

IEC 61850 enabled UniGear True IEC 61850 support with Relion® IEDs

IEC 61850 is the future proof standard for device communication in substations. It was released in spring 2004 as a global international standard applicable to both the IEC and the ANSI world. Today, ABB has delivered thousands of substation installations based on the IEC 61850 standard worldwide, and its acceptance is growing at an astonishing pace. IEC 61850 enabled UniGear brings the benefits of this standard to your substation.

Key benefits of the IEC 61850 standard

The IEC 61850 standard provides a number of benefits, such as interoperability between all devices in substations independent of the manufacturer, free allocation of real functions on all levels allowing the construction of flexible and open, yet tailored, solutions and independency from the fast-advancing communication technology. The IEC 61850 standard provides long validity by the split of application and communication and support throughout the life cycle by the introduction of a standardized substation configuration language (SCL). The result is an appreciable reduction in costs for the secondary system over its life cycle.

Standardized communication

ABB has developed a new protection and control product family that embraces the IEC 61850 standard for substation automation devices. This family is called Relion®. The full IEC 61850 compliance of the Relion IEDs (Intelligent Electronic Device) has been successfully tested and certified by KEMA. The IEC 61850 implementation supports all necessary monitoring and control functions. In addition, parameter setting and disturbance file records can be accessed using the IEC 61850-8-1 protocol. The IEDs meet the highest GOOSE (Generic Object Oriented Substation Event) performance requirements for tripping applications in distribution substations, as defined by the IEC 61850 standard.



GOOSE messaging

The IEC 61850 standard impacts on not only the design of the IEDs, monitoring and control systems, but also the design of the substation secondary circuit. Horizontal GOOSE communication between IEDs in a substation using a substation local area network offers additional added value to users in all aspects compared to the traditional method of signal transfer.

Reasons to use IEC 61850

Scalability

- The peer-to-peer communication using GOOSE over a substation-wide switched Ethernet LAN enables the use of sophisticated logic schemes

Save time

- Engineering, configuration work, commissioning and startup

Connectivity

- Quick and easy connection to the SCADA system using IED connectivity packages

Reliability

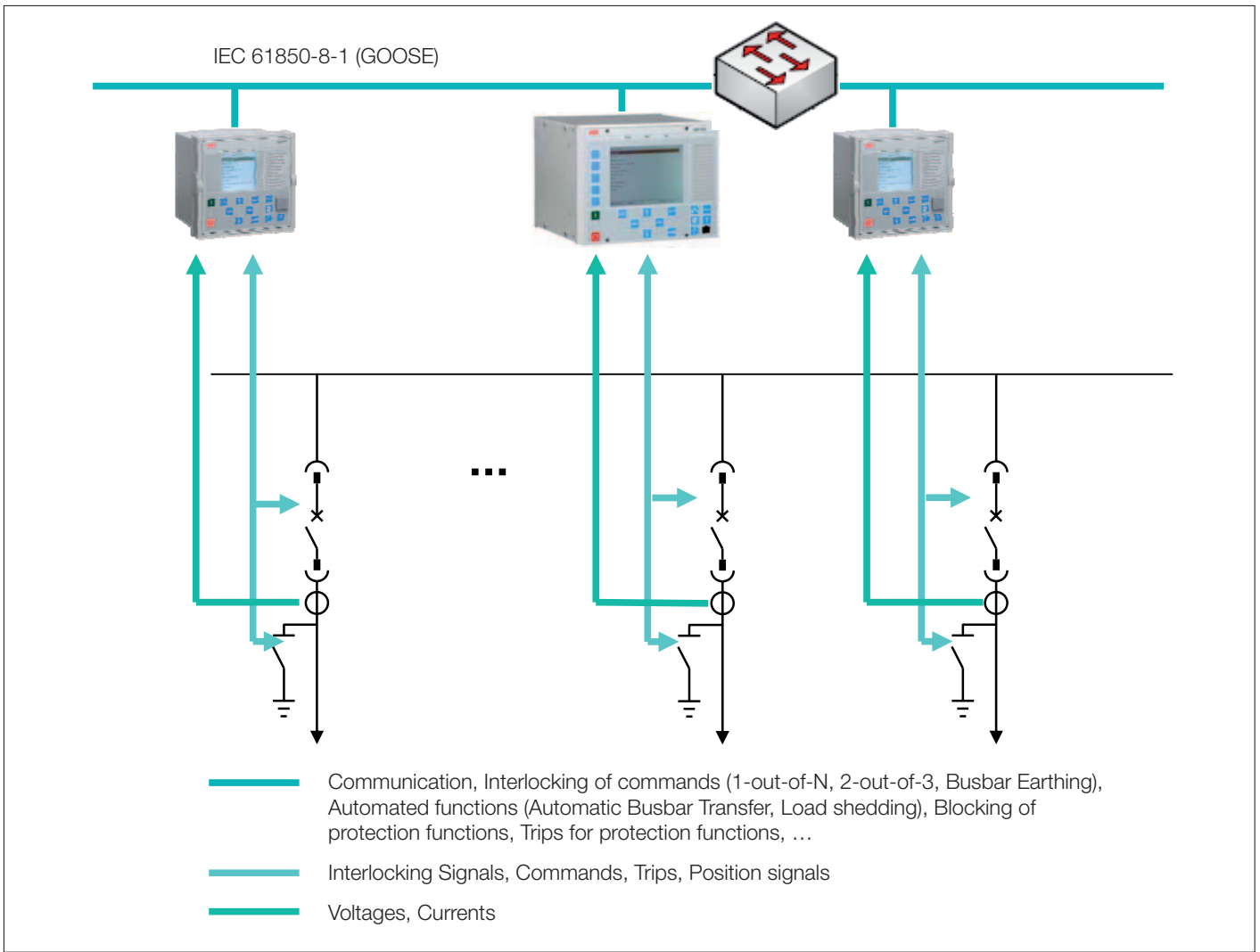
- Constant supervision of the peer-to-peer communication link between IEDs

Performance

- Enabling new, high-performance application possibilities, e.g. high-speed busbar transfer and fast load shedding

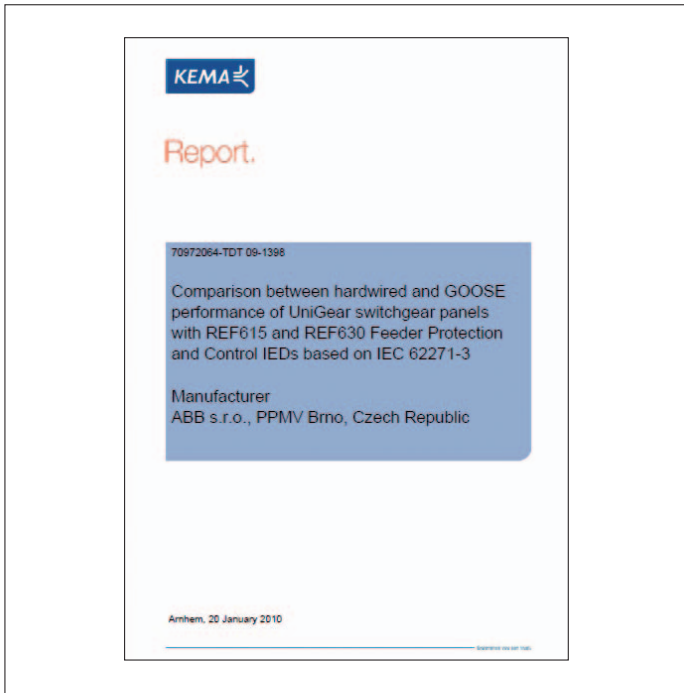
Future proof concept

- The flexibility and scalability provide a platform for easy modification and expansion after commissioning, without the need for additional wiring



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GOOSE approach UniGear



Inspection Report issued by KEMA

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