Complete SCADA solution for Remote Monitoring and Control

**FF-Automation** (founded 1976) manufactures AutoLog RTUs, designs and supplies complete automation SCADA solutions for remote monitoring and control applications.

Wireless Automation technology expands the data communication possibilities. Distant sites with no wired power or communication networks can be monitored and controlled wirelessly. Remote monitoring gives many benefits: No more expensive on-site visits, site measurements can be collected and analysed remotely, preventive actions can be made to avoid critical failure situations, maintenance workforce can be controlled based on real-time data.

AutoLog RTUs (RemoteTerminal Units) are used in many industry areas all over the world. Typical customers are – for example – oil and gas producers who are using AutoLog RTUs for monitoring and controlling oil & gas wells, pipeline stations, cathodic protection stations, oil & water tank levels etc.

AutoLog RTUs are not tied to any specific applications; using its modular I/O and freely programmed application program and high connectivity, it can be used in almost any remote supervision and control application. AutoLog RTUs are used for example in street light management and energy saving systems, water pumping stations and environmental monitoring applications.

FF-Automation provides complete SCADA (Supervision Control and Data Acquisition) solutions including RTUs, Web capable control room and high specification communication equipments. Complete solution includes also services like system design, factory- and site acceptance tests, training, maintenance, support and spare part guarantee. The goal of our company is to have long term and successful relationships with our customers by giving more value to their business with better products and services.

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**AutoLog® RTU (Remote Terminal Unit)**

The AutoLog RTU device is a programmable logic controller (PLC) that is specially designed to communicate with remote control rooms (SCADA), using the most suitable communication network. AutoLog RTUs are constructed to meet customer’s application needs.

**Combines traditional PLC -features...**

AutoLog RTU has all the traditional PLC (Programmable Logic Controller) features including e.g. numerous I/O combination possibilities, plug-in analog input modules, build-in Modbus RTU (master/slave) communication protocol, connections for various local HMI user interfaces, plug-in serial port communication conversion modules, build-in PID controllers, multi-featured PLC programming etc.

**...with RTU features.**

AutoLog RTU is modular, flexible and more or less customized product. It is constructed to fit with customer's application. E.g. the following features affect the final construction of AutoLog RTU:

- Used communication network? Modem and antenna selection.
- Monitored application? RTU and I/O type selection.
- Control needs? Application programming.
- Environmental conditions? Enclosure protection class, surge protection, heat calculations.
- Out of power network? Low power RTU, solar panel, accumulator.
- HMI (Human Machine Interface) needs? HMI selection.
- Mounting? Wall, pole or other mounting accessories.
- Is customized look or size needed? Enclosure design.
- Is GPS positioning or time synchronization needed?
- Is redundancy needed?

FF-Automation can design RTU which meets all special requirements.

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**Communication**

AutoLog RTU devices can communicate using variety of wire bound and wireless networks. FF-Automation can help customer for selecting the most suitable communication media for their application.


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Modbus communication protocol

Modbus is a serial communication protocol. Modbus is the most commonly available means of connecting industrial electronic devices. AutoLog RTUs have build-in Modbus RTU communication protocol. It can run as master or slave mode. Modbus can be used to connect RTU with SCADA and with other RTU- and Modbus devices like energy meters. AutoLog RTU supports also extended Modbus addressing so it allows thousands of RTUs to be connected in the same SCADA network.

Data logging

AutoLog RTU device can time-stamp and store (log) measurement data into its memory. This log can be read to control room SCADA e.g. after the communication break. Log size can be for example 3000 x 20 time-stamped measurements.

Wireless I/O

In addition to AutoLog RTU’s normal I/O, it can optionally connect also with wireless I/O. AutoLog Wireless Sensor modules can be used in applications which cannot be wired or wiring is very expensive.

HMI display

HMI (Human Machine Interface) can be used e.g. to see measurement values or set parameters locally in the field. HMI can be connected to RTU's serial or I²C port. Small keypad/character displays or graphical touch screen displays.

Low power features

AutoLog RTU product family has models which are developed especially for low power consumption applications where the device is used outside the power network. Low power models have configurable power save modes. FF-Automation can supply solar panel and accumulator solution for powering RTUs.

Harsh weather conditions

AutoLog RTUs are designed to be used in harsh weather conditions (high temperature and dust). AutoLog products are tested in heat chambers. Enclosures are water and dust proof (normally IP56 / NEMA4 rating).

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Complete SCADA system

FF-Automation's complete SCADA system includes e.g.

- Defining the project specifications with the customer; selecting right hardware, communication method and functionality for the customer's application.
- Manufacturing and programming the AutoLog RTUs
- Supplying communication devices, antennas, solar panels etc.
- SCADA application program development
- FAT (Factory acceptance test) for the system supervised by customer
- SAT (Site acceptance test) and implementation
- Operator and maintenance training
- Documentation and project backups
- Maintenance support and spare part guarantee

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AutoLog Success Stories

- Saudi Aramco: Remote Rectifiers Monitoring for Nation wide Oil & Gas Pipeline Cathodic Protection System

- Iranian Oil Field Company (NIOC): Remote Monitoring & Control of Gas Wellheads and Line Break Valves

- Khalda Petroleum, Egypt: Remote Monitoring & Control of Gas Wellheads and Line Break Valves

- Ventspils Nafta, Latvia: Automatic remote control for oil tankage area (2nd biggest oil harbour in Europe)

- Gas Company, Turkey: Remote LNG gas tank level monitoring using GSM

- Russian Railways, World’s longest railway connection from Helsinki to Vladivostok. Remote Monitoring & Control of Transformer stations.

- City Gas, South-Korea, Soul, Wonju, Kunsan, Mokpo cities Remote Monitoring & Control of gas measurements and pipeline cathodic protection.

- Street Light Management System gives up to 30% energy savings. Over 20 cities in Finland use AutoLog SaveLight System.

- Look more from www.ff-automation.com

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