
ABB Ability™ System 800xA Networks

Reliable Ethernet Equipment



It's all about reliability



Exact control of your network infrastructure is essential for securing the high performance of System 800xA. Choosing the right network equipment and supplier is fundamental to achieving this goal.

ABB has all the credentials needed to deliver reliable, robust and secure networks on which you can build modern control systems. High-quality equipment such as preconfigured switches and industrial routers enable clients to communicate with servers and controllers to gather large amounts of vital information from the field. Moreover, we always take full responsibility for network functionality.



System 800xA Networks' preconfigured components are tested with 800xA to ensure top quality performance and provide stable and robust networks.

Trends in network technology – more and more complexity

In addition to traditional Ethernet communications from operator workstations to controllers, Ethernet-based fieldbus networks are increasingly used to communicate with field equipment. Fieldbus protocols such as PROFINET, IEC 61850, Ethernet/IP and MODBUS TCP/IP communicate with lower-level PLCs, smart transmitters, valve actuators, and even electrical equipment. Ethernet-based fieldbus solutions not only reduce wiring and installation costs, they also acquire more detailed diagnostic information.

The need for enhanced industrial cyber security is also on the increase. As the automation industry is leveraging more 'standard' IT infrastructure, its systems are growing in size and becoming more

attractive targets for IT-focused criminal organizations. System 800xA's security, confidentiality and resistance help combat this threat.

Similarly, the need for mobile solutions is growing. Operators and field engineers want quick access to control system data, regardless of time and space.

We see more protocols, redundancy solutions, use of VLANs and Quality of Service functionality. As a result, network equipment becomes more difficult to configure and the know-how required to set up the architecture correctly gets more complex. The risk for incorrectly configured equipment and systems increases dramatically. Once again, ABB Ability™ System 800xA helps overcome this threat.

To plug or not to plug?



Today, engineers spend significant amounts of time configuring automation networks. 800XA Networks enables tailor-made network architectures, yet with easily installed equipment with pre-defined configurations. Teams can now focus on increasing production rather than optimizing networks.

800XA Networks - the benefits:

- Pre-defined configurations increase engineering and commissioning efficiency and reduces the risk of incorrect configuration, thereby increasing uptime.
- 800XA's integrated detail status monitoring and alarms help identify potential risks and future trouble-spots at an early stage. Issues are detected before they turn into actual problems, again increasing uptime.
- The equipment portfolio is specifically developed for 800XA and all components are fully supported by ABB, including pre-sale and lifecycle support and technical documentation.
- Network components are physically robust and have long life duration.
- High MTBF figures ensure long service life.
- 100% reliable network – even when a media break occurs.

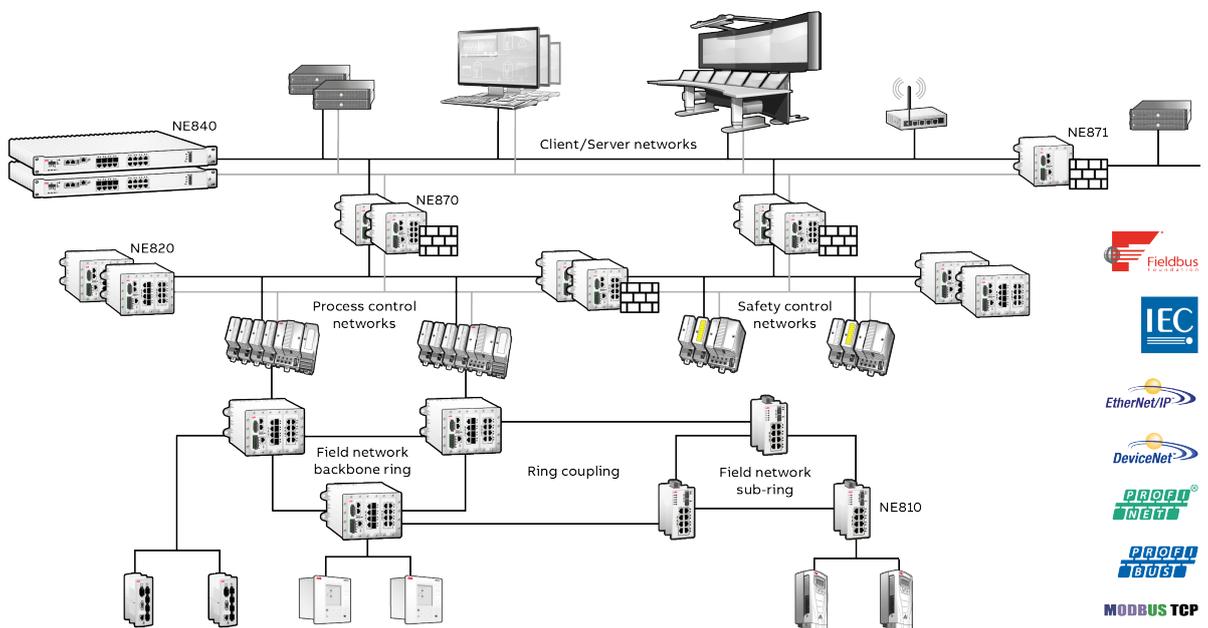
The 800XA Networks switch portfolio includes:

- 19 port rack-mounted switch
- 19 port DIN-mounted switch
- 10 port DIN-mounted switch
- 5 port DIN-mounted lightly managed switches

The managed rack-mounted switch is primarily intended for the client/server network. Redundancy can be achieved using the RNRP (Redundant Network Routing Protocol) and two totally separated networks.

The large DIN-mounted switch for field networks can either be used when many ports are needed or for back-bone rings where four optical ports are required. The smaller DIN-mounted switch is for situations that need fewer ports, but also for sub-rings with only two fiber ports.

Lightly-managed switches are for small systems and situations when monitoring and ring redundancy are not needed.



RNRP industrial routers/firewalls

The Redundant Network Routing Protocol, RNRP, enables a network architecture with two physically separate networks. In case of a disturbance in one, the communication automatically switches to the other.

This redundancy concept is the backbone of 800xA's network technology and one of the major drivers behind the development of 800xA's RNRP routers/firewalls, which are specifically developed for System 800xA networks using the RNRP protocol.

Unwanted traffic is filtered out using the built-in firewall. This reduces the risk of disturbances. As a result, availability increases.

ABB's portfolio of 800xA Networks RNRP routers/firewalls includes the following:

- 11 port DIN-mounted RNRP router/firewall (NE870)
- 3 port DIN-mounted RNRP router/firewall (NE871)

Aspect server and connectivity server are combined in 800xA 6.0, allowing the connectivity function to be consolidated into the Aspect server. Instead of leveraging the connectivity server for routing, the new routers/firewalls are used instead.

Using routers instead of servers minimizes cost and effort. As routers have much longer life duration, they do not need to be replaced as often as servers. This significantly decreases maintenance and administration.



Wired 800xA Networks - routers/firewalls





System 800xA Networks

Product portfolio

| | | | |
|-----------------------------|---------------------------------|--|---|
| NE801 | Article nr: 3BSE080209R1 |  | 5 ports DIN-mounted Lightly managed G3 compliant Marine certified |
| NE802 | Article nr: 3BSE080237R1 |  | 5 ports DIN-mounted Lightly managed G3 compliant Marine certified |
| NE810 | Article nr: 3BSE080207R1 |  | 10 ports DIN-mounted Managed G3 compliant Marine certified |
| NE820 | Article nr: 3BSE080208R1 |  | 19 ports DIN-mounted Managed G3 compliant Marine certified |
| NE840 | Article nr: 3BSE080211R1 |  | 19 ports Rack-mounted Managed G3 compliant Marine certified |
| NE870 | Article nr: 3BSE080239R1 |  | 11 ports Routing/firewall DIN-mounted Managed G3 compliant Marine certified |
| NE871 | Article nr: 3BSE080240R1 |  | 3 ports Routing/firewall DIN-mounted Managed G3 compliant Marine certified |
| Modular Transceivers | 23 pcs |  | The ABB range of Small Form-factor Pluggable (SFP) transceivers covers versions suitable for 100 Mbit/s and Gigabit Applications. For more information, please visit 800xA hardwareselector.com or document 3BSE081094. |

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abb.com/controlsystems

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