

Flyer

Edition  
09/2017

# SCALANCE XF204-2BA DNA Y-Switch

## Industrial communication for the process industry

**Industrial communication networks are the backbone of every automation system. Flexible configuration of different network topologies, maximum availability and secure data transfer are the central requirements of the process industry.**

### PROFINET points to the digital age

Based on the Ethernet IEEE 802.3 standard, the PROFINET protocol is the world's leading open Industrial Ethernet standard and a powerful medium for communication down to the field level. All information on processes and devices must be bundled quickly and reliably and needs to be available centrally to ensure a continuous process in plant operations. The increasing degree of digitalization in the process industry produces considerably more data (big data), necessitates end-to-end communication down to the field level and calls for flexible and reliable communication

networks. PROFINET supports flexible network architectures and also allows the integration of existing PROFIBUS fieldbuses.

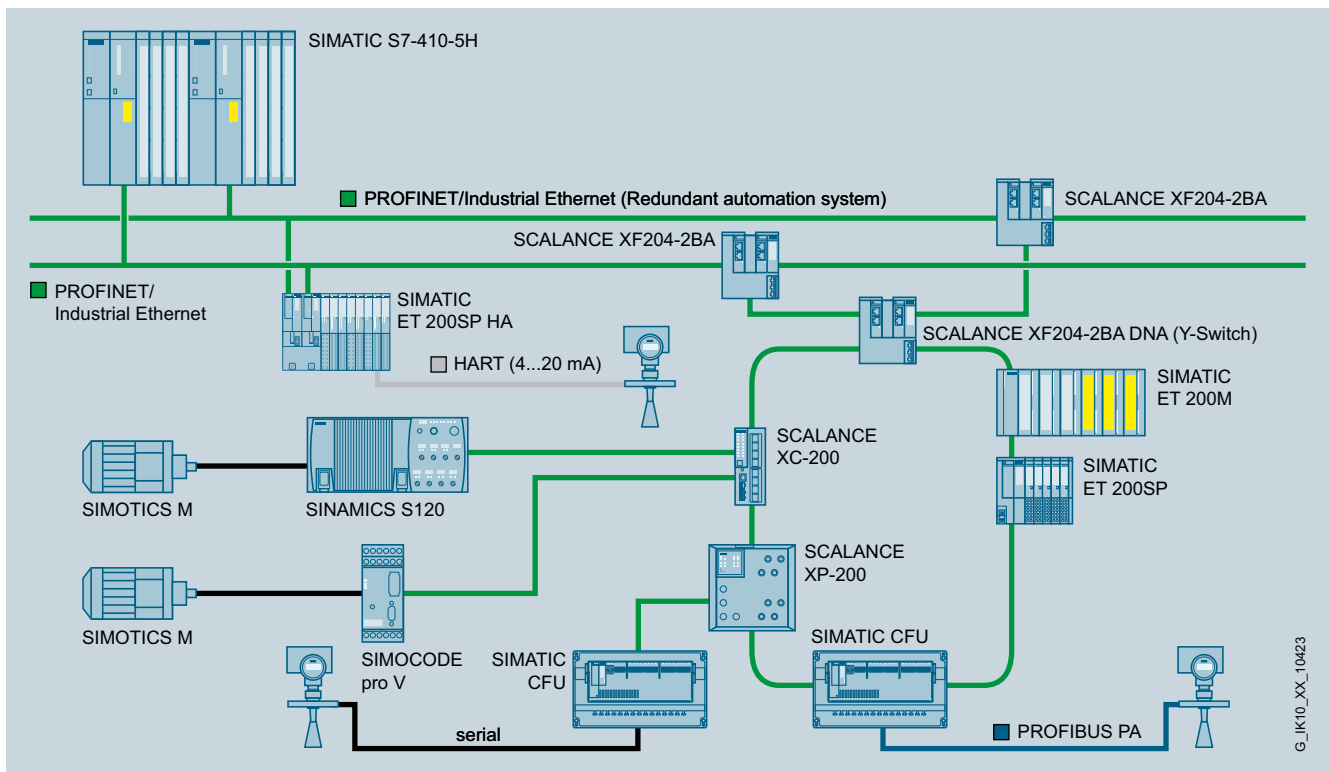
Machines and systems must be able to exchange data reliably with higher-level systems. Industrial Ethernet switches are active network components and make it possible to set up an industrial communication network in electrical or optical line, star and ring topologies. They distribute data to defined addressees and organize the data traffic, which in turn significantly increases data throughput and network performance.

### Y-Switch for process automation

A special feature is the Industrial Ethernet network component SCALANCE XF204-2BA DNA with its "Y functionality" for connection to R1 systems. It has a slim design based on SIMATIC ET 200SP and uses a flexible BusAdapter concept: Two of the four ports allow it to be connected to a high-availability R1 system. The two other ports provide a connection for S2 devices in a ring to the SCALANCE XF204 2BA DNA Y-Switch using the MRP media redundancy protocol – either via copper or fiber optic cables.

### Highlights at a glance

- Maximum availability thanks to configuration of redundant networks with S2 devices (device-side)
- Designed for use in harsh process industry environments
- Integrated system diagnostics with PROFINET
- High level of flexibility thanks to use of BusAdapters
- Space savings due to slim design based on SIMATIC ET 200SP



G\_IK10\_XX\_10423

Integration of S2 devices in high-availability R1 system with SCALANCE XF204-2BA DNA (Y-Switch)

### No plant downtimes

The SCALANCE XF204-2BA DNA Y-Switch allows configuration of redundant network structures in a process automation environment using PROFINET and integration of S2 devices in a high-availability R1 system. The PROFINET S2 devices set up two separate connections to the high-availability controller (R1 system). This redundant network structure helps to avoid plant downtimes or system shutdowns. Thanks to the MRP protocol, reconfiguration times of 200 ms can be achieved with up to 50 nodes in the ring. In the event of a break in communication in just one part of the ring installation, the connection between the nodes is maintained. If an error occurs, PROFINET diagnostics facilitates fast troubleshooting.

### Flexible due to BusAdapters

The SCALANCE XF204-2BA DNA Y-Switch has the same design as SIMATIC ET 200SP and can be quickly installed in the control cabinet: simply snap onto the DIN rail. The BusAdapter system allows the Switch to be integrated into various network structures: there are different BusAdapter versions for copper or fiber optic cables, so that the relevant network can be configured in line with the specific application.

### Functions

- **PROFINET for process automation**
  - Integration of S2 devices in R1 systems
  - System diagnostics, including network infrastructure
  - Redundancy manager function (reconfiguration time: max. 200 ms with 50 switches in the ring, device-side)
- **Use in harsh environments**
  - Conformal coating (NAMUR NE 21-compliant)
  - Temperature range -40 °C to +70 °C
  - Max. installation altitude 4 000 m (derating as from 2 000 m)
  - For use in hazardous areas (ATEX Zone 2)
- **Easy installation**
  - Different BusAdapters for copper and fiber optic cables
  - C-PLUG removable data storage medium
  - SIMATIC ET 200SP design

Siemens AG  
Process Industries and Drives  
Automation and Engineering  
90026 Nürnberg  
Germany

© Siemens AG 2017  
Subject to change without prior notice  
Article No. 6ZB5530-ODA02-0BA0  
W-FPN7Z-PD-PA285 / Dispo 26000  
FL 0917 2. LMB 2 En  
Printed in Germany

The information provided in this flyer contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. Availability and technical specifications are subject to change without notice.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.