Substation Integration and Automation system for Industries and Utilities

- Integrated protection, control, monitoring and automation system
- Open and scalable architecture
- Complete solutions for utility and industrial substations
- Suitable for new and existing substations
- Bay and station communication, based on open/standard protocol
- Powerful Graphical User Interfaces (GUI)
- Supports dual redundancy

Features

- Provides integration of various substation IEDs like protective relays, meters, power quality monitors etc.
- Provides a complete integrated protection, control, monitoring and automation solutions for power utilities and industries
- Substation function and operation can be monitored and controlled either locally or from a remote location

Applications
**ER 1000 Station Controller (Data Concentrator)**
- Gateway for communication between IEDs and master station
- ER 1000 Station Controller (Data concentrator) for storing data from the IEDs and transferring it to the master station
- Virtual RTU
- Automation unit
- Station level RTU for hardwired inputs

**Features of Station Controller (Data Concentrator)**
- High Performance Standard Bus CPU capable of handling real time applications
- Real-Time Operating System supporting development and implementation of any protocol
- Combination of RTU and PLC functionality in one system
- Acts as a protocol converter allowing connectivity to third party devices
- Standard PLC programming software based on IEC 1131-3 standard for development of application logic

**Human Machine Interface (HMI)**
- PC with full Graphic HMI
- The operational status of the entire substation is visualized in a user-friendly manner
- Scalable and secure
- High data integrity
- Open architecture
- OPC compliant & can work as OPC server or client

**Communication**
- Serial communication
- Fibre optic communication
- Modem
- LAN/WAN, USA, GSM/GPRS

**Graphical User Interface**
- The operational status of the entire substation control system is visualized in a user-friendly manner. More than one operator’s workspace on different hierarchical levels possible

**Monitoring**
- Measurement and display of current, voltage, frequency, active and reactive power, energy etc.
- Trends, Events, Alarm functions, storage and evaluation of time stamped events

**Control Features**
- Supervisory control and monitoring of switching devices, tapped transformers, auxiliary devices etc.
- Dynamic busbar coloring according to the actual operational status

**Communication Protocols**
- Communication between bay and station level is provided by Fibre-Optic bus using the following protocols
  - IEC870-5-103 (Serial)
  - DNP3.0 (Both Serial and Ethernet)
  - Modbus (Both Serial and Ethernet)
  - IEC870-5-101 (Serial)
  - IEC870-5-104 (Ethernet)
  - TCP/IP based LAN on station level to connect several substation or communication servers or operator workstations
- Different protocols are available for communication with Remote Control Centres

**Customer Benefits**
- Increased productivity
- Reduced time to find and fix problems
- Optimum utilization of station equipment and thereby improving the asset management
- Reduced cabling and civil cost

**Financial Benefits**
- Increased productivity
- Reduced operation and maintenance cost of equipment
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Customer Benefits
- Operational Benefits:
  - Integrated control and protection
  - Improved access to substation data
  - Condition based monitoring of station equipments for maintenance and analysis
  - Faster operational decisions made with more timely data
  - Improved power system flexibility, reliability & availability

- Financial Benefits:
  - Increased productivity
  - Reduced time to find and fix problems
  - Reduced operation and maintenance cost of equipment
  - Optimum utilization of station equipment and there by improving the asset management
  - Reduced cabling and civil cost
The policy of Easun Reyrolle is one of continuous improvement and development. The company therefore reserves the right to supply equipment, which may differ slightly from that described and illustrated in this publication.