**Reyrolle**
**Protection**
**Devices**

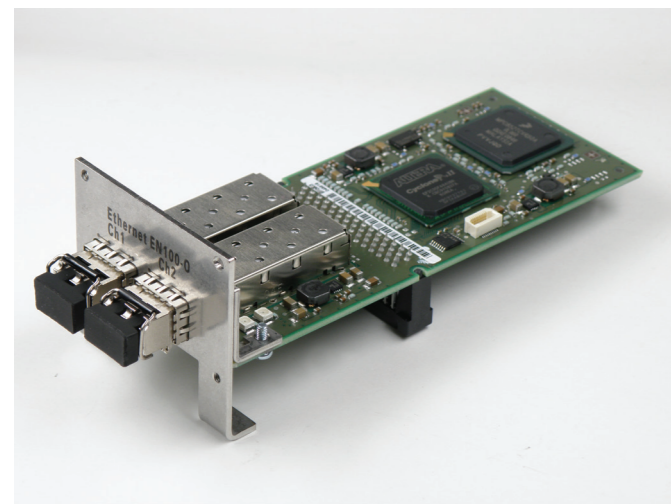# The IEC 61850 interface

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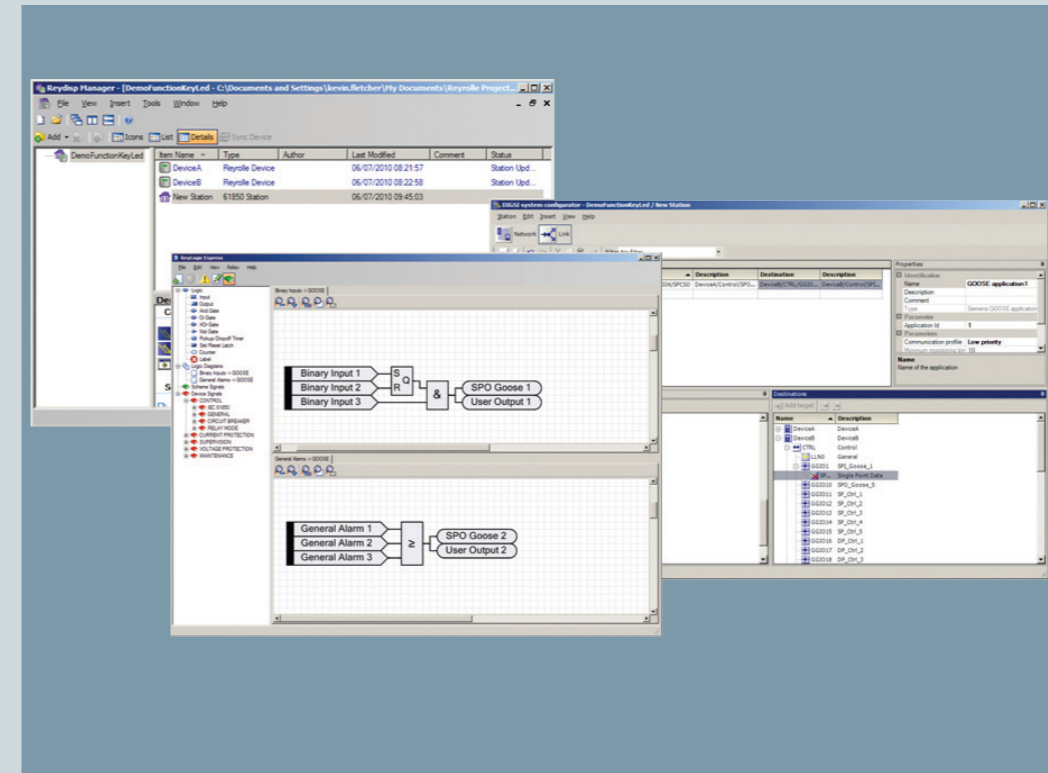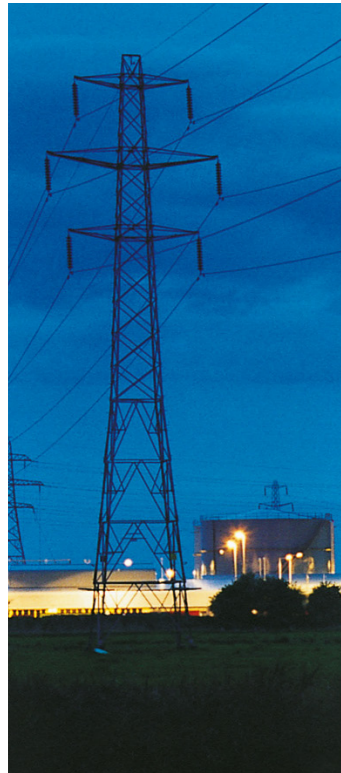
# Reyrolle – the economical solution for your distribution network

**Ethernet EN100 module**

### Latest Technology

IEC 61850 is the Ethernet based protocol which is the worldwide standard for protection and control systems used by power supply corporations.

The IEC 61850 protocol implementation on the Ethernet EN100 module, utilised on the Reyrolle products, benefits from the knowledge and expertise of Siemens who are world leaders in this field with several years service experience gained through the large number of installed Siprotec relays.

By means of this protocol, information can be exchanged directly between bay units to create simple masterless systems for bay and system interlocking. It brings together the convenience of Ethernet with the performance and security that is fundamental in today's substations.

### Reyrolle Capability

The IEC 61850 solution has been designed to deliver a very comprehensive implementation, enhancing the relays flexibility while remaining focused on ensuring a familiar look and intuitive feel. An overview of the capability is outlined here. Access to the relays via Ethernet bus will also be possible using the Reydisp software, to provide the user with all of the functionality of this established PC tool, including setting management and data retrieved.

### Engineering Process

The Reydisp Manager software, integrates with the Digsi System Configurator, ensuring the engineering work flow is optimised with an easy to use and efficient process.

### Goose Messaging

Fast communication between relays uses the Generic Object-Orientated Event (GOOSE) message format. These messages eliminate cross site hard wiring used for scheme applications such as interlocking and breaker fail.

### Time Synchronising

The synchronising of the network connected devices is provided by the Simple Network Time Protocol (SNTP) as described in the IEC 61850 standard.

### Reporting

Reporting provides the mechanism to notify of any change in state allowing event sequences to be logged. The relays support both buffered and unbuffered classes of report control with static and dynamic reporting.

### File Transfer

IEC 61850 allows the transfer of disturbance records.

### Architecture

The IEC 61850 protocol is implemented on an Ethernet EN100 module, available with either fibre optic or electrical connections. The physical inputs are duplicated to permit redundant network structures. The connections are made on the rear of the relay with the element retaining its withdraw ability.

| IEC 61850 Functions | |
|---|---|
| Object Modelling | ✓ |
| Goose Messaging | ✓ |
| Buffered and Unbuffered Reporting | ✓ |
| SNTP Time Synchronising | ✓ |
| Disturbance Record File Transfer | ✓ |
| Redundancy | ✓ |
| 5 Clients Supported | ✓ |
| Fibre or Electrical Ethernet Ports | ✓ |

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