

ABB NeoGear™ Digital

The switchgear that sees everything



ABB's low-voltage switchgear has been evolving for over 45 years. With the introduction of NeoGear in 2019 the laminated bus plate technology enables increased values for safer, smarter and more sustainable solutions. NeoGear Digital extends the proven system platform, with the latest technologies for data analytics and data communication providing switchgear ready for Industry 4.0.

NeoGear Digital changes the way switchgear are monitored, operated and maintained. By using latest electrical devices for measurement, monitoring and diagnosis in any of the NeoGear platform solutions, NeoGear Digital is seamlessly integrated into the switchgear assembly.

ABB's Emax 2, Tmax XT circuit breaker, motor control and protection devices, softstarter and variable speed drives together with other sensors are connected to the on-site ABB Ability™ Condition Monitoring for electrical systems (CMES). Its data is collected and analysed online 24/7 without interference with other operation or control.

Process control systems, required for motor control, are connected through standard communication protocols (Profibus and Profinet, Modbus RTU and Modbus TCP). Air circuit breakers support the communication to electrical controls via IEC 61850.

The local CMES, installed as part of the switchgear assembly, allows secure access to data and data analysis on-site to optimize switchgear operation and minimize maintenance costs. NeoGear Digital is ready for cloud connectivity offering further data analysis and predictive maintenance.

Benefits



Simplicity

- Reduction of switchgear wiring, replaced by bus connection
- No PLC required
- Easy implementation of last minute modification by software



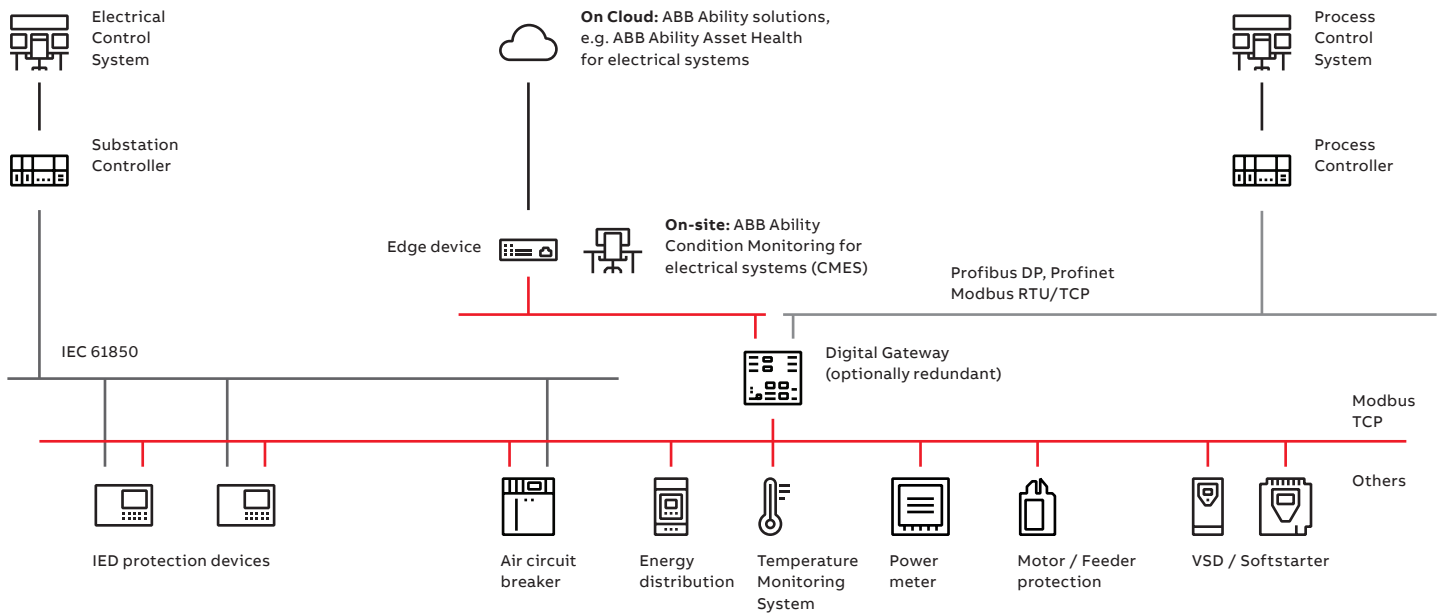
Safety

- Maintenance performed when needed ensuring safe switchgear operation and availability
- Option to integrate online temperature monitoring, arc fault detection devices



Flexibility

- Digital switchgear can be easily adapted and customized, if requirements change.
- Easy upgrade of conventional feeders and switchgear without interventions on power parts like cables or busbars
- Possibility to utilize new functions in the cloud, without changing the equipment physically
- Supporting remote service and troubleshooting



— NeoGear Digital communication —
Note: the graphic above shows logical connection only, actual network configuration based on selected protocol may differ



Customize

- Scalable, modular and flexible platform
- Modular: Use of withdrawable or plug-in technology depending on your needs
 - Easily exchange and upgrade of the components and devices
 - Add new features to an existing installation with minimal effort
 - Flexible, configurable NeoGear platform

Easy to connect

- Connection to DCS, SCADA and ABB Ability platform, non-intrusive to each other



Analyze

- Data available throughout lifetime
- Data monitoring from commissioning throughout life time
 - Analysis improves over time with more details collected

Availability of system and data

- Availability of critical process data
- Access your data even in the case of device failures



Optimize

- Efficient maintenance
- Shift from planned maintenance to condition-based
 - Reduce reactive maintenance costs.
 - Plan ahead with condition reports
- Energy management
- Better energy management.
 - Full transparency to prioritize investment and optimization steps.
 - Optimize operating costs and achieve savings of up to 30%

Continuous operation

- Avoid unplanned outages conduct maintenance where and when necessary



Economize

- Lifecycle and performance management
- Easy replacement
 - Upgrading equipment costs 30% less
- Reduced infrastructure investment
- Ethernet infrastructure
 - PLC free design, reducing infrastructure investment by up to 20%