Industrial Ethernet Switches SCALANCE XB-000/XB-000G

Simple – Space-saving – Suitable for industry

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SIMATIC NET

Answers for industry.

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Industrial Ethernet Switches

SCALANCE XB-000/XB-000G

Benefits

- Implementing a machine network even under constant cost pressure
- Space-saving installation thanks to small, compact design
- Quick commissioning without configuration
- Easy on-site diagnostics via LEDs

Application area

The unmanaged Industrial Ethernet switches of theSCALANCE XB-000/XB-000G line allow cost-effective solutions for setting up small star or line topologies with switching functionality in machinery or plant components. The enclosure is designed for space-saving installation in a control cabinet on a standard rail. Wall mounting is also possible.

Product versions

All versions can be diagnosed directly on the device using LEDs (power, link status data traffic)

Versions for the construction of electrical Industrial Ethernet star and line topologies with:

Fast Ethernet (100 Mbit/s):

- **SCALANCE XB005 and SCALANCE XB008**;
  5 or 8 x 10/100 Mbit/s electrical RJ45 ports

Gigabit Ethernet (1000 Mbit/s):

- **SCALANCE XB005G and SCALANCE XB008G;**
  5 or 8 x 10/100/1000 Mbit/s electrical RJ45 ports

Versions for the construction of electrical and optical Industrial Ethernet star and line topologies with:

Fast Ethernet (100 Mbit/s):

- **SCALANCE XB004-1 and SCALANCE XB004-1LD**;
  4 x 10/100 Mbit/s electrical RJ45 ports and
  1 x 100 Mbit/s optical SC port (multimode/singlemode, glass)

Gigabit Ethernet (1000 Mbit/s):

- **SCALANCE XB004-1G and SCALANCE XB004-1LDG;**
  4 x 10/100/1000 Mbit/s electrical RJ45 ports and
  1 x 1000 Mbit/s optical SC port (multimode/singlemode, glass)

Design

The SCALANCE XB-000/XB-000G Industrial Ethernet switches are optimized for mounting on a standard rail.
They have:

- A 3-pin terminal block for connecting the power supply (1 x 24 V DC) and functional ground.
- An LED to display status information (Power)
- LEDs for indicating the status information (link status and data exchange) per port

The following port types are available:

- 10/100 BaseTX electrical RJ45 ports or
  10/100/1000 BaseTX electrical RJ45 ports;
  automatic data transmission rate detection (10/100/1000 Mbit/s), with Autosensing and Autocrossing function for connecting IE TP cables up to 100 m.
- 100 BaseFX, optical SC port for direct connection to the Industrial Ethernet FO cables. Multimode fiber-optic cable up to 3 km
- 100 BaseFX, optical SC port for direct connection to the Industrial Ethernet FO cables. Single mode fiber-optic cable up to 26 km
- 1000 BaseSX optical SC port for direct connection to the Industrial Ethernet FO cables.
  Multimode fiber-optic cable up to 750 m
- 1000 BaseLX optical SC port for direct connection to the Industrial Ethernet FO cables. Singlemode fiber-optic cable up to 10 km

Function

- Construction of electrical Industrial Ethernet line or star topologies
- Use of uncrossed connecting cables is possible due to the integrated Autocrossing function of the ports
- Simple network configuration and network expansion; no restriction on network expansion when cascading the switches.

SCALANCE XB004-1

Network topology and network configuration

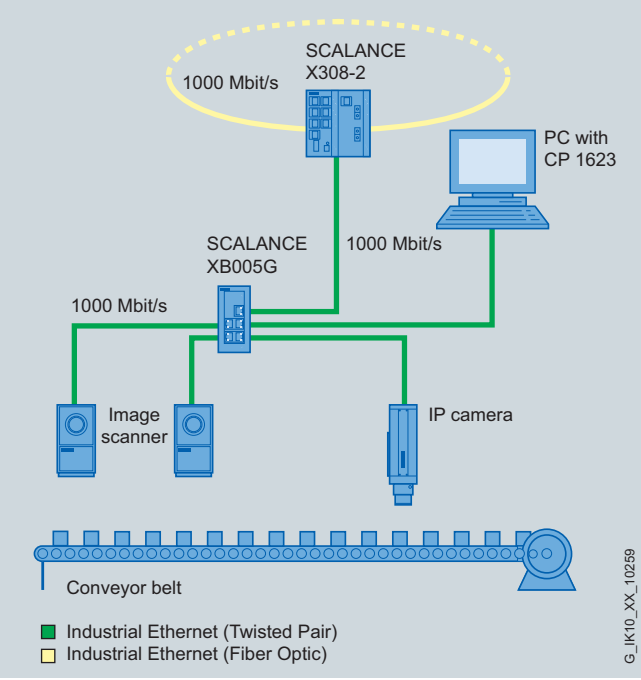
The SCALANCE XB-000/XB-000G switches are typically installed with the stations to be connected in a control cabinet or control box. When configuring the network, it is necessary to observe the following boundary conditions:

- Length of the TP cable between two SCALANCE XB-000/ XB-000G switches
  - max. 100 m
  - max. 10 m via patch cable with TP Cord
  - max. 100 m via Industrial Ethernet FC Outlet RJ45, IE FC Standard Cable and TP Cord
- Length of fiber-optic cables:
  - max. 3 km with Industrial Ethernet FO cables multimode
  - max. 26 km with Industrial Ethernet FO cables singlemode

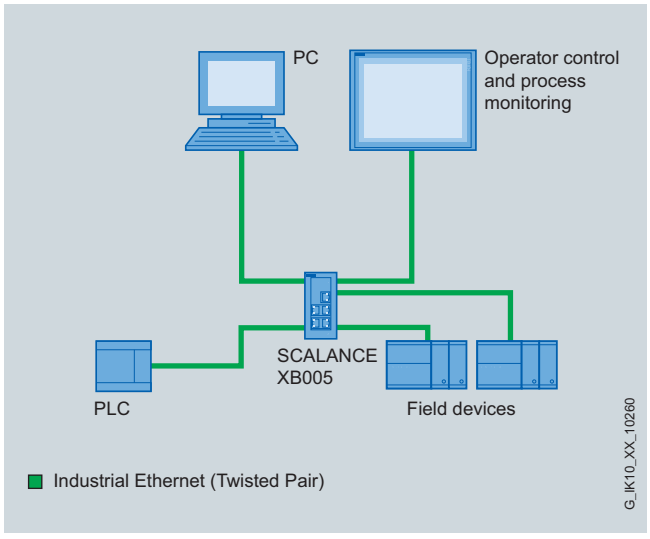
Diagnostics

The following information is indicated on the device by means of LEDs:

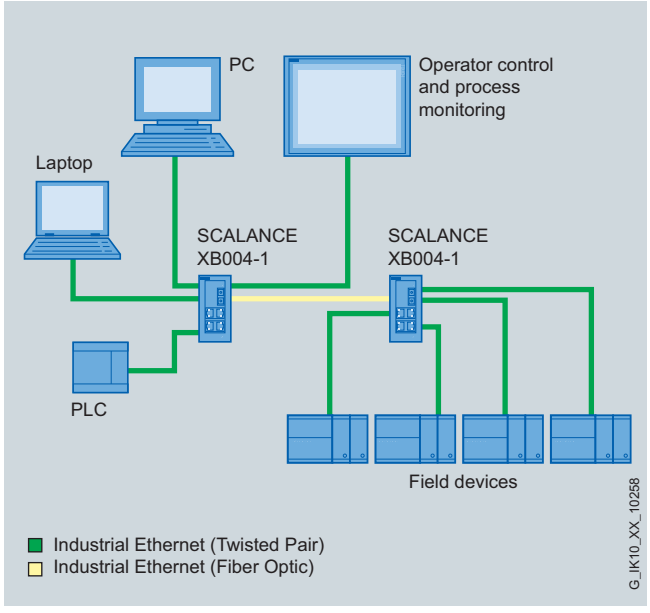
- Power
- Port status
- Data traffic



Electrical star topology with SCALANCE XB005G for the connection of terminal devices and connection to higher-level network structures with Gigabit Ethernet



Electrical star topology with SCALANCE XB005 for the connection of terminal devices with Fast Ethernet



Mixed star topology with SCALANCE XB004-1 or SCALANCE XB004-1G

Ordering data

Ordering data	Order No.
Industrial Ethernet Switches SCALANCE XB-000/XB-000G	
unmanaged Industrial Ethernet Switches for 10/100/1000 Mbit/s, IP20 degree of protection, incl. operating instructions, Industrial Ethernet Network manual on CD-ROM	
SCALANCE XB005	
5 x 10/100 Mbit/s RJ45 electrical RJ45 ports	6GK5 005-0BA00-1AB2
SCALANCE XB005G	
5 x 10/100/1000 Mbit/s electrical RJ45 ports	6GK5 005-0GA00-1AB2
SCALANCE XB008	
8 x 10/100 Mbit/s RJ45 electrical RJ45 ports	6GK5 008-0BA00-1AB2
SCALANCE XB008G	
8 x 10/100/1000 Mbit/s electrical RJ45 ports	6GK5 008-0GA00-1AB2
SCALANCE XB004-1	
4 x 10/100 Mbit/s electrical RJ45 ports and 1x 100 Mbit/s optical SC port (multimode, glass), up to 3 km	6GK5 004-1BD00-1AB2
SCALANCE XB004-1G	
4 x 10/100/1000 Mbit/s RJ45 electrical RJ45 ports and 1x 1000 Mbit/s optical SC port (multimode, glass), up to 750 m	6GK5 004-1GL00-1AB2
SCALANCE XB004-1LD	
4 x 10/100 Mbit/s electrical RJ45 ports and 1 x 100 Mbit/s optical SC port (singlemode, glass), up to 26 km	6GK5 004-1BF00-1AB2
SCALANCE XB004-1LDG	
4 x 10/100/1000 Mbit/s electrical RJ45 ports and 1 x 1000 Mbit/s optical SC port (singlemode, glass), up to 10 km	6GK5 004-1GM00-1AB2
Accessories	
IE TP Cord RJ45/RJ45	
TP cable 4 x 2 with 2 RJ45 connectors	
■ 0,5 m	6XV1 870-3QE50
■ 1 m	6XV1 870-3QH10
■ 2 m	6XV1 870-3QH20
■ 6 m	6XV1 870-3QH60
■ 10 m	6XV1 870-3QN10
FO Standard Cable GP 50/125	
Fiber-optic cable, pre-assembled with 4 SC connectors (not for SCALANCE XB004-1LD/XB004-1LDG)	
■ 80 m	6XV1 873-6AN80
■ 100 m	6XV1 873-6AT10
■ 150 m	6XV1 873-6AT15
■ 200 m	6XV1 873-6AT20
■ 300 m	6XV1 873-6AT30

Technical specifications

Technical specifications	
Interfaces	
Connection of terminal equipment or network components via twisted pair	4, 5 or 8 x 10/100/1000 Mbit/s RJ45 electrical ports
Number of optical ports for fiber-optic cables	1 x 100/1000 Mbit/s optical SC port (multimode/singlemode)
Connection for power supply	1 x 3-pin plug-in terminal block
Electrical data	
Power supply	+24 V DC
■ Premissible range	+19.2 V DC to +28.8 V DC
Power loss at 24 V DC	2.9 W
Current consumption at rated voltage	120 mA
Permissible ambient conditions/EMC	
Operating temperature	-10 °C to +60 °C
Transport/storage temperature	-40 °C to +80 °C
Relative humidity in operation	< 95% (no condensation)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4
Degree of protection	IP20
Construction	
Dimensions (W x H x D) in mm	45 x 100 x 87
Weight in g	180
Installation options	DIN rail, wall mounting

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