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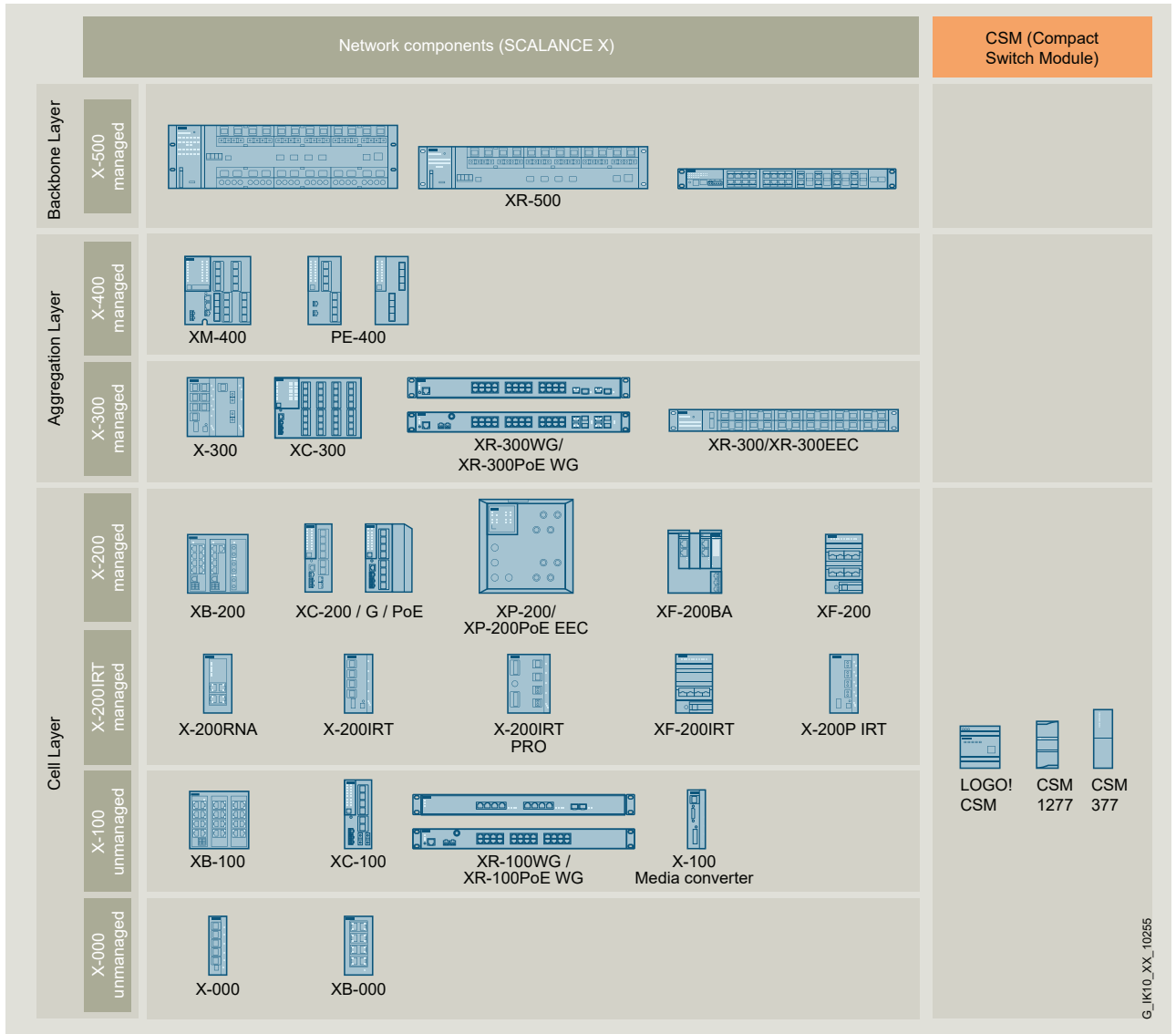
Edition  
2022

INDUSTRIAL ETHERNET

# SCALANCE X – Industrial Ethernet Switches

**PORTFOLIO**

# Overview of the portfolio



## Portfolio of the SCALANCE X Industrial Ethernet Switches and Compact Switch Modules (CSM)

	Layer 3 / Routing	19" design	Modular through media modules	Support of Gigabit Ethernet	Support of 10 Gbit/s	PROFINET	EtherNet/IP	Office features (VLAN)	Diagnostic functions	Isynchronous Real-Time (IRT)	Power over Ethernet	Can be used under enhanced ambient conditions	Time synchronization to IEEE 1588	Additional interface for SIMATIC S7-300/ET 200M, S7-1200 or LOGO!
X-500	•	•	•	•	•	•	•	•	•				•	
X-400	•		•	•		•	•	•	•		•			
X-300		•	•	•	•	•		•	•		•	•	•	
X-200				•	•	•	•	•	•	•	•	•		
X-100		•		•	•						•			
X-000				•								•		
CSM														•

• applies to selected versions

G\_IK10\_XX\_10302

With the Industrial Ethernet Switches you can meet specific challenges in a customized manner – our comprehensive product portfolio always has the right switch for you.

Today's requirements on an industrial communication network are manifold. Appropriate network components enable you to master every challenge:

- Secure and integrated communication across the entire company and across company limits
- Uninterrupted flow of information from the sensor/actuator level all the way to the enterprise level
- Fast data exchange between the plant components
- Availability of information at any location
- Easy and consistent configuration and efficient diagnostics, simple expansions and modernizations
- Integrated security functions which prevent unauthorized access
- 5 year warranty on all SCALANCE products
- Comprehensive consideration of cybersecurity measures in all phases of the product lifecycle

Find the right Industrial Ethernet Switches directly in the configurator – to the TIA Selection Tool: [siemens.com/tstcloud/](https://www.siemens.com/tstcloud/)












Further information concerning plugs: [siemens.com/plugs](https://www.siemens.com/plugs)

Further information concerning cabling: [siemens.com/fastconnect](https://www.siemens.com/fastconnect)

Further information concerning network management: [siemens.com/sinec](https://www.siemens.com/sinec)





















# Portfolio

OVERVIEW

UNMANAGED		
Compact Switch Modules CSM	SCALANCE X-000 unmanaged	SCALANCE X-100 unmanaged
More connection to SIMATIC	Space-saving, cost-efficient, and industrial-grade entry-level solution	For a reliable network solution with all equipment details
Page 6	Page 6	Page 7
		
LOGO! CSM	SCALANCE X005/X005EEC	SCALANCE XB-100
		
CSM 1277	SCALANCE XB-000	SCALANCE XR-100WG (Work Group)
		
CSM 377		SCALANCE XC-100
		
		SCALANCE X108PoE
		
		SCALANCE X101-1
		
		SCALANCE X101-1LD

## Highlights unmanaged Switches

- Industrial-grade design
- The right device type for each application
- Investment protection: existing networks can be extended with new products
- Wide range of usability in small or large networks, even outside the control cabinet
- Avoid additional training and introduction costs by using standardized Ethernet technology
- Versions for connection of twisted pair and fiber optic cables

MANAGED LAYER 2			MANAGED LAYER 2/3	
SCALANCE X-200 managed	SCALANCE X-200IRT managed	SCALANCE X-300 managed	SCALANCE X-400 managed Layer 2/3	SCALANCE X-500 managed Layer 3
For all network structures in machine-oriented applications up to linked units	Acting in hard real-time	Convincing performance – modular and powerful	Segmentation on all levels	Structuring high-performance plants and connecting them to the office IT
Page 8	Page 9	Page 9	Page 10	Page 11
				
SCALANCE XF-200	SCALANCE X-200IRT	SCALANCE X-300	SCALANCE XM-400	SCALANCE XR524-8C
				
SCALANCE XB-200	SCALANCE XF-200BA IRT	SCALANCE XC-/XCM-300	Port Extender	SCALANCE XR526-8C
				
SCALANCE XC-200	SCALANCE X-200IRT PRO	SCALANCE XR-300WG (Work Group)		SCALANCE XR528-6M
				
SCALANCE XF-200BA		SCALANCE XR-300		SCALANCE XR552-12M
				
SCALANCE XP-200		SCALANCE XR-300EEC		
				
SCALANCE X-200RNA				

#### Highlights managed Switches

- Real-time network (PROFINET and EtherNet/IP) and standard TCP/IP, eliminating of duplicate infrastructure
- High network availability due to integrated redundancy mechanisms and system redundancy
- Reduced downtimes by saving data for project planning and configuration
- Integration into existing concepts for network security through integrated security functions
- Configuration through WBM or CLI, local or remote
- Diagnostics through LEDs on the device, via WBM, or network management through SNMP with SINEC NMS
- Integration in the STEP 7 and PCS 7/PCS neo engineering tools
- Seamless system diagnostics with PROFINET
- High network and machine availability

# Compact Switch Modules

## More connection to SIMATIC

Compact Switch Modules (CSM) are an affordable and simple solution for connecting a SIMATIC S7-300/ET 200M, S7-1200, or LOGO! to an electrical Industrial Ethernet network.

### Applications

- For integration of small machines into existing automation networks
- Standalone operation of the machines
- For setting up small, local Ethernet networks

### Variants

#### LOGO! CSM

- In LOGO! design

#### CSM 1277

- In SIMATIC S7-1200 design

#### CSM 377

- In SIMATIC S7-300 design

### Highlights

- Transmission rate up to 100 Mbps
- Industrial-grade design, for example, retaining collars for PROFINET-compliant connector IE FC RJ45 Plug for additional strain relief

# SCALANCE X-000/XB-000

## Simple, space-saving, for industrial use

SCALANCE X-000/XB-000 are an affordable and easy entry-level solution for the realization of simple machine networks and small Ethernet networks.

- For setting up small industrial line or star structures in machine or plant sections
- For usage in rail and road traffic or building automation

#### SCALANCE X005/X005EEC

- 5 x RJ45-ports
- Transmission rate up to 100 Mbps

#### SCALANCE XB-000

- Up to 8 x RJ45 ports/2 x SC
- Transmission rate up to 1 Gbps
- Variants with 24 V AC (50/60 Hz) for use in building automation

- LED diagnostics on the device (power, link status, data traffic)
- Use of straight-through connecting cables thanks to integrated autocrossover function
- Automatic detection and negotiation of data rate



# SCALANCE X-100

## Full basic version for industrial use

SCALANCE X-100 switches are an affordable solution that provides many ports within a compact design.

### Applications

- For setting up electrical and/or optical line and star structures in machine-oriented applications
- Power over Ethernet (PoE) if required

### Variants

#### SCALANCE XB-100

- Up to 24 x RJ45 ports, 2 x SC, or ST/BFOC
- Transmission rate up to 100 Mbps
- PROFINET CC-A compliant

#### SCALANCE XR-100WG

- Small mounting depth for installing on both sides
- Up to 24 x RJ45 ports, 2 x SFP, of which 8 x RJ45 ports with PoE
- Transmission rate up to 10 Gbps

#### SCALANCE XC-100

- Transmission rate up to 100 Mbps
- Motor vehicle approval E1 (SCALANCE XC108 only)

#### SCALANCE X108PoE

- 8 x RJ45 ports, of which 2 x RJ45 with PoE
- Transmission rate up to 100 Mbps

### Highlights

- LED diagnostics on the device (power, link status, data traffic)
- Use of straight-through connecting cables thanks to integrated autocrossover function
- Automatic detection and negotiation of data rate
- Work Group (WG) switches as affordable solution, available with PoE

# SCALANCE X-100 Media Converter

## Customized conversion

SCALANCE X-100 media converters transform electrical into optical signals and enable a cost-effective combination of copper and fiber optic cables in Industrial Ethernet networks.

- For integration of remote stations in glass fiber networks through fiber optic cables
- For bridging large distances

#### SCALANCE X101-1

- Implementation of 1 x 10/100 Mbps RJ45 to 1 x 100 Mbps ST/BFOC (multimode)
- Distances up to 5 kilometers

#### SCALANCE X101-1LD

- Implementation of 1 x 10/100 Mbps RJ45 to 1 x 100 Mbps ST/BFOC (single mode)
- Distances up to 26 kilometers

- Transmission rate up to 100 Mbps
- LED diagnostics on the device (power, link status, data traffic)
- Redundant power supply

# SCALANCE X-200

Universal and convenient

SCALANCE X-200: enable high network availability in different device types

## Applications

- For setting up Industrial Ethernet bus, star, and ring structures for high network availability and increased demand on functionality
- For machine-oriented applications and usage in the aggregation layer
- High bandwidth and Power over Ethernet (PoE) if required
- Installation outside the control cabinet and outdoors
- For high temperatures, in harsh ambient conditions and hazardous areas
- Supply for PoE devices outside (e.g., WLAN Access Points)
- Seamless networks with HSR/PRP
- In process automation
- In energy supply systems
- For critical applications that require high availability with system redundancy

## Variants

### SCALANCE XF-200

- Up to 8 x RJ45/2 x ST/BFOC
- Distances up to 5 kilometers

### SCALANCE XB-200

- Up to 13 x RJ45/3 x ST/BFOC or SC
- Distances up to 26 kilometers
- Console port
- For PROFINET and EtherNet/IP applications

### SCALANCE XC-200

- Up to 24 x RJ45 (up to 14 PoE ports)/2 x ST/BFOC, SC, or SFP
- Distances up to 200 km via SFPs
- Integrated diagnostics for fiber optic (Fiber Monitoring)
- For PROFINET and EtherNet/IP applications
- Trackside railway approval EN 50121-4

### SCALANCE XF-200BA

- Up to 4 x RJ45/4 x SC RJ/4 x LC
- Flexible bus adapter concept
- For EtherNet/IP applications (SCALANCE XF204-2BA only)

### SCALANCE XP-200

- Up to 16 x M12, of which 4 x PoE
- Up to 4 x 1 Gbps ports
- Support of redundancy mechanisms MRP, MRP Interconnection, and RSTP+
- Motor vehicle approval e1/E1, variants for railway applications
- Matching power supply SCALANCE PSP9230 PoE

### SCALANCE X-200RNA

- Up to 4 x RJ45 ports/2 x FO
- Enables very short runtimes for network reconfiguration

## Highlights

- Transmission rate up to 100 Mbps
- Redundant power supply
- Increased plant availability due to integrated configuration and remote diagnostics
- Transmission rate up to 1 Gbps
- Redundant power supply
- Fast, redundant ring coupling with MRP Interconnection and RSTP+
- Support for VLANs (Virtual Local Area Network)
- Transmission rate up to 1 Gbps
- Redundant power supply



## SCALANCE X-200IRT: high availability in real-time

- For high-speed Motion Control applications
- For high-precision applications (isochronous mode)
- For plant concepts without control cabinet

### SCALANCE X-200IRT

- Up to 4 x RJ45/4 x ST/BFOC or SC RJ

### SCALANCE XF-200BA IRT

- Flexible bus adapter concept
- Up to 4 x RJ45 or 4 x SC RJ
- 2 x bus adapter slots

### SCALANCE X-200IRT PRO

- Up to 4 x RJ45/3 x SC RJ Push Pull

- Transmission rate up to 100 Mbps
- Support of PROFINET with IRT (Isochronous Real Time) requirements
- Seamless redundancy (MRPD) for seamless switching
- Redundant power supply

## SCALANCE X-300

### Compact high performance

## SCALANCE X-300: high network availability and flexibility

### Applications

- For large networks with high functionality and availability
- High bandwidth and Power over Ethernet (PoE) if required

### Variants

#### SCALANCE X-300

- Up to 20 x RJ45/4 x ST/BFOC, SC, or SFP
- Up to 2 x 2-port media modules and 2 ports with PoE
- Transmission rate up to 1 Gbps
- Distances up to 200 kilometers
- Approval in accordance with EN 50155 and e1/E1

#### SCALANCE XC-/XCM-300

- Up to 32 x RJ45
- Transmission rate of up to 10 Gbps
- Distances up to 100 kilometers

#### SCALANCE XR-300WG (Work Group)

- Small mounting depth for installing on both sides in 19" control cabinets
- Up to 24 x RJ45 ports, 4 x combo ports (up to 24 x 1 Gbps RJ45 PoE)
- Transmission rate of up to 1 Gbps
- Support of redundancy mechanisms MRP, MRP Interconnection and RSTP+

#### SCALANCE XR-300

- Up to 12 x 2-port media modules (up to 8 x RJ45 with PoE)
- Transmission rate up to 1 Gbps
- Distances up to 200 kilometers
- Variant with approval in accordance with EN 50155 and e1/E1

#### SCALANCE XR-300EEC

- Up to 4 x 2-port media modules
- Transmission rate up to 1 Gbps
- Distances up to 200 kilometers
- For harsh environments
- Approval acc. to IEC 61850-3

### Highlights

- Support of VLANs
- Redundant power supply
- Work Group (WG) switches as affordable variants, available with PoE
- Easy connection to SCALANCE LPE local processing engine via function extender interface

### Accessories

#### Media modules, plug-in transceivers, and PoE power supply

- 2-port media modules
- Electrical variants: RJ45, M12, VD (Variable Distance)
- Optical versions: SC, ST/BFOC
- Variants for LC plug-in transceivers

# SCALANCE X-400

Secure connection of plants via network segmentation

SCALANCE X-400 switches offer high performance in a compact design

## Applications

- For high-performance plant networks
- Network security through segmentation
- For communication in layer 2 or layer 3 networks
- Power over Ethernet (PoE) if required

## Variants

### SCALANCE XM-400

- 8 x or 16 x RJ45 ports
- Can be extended up to 24 x ports (with port and function extender)
- Transmission rate up to 1 Gbps

### Port Extender

- 8 x RJ45 ports with PE408
- 8 x RJ45 ports with PoE with PE408 PoE
- 8 x SFP slots with PE400-8SFP

## Highlights

- Modular expandable
- Optional connection of layer 3 functionality
- Support of VLANs
- Console port
- Redundant power supply

## Accessories

### Power supplies

- 54 V DC power supply for Power over Ethernet according to IEEE 802.3at
- High power for connected end devices possible (up to 30 watts)

### Plug-in transceivers

- Optical connection to cables with LC connectors
- Use in combination with SCALANCE XM408-8C, XM416-4C, and PE400-8SFP

# SCALANCE X-500

Structuring of plants and connection to the enterprise IT

SCALANCE X-500 switches enable high performance and are available in 19" design with various height units.

## Applications

- For structuring high-speed production networks with connection to the enterprise IT
- Network security through segmentation
- For transmission of high data rates (10 Gbps)
- Communication in layer 2 or layer 3 networks

## Variants

### SCALANCE XR524-8C

- For large scales with 28 ports

### SCALANCE XR526-8C

- For large scales with 26 ports

### SCALANCE XR528-6M

- For large scales with 28 ports
- Up to 6 x 4-port media modules for electrical and optical connections

### SCALANCE XR552-12M

- For very large scales with 52 ports
- Up to 12 x 4-port media modules for electrical and optical connections

## Highlights

- Support of VLANs
- Modular with media modules or SFP and SFP+ plug-in transceivers
- Redundant power supply
- Console port
- Granular network extension to 10 Gbps during operation

## Accessories

### Media modules

- Electrical and optical variants
- 4-port media modules
- Use for SCALANCE XR552-12M and XR528-6M

### Plug-in transceivers

- SFP plug-in transceiver with transmission rates up to 100 or 1000 Mbps
- SFP+ plug-in transceiver with 10 Gbps
- Optical connection to cables with LC connectors