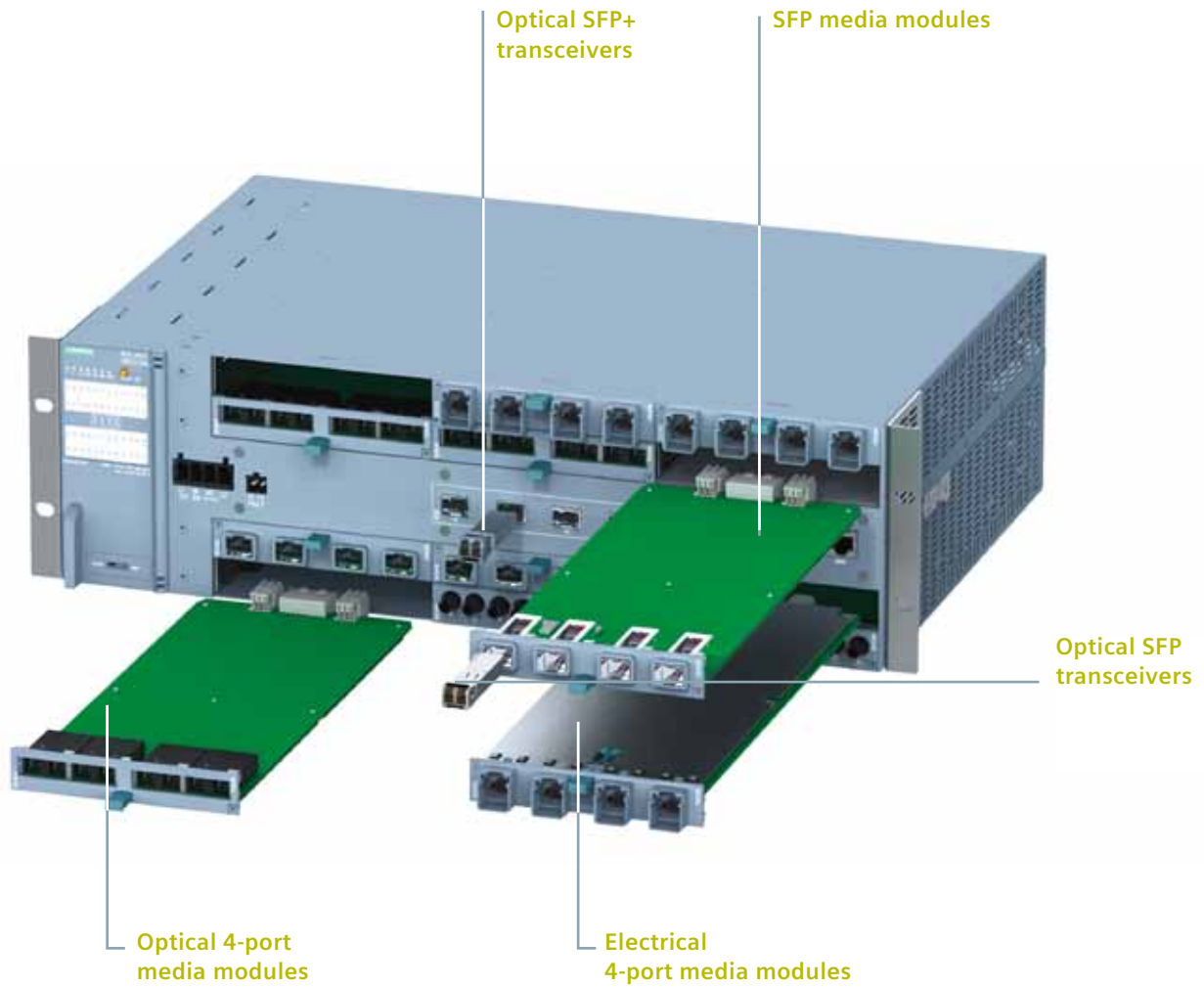


SCALANCE X-500: Advantages at a glance

- Unrestricted flexibility when expanding or converting the network
- Reduction of storage costs for different device types thanks to fully modular design of the basic device
- Avoidance of downtimes thanks to media modules that can be replaced during operation (hot swappable)
- Simple expansion from layer 2 to layer 3 with KEY PLUG without hardware replacement
- Future-proof thanks to IPv6 support

SCALANCE X-500 – perfect adaptability

Whatever data rates and connection media you require: With SCALANCE X-500, your network is fully adaptable.



SCALANCE X-500 basic devices



SCALANCE XR552-12M
with up to 52 ports

- 12 x media module slot
- 4 x SFP/SFP+ slot



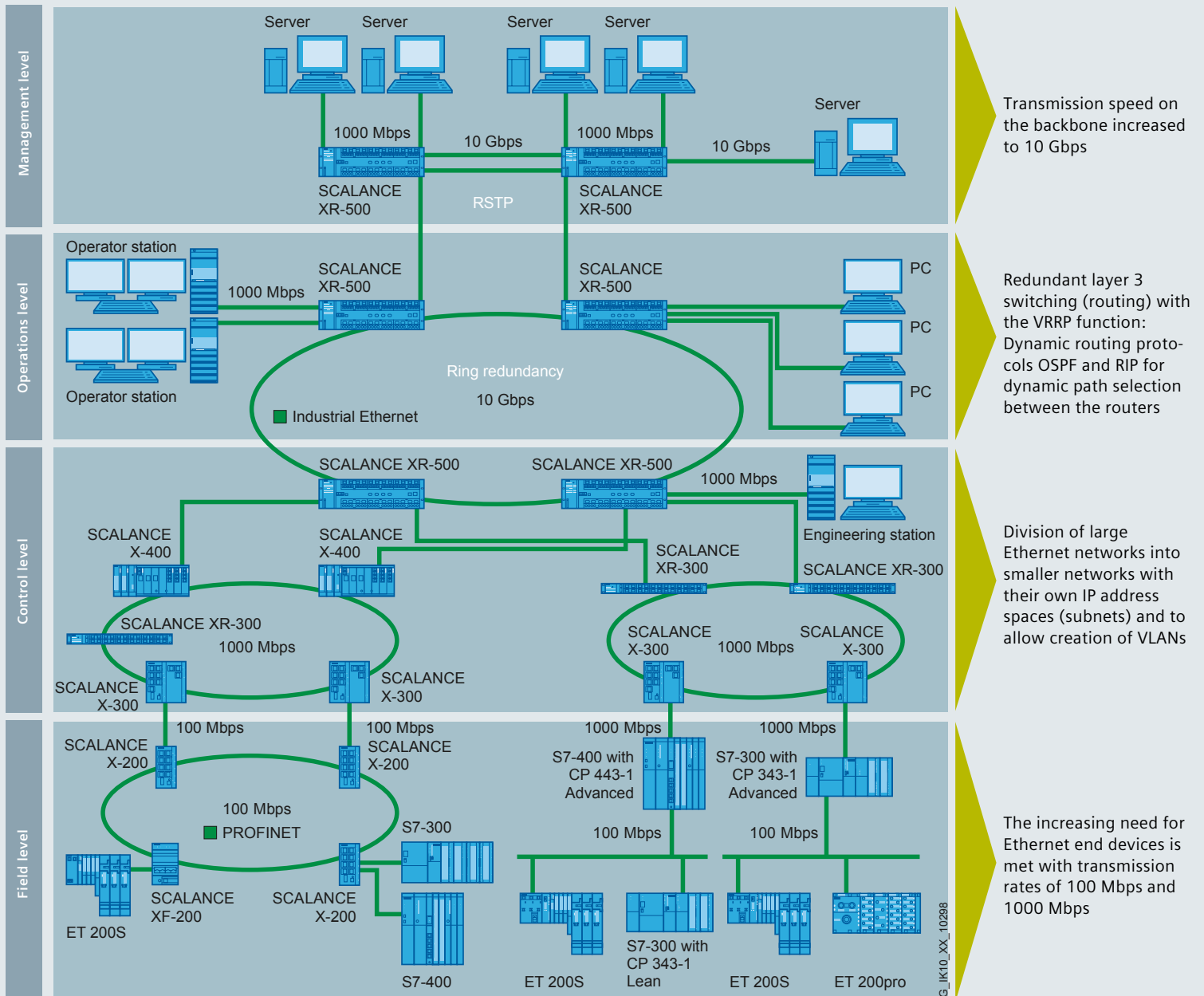
SCALANCE XR528-6M
with up to 28 ports

- 6 x media module slot
- 4 x SFP/SFP+ slot



Plant-wide networking with Industrial Ethernet

Complete and integrated networking from the field level to the management level



SIMATIC NET Selection Tool

To support you when selecting Industrial Ethernet switches, connectors and cabling, the SIMATIC NET Selection Tool is available at:

www.siemens.com/snst

or as download at:

www.siemens.com/snst-download

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