

## UniGear with Station Automation Station Automation COM600 - All-in-one

Station Automation products should be a common feature of every substation, to transfer all the vital information and data from the process and bay level to the higher level system and/ or to provide a central Human Machine Interface (HMI) as a focus for interaction between the substation and its operators. UniGear with the Station Automation COM600 option offers such a solution in an all-in-one package.

### Functionality

COM600, is ABB's all-in-one station automation device that combines: a user interface solution, communication gateway and automation platform for utility and industrial distribution substations.

The COM600 features web-based functionality that provides access to substation devices and processes via a web browser-based Human Machine Interface (HMI).

The main HMI features are

- Single Line Diagram with Busbar coloring
- Switch Device Control
- Alarms and Events
- Measuring
- Disturbance Record handling
- Parameter Settings protection function
- System Diagnostics
- Data Historian
- Local Language support
- User Management.

The COM600 design process was guided by the IEC 61850 standard for communication and interoperability of substation equipment. The communication gateway functionality of the COM600 supports a variety of commonly used communication protocols for substation devices.

The IEC 61131-3 based logic processor can be programmed to execute automatic sequences directly via communication media. Furthermore, the logic processor enables the creation of both simple control programs and more sophisticated applications such as load shedding or defect isolation and network restoration.

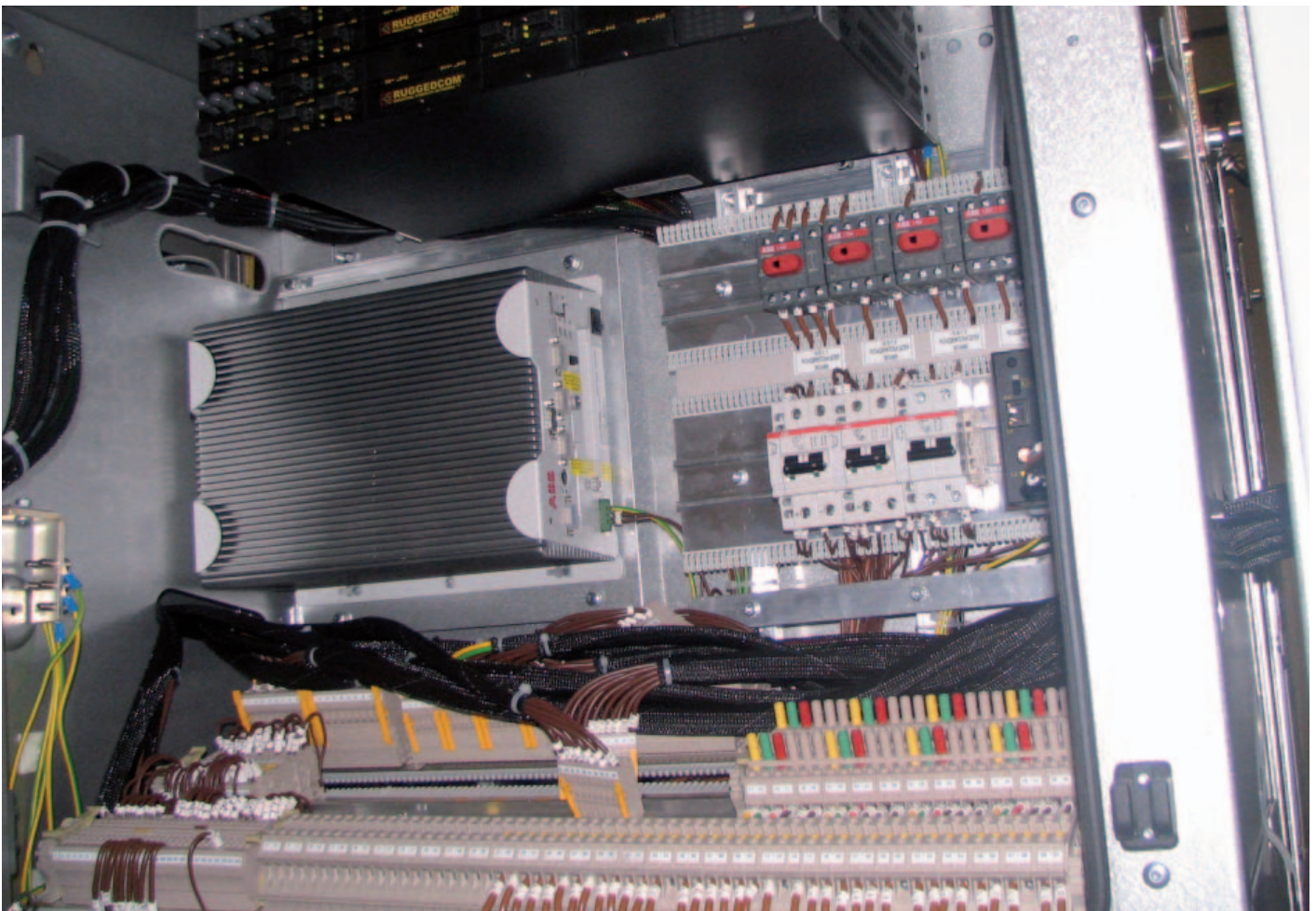


### Ruggedized design

The COM600 hardware platform is based on a ruggedized construction with no moving parts subject to wear and tear. So its compact and robust design is well adapted for harsh environments, and its enclosure meets the IP4x rating for protection.

### Mounting

The Station Automation COM600 offers flexibility of location during assembly due to its small dimensions, the fact that all interfaces are accessible from the front, the wide power supply range and environmental resistance. The COM600 can be easily installed in the UniGear panel's Low-voltage compartment (e.g. Metering unit, Bus riser), including the communication accessories. The main advantages of this approach are that the switchgear is ready for connection (access for all the IEDs from one point), the DC power supply is usually backed up from a battery and of course, the space savings – no need for a special cubicle, shorter communication links, etc.



Low-voltage compartment of UniGear fitted with Station Automation COM600 and network switches

### ABB solutions for different applications

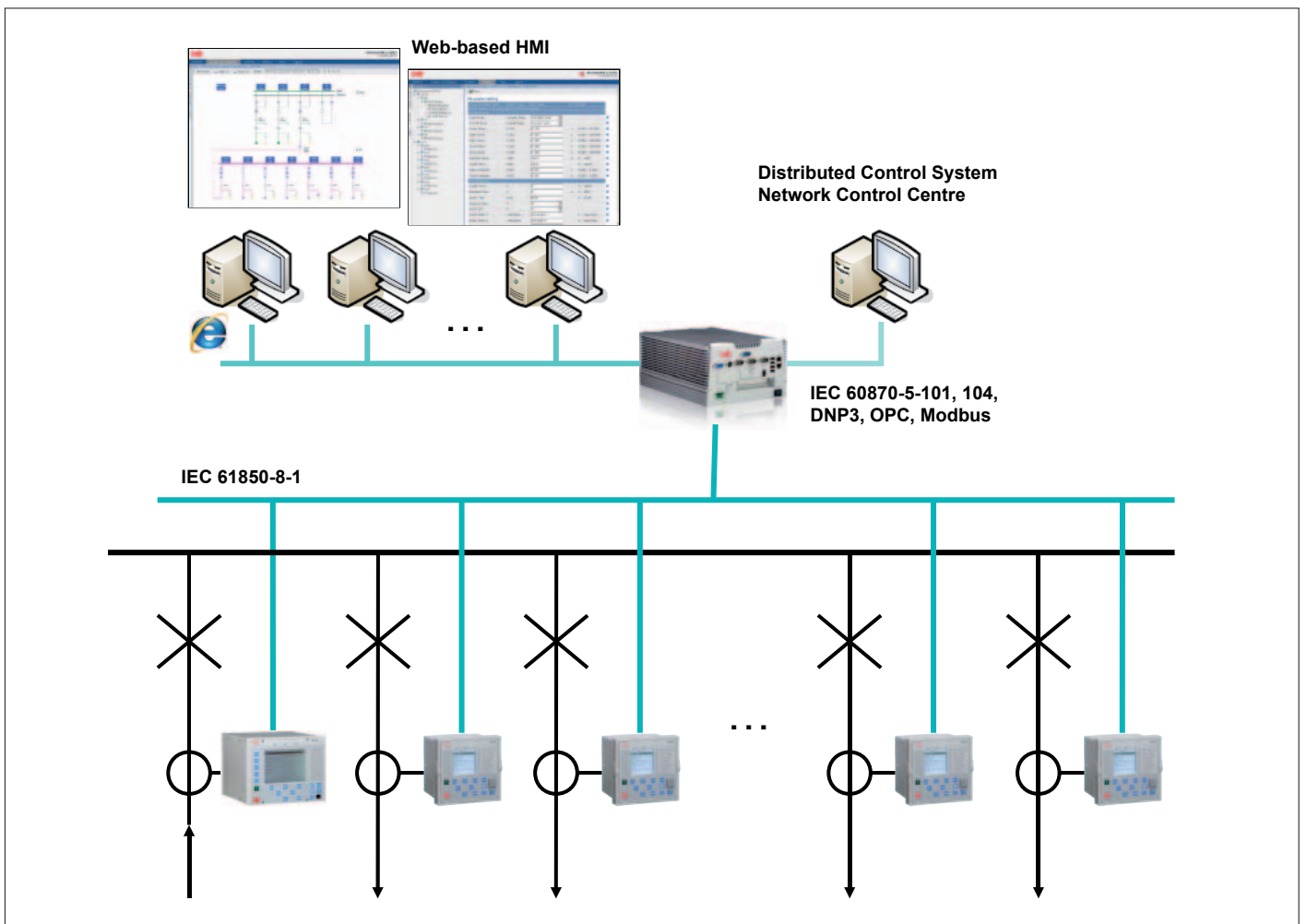
The Station Automation COM600 can be adapted to various applications such as both utility and industrial substations. In general, there are three groups of applications: Communication Gateway, Control and monitor via web-based HMI and Station Automation. Since all applications are based on the same device, it is always possible to upgrade to a different application in the future.

**Communication Gateway** – COM600 gathers the data from protection and control IEDs using different communication protocols and converts them to the network protocols used for communication with higher level systems such as Network Control Centre and Distributed Control System. Various communication protocols can be used to connect to the communication gateway. The supported protocols can be combined freely in the COM600 device, limited only by the number of hardware interfaces and the license.

**Control and monitor via web-based HMI** – Entirely local or remote control and monitoring of the substation is provided via an embedded web- based interface, no additional SCADA product is needed. It offers easy access to essential information gathered from the substation. A single line diagram with busbar coloring based on the actual network status gives a quick overview of the situation and the switching state of the substation. The status data is updated in real time and the single line diagram is re-colored accordingly. Intuitive control dialogs guide you through the control commands in a safe, select-before-execute manner. By reserving the switching device for a single user the risk of controlling the device from two different locations is eliminated.

To facilitate information access, web links to any reference documentation can be added to the control dialogs. Easy-to-read, clear and well-organized alarms and events are always just a mouse click away. Lists are updated in real time, filtering can be applied to sort required information, alarms are colored and classified by their current status. The real-time data historian database is designed and optimized for process information management and extensive history recording.

**Station Automation** – This combines the features and functionality of the two applications mentioned previously. It provides gateway functions for mapping signals between protection and control IEDs and higher-level system, and the Human Machine Interface that provides an interface for exchange of data and information between the substation and the users.



General Example of the Station Automation application

### Benefits

#### Complete Station Automation solution for the substation

- Source everything from a single supplier
- Access all IEDs from one point
- Integration into the Low-voltage Compartment

#### Cost-effective solution

- Minimize the time needed to make Station Automation fully operational
- All-in-one (HMI, gateway and PLC functionality)
- Web Server Technology - No license needed per client
- ABB low end system optimized for ABB IEDs
- Integration into the Low-voltage Compartment, saving space in the substation building

#### Future Proof Concept

- Based on the IEC 61850 standard
- Latest HW and SW technology

#### Easy to handle

- Minimize time for staff training
- No need for a programming expert to perform configuration

#### Increase Safety and Convenience for Personnel

- Secure Remote Access (safe distance)

#### Efficient Maintenance

- Embedded design – maintenance-free operation

#### Comply with international and industrial standards

- IEC 61850 in all relevant parts
- Tested according to CE, EMC, IEC

#### Open solution for different applications

- Step-by-step investment possible
- Safeguards previous investment costs

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