Utility Communications
Get your distribution network running with the SCADA Com Unit

To ensure reliable telecontrol networks (e.g. for electrical power grids) robust and secure SCADA systems are required. Such SCADA systems have to be based on reliable communication systems offering data transfer via different media.

The SCADA Com Unit is a transmission system for reliable and cost-optimized data transmission with up to 6 Mbit/s in telecontrol systems. It offers a solution for traditional RTU protocols such as IEC 101 (RS232) and at the same time it works with modern LAN Protocols (IEC 104).
The SCADA Com Unit

is a multidrop system with a maximum of 63 units permitted on a single transmission route. The SCADA network can be arranged in either a linear or ring topology. The ring configuration offers higher network availability by providing redundant paths. The system is based on a modular design. Interchangeable line interfaces can be used to allow easy conversion between different transmission media. The two transmission modules can be chosen independently for:

- Copper pair
  Up to 16km with 1.2mm diameter, 512kbit/s
- Single SM fibre
  Up to 40km with long haul module
- E1 interface
  G.703, connection to PDH/SDH system

The unit can also be used as a repeater or media.

Application

On the application side the system supports traditional RTUs with serial RS232 interfaces. Modern RTU applications with IEC 104 protocol can be operated in parallel. This allows easy adaptation to new SCADA protocols.

Configuration can be done via DIP-switches and a PC-based management tool. This management tool offers extensive setting configuration and control capabilities. An SNMP interface allows alarms to be sent to a higher level management system.

The SCADA Com Unit is designed for operation in extreme climatic conditions (~25°C to 70°C). It is also shock resistant and can be operated in environment with high level of electromagnetic interference.

Typical Application

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Advantages

- Designed for harsh environments
- Integration of fibre, copper and E1 in one system
- Offers interfaces for IEC 101 and IEC 104 protocols
- Replaces single modem solutions
- Guaranteed bandwidth of 1 Mbit/s per LAN port
- Easy installation on DIN rails
- 1 fiber-optic interface (send & receive over one fibre)
- Transmission speeds programmable for HDSL links
- Advanced Management System
  - Supervision of the whole SCADA Com System from a control center possible
  - Automatic Discovery of nodes and topology
  - Automatic traffic protection in a ring without switching time
  - Information available on alarms and performance
  - Remote configuration with management tool
  - SNMP interface for network integration

Technical data

User interfaces

RS232: asynchronous, max. 230.4 kbit/s, RJ45
Ethernet: 1 x 10BaseT, 1 x 10/100BaseT
          (Layer 2 Bridge), RJ45
MAC:      IEEE 802.1
PPP-Protocol: RFC 886/1122

Line interfaces

Optic: One fibre SM, F-3000, 2 Mbit/s, 6 Mbit/s
      Short distance: 13110nm, 20km (0.625dB/km)
      Long distance: 1310/1550nm, 40km (0.625dB/km)
S-HDSL: according ITU-T 991.2
Data rate: 512, 1024, 2048 kbit/s, 5.7Mbit/s
E1: G.703/G.704, 120 Ohm, sym.

General data

Dimensions: 135 x 43 x 150 mm, ca. 400 g
Power Supply: 20..75VDC, <6W
Operating temp.: ~25...+70 °C
EMC: EN300 386 V1.3.2,
      ETSI ES 201 468 V1.2.1
MTBF: > 70 years
Management: 1xRS232 (RJ45), 1x10BaseT (RJ45)