LIOS TECHNOLOGY

Embedded Communication Module (ECM) for OTS Controllers

General

The Embedded Communication Controller provides enhanced connectivity and data storage options for any type of OTS controller.

Software plug-ins for various industry-standard SCADA protocols are available in addition to the LIOS LON protocol. The following protocols are supported: DNP3, IEC 60870-5-104, MODBUS TCP, WitsML/Energistics and LabVIEW. Further protocols can be added upon request.

The built-in firewall and optional encryption for most protocols reliably protect the device when operated in a wide area network. The OTS with ECM can be operated as a data logger without steady connection to a controlling system using the built-in flash disk.

The ECM is available as an option with any OTS controller type.

Physical Interface

- Ethernet 10Base-T (10Mbit/s, IEEE 802.3 Clause 14)
- 8P8C socket (RJ-45)

Data Storage

- Built-in flash disk
- Stores at least 72 hours of measurement data (depending on configuration)
- Automatic synchronisation of stored data with the Charon_02 data base after re-connection

Ethernet Features

- User-configurable firewall
- Single-click configuration using Charon_02
- DHCP configuration support (IETF RFC 2131)
- NTP clock adjustment support (IETF RFC 4330)
- LIOS LON protocol
- Simultaneous connection of up to 16 Charon_02 and/or third-party clients using LIOS public code

DNP3 Software Plug-In (Option)

- DNP3 outstation
- Available data: Zone temperatures, alarm/fibre break status, triggered sub-zones, alarm triggering locations, error flags, fibre break position, spatial resolution, temperature profile, time stamps
- Support for spontaneous responses
- Optional TLS encryption/authentication (IETF RFC 4346)

IEC 60870-5 Software Plug-In (Option)

- IEC 60870-5 controlled station
- Available data: Zone temperatures, alarm/fibre break status, triggered sub-zones, alarm triggering locations, error flags, fibre break position, spatial resolution, temperature profile, time stamps
- Support for spontaneous responses
- Optional TLS encryption/authentication (IETF RFC 4346)

MODBUS Software Plug-In (Option)

- MODBUS client

- Available data: Zone temperatures, alarm/fibre break status, triggered sub-zones, alarm triggering locations, error flags, fibre break position

- Optional TLS encryption/authentication (IETF RFC 4346)

WitsML/Energistics Software Plug-In (Option)

- Locally stores compressed Energistics WitsML Version 1.3.1 files containing zone temperatures, alarm/fibre break status, triggered sub-zones, alarm triggering locations, error flags, fibre break position, spatial resolution, temperature and back-scattering profile, time stamp

- Stores >72 hours of measurement data (configuration de-pendant)

- File transfer on demand to Windows client computers using LIOS remote backup protocol

- Optional TLS encryption/authentication (IETF RFC 4346)

LABVIEW Software Plug-In (Option)

- Creates LabVIEW® compliant XML data exchange files con-taining Zone temperatures, spatial resolution, temperature and backscattering profile, time stamp

- Automatic HTTP 1.1 (IETF RFC 2616) data transfer to a re-mote server

- Local fallback data storage on the built-in flash disk when the remote server is unavailable (>72 hours of measurement data, configuration dependant)

- Optional TLS encryption/authentication (IETF RFC 4346)

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