AutoLog® GRUNDFOS Pumput Oy pump control system
FF-Automation Oy is a Finnish company and it has over 35 years expertise in designing and manufacturing cost-effective automation solutions. Our main focus is on wireless automation products which allows remote monitoring and controlling of different kind of Oil & Gas, Water, etc. applications.

Our AutoLog® product family is giving the complete solution from field I/O level of Remote Terminal Units, from communication solutions to Supervision SCADA systems. AutoLog products are using the latest communication methods like Radio, TETRA, Ethernet, GSM, Wireless sensors, TCP/IP, etc. We have released new products like TETRA RTUs and Wireless Sensor Network - first on the market!

FF-Automation’s typical clients are Oil & Gas corporations, Water treatment plants, Machine manufacturers – like Cathodic Protection rectifier manufacturers and many others.
FF-Automation’s Application areas

- Cathodic protection
- Street light control
- Pump control
- Water treatment
- Tanks & storages
- Production facilities
- Pipelines & valves
- Real estate objects
- Oilwells and pumps

Sophisticated Automation
FF-Automation’s AutoLog® Family Products

- AutoLog® GSM
- AutoLog® TETRA
- AutoLog® RTU
- AutoLog® PLC
- AutoLog® Wireless
- AutoLog® Radio Modem
- AutoLog® HMI
- AutoLog® M2M
- AutoLog® ControlMan™
- AutoLog® SCADA

Sophisticated Automation
**Facts about the Grundfos Group**

- Annual production of more than 10 million pump units.
- Number of employees: +11,700
- Turnover (2012) over 3 billion €.
- The Grundfos Group is represented by companies in all parts of the world.
- Grundfos was established in 1945.
- Grundfos is one of the world’s leading pump manufacturers.

**Product lines:**

- Circulator pumps (UP)
- Submersible pumps (SP)
- Centrifugal pumps (CR). Today, Grundfos is the world’s largest manufacturer of circulator pumps, covering approximately 50 per cent of the world market for these pumps.
- Grundfos manufactures electric motors for the pumps.
- Oy Grundfos Pumput Ab develops and sells state-of-the-art electronics for controls for pumps (FF-Automation RTU's)

**Applications:**

- Circulator pumps are used for heating, ventilation and air-conditioning in domestic houses, office buildings, hotels, etc.
- In the **Water-supply and Waste-water segment** Grundfos offers a wide range of reliable pumps for irrigation, green houses and for municipal, private and industrial water supply as well as sewage applications.
FF-Automation supplied to Oy Grundfos Pumput Ab 100% tailored solution for remote monitoring and control of pump stations. In total more than 5000 units supplied.

Main system components are:

- OEM AutoLog® units with GSM/GPRS data transfer
- Cloud-based (SaaS) SCADA software based on AutoLog® ControlMan™

OEM AutoLog® units for pump monitoring and control
AutoLog® pump remote monitoring and control system

OEM AutoLog® units for pump monitoring and control

S O P H I S T I C A T E D   A U T O M A T I O N
AutoLog® pump remote monitoring and control system

OEM automation units for pump monitoring and control

- Separate automation units connected to existing pump's I/O
- Separate automation units connected to existing pump's control systems
- Embedded automation units with direct I/O controls connected to pumps
AutoLog® pump remote monitoring and control system

WEB INTERFACE

ControlMan™ Web Interface is based on well proven AutoLog ControlMan service. The servers are hosted by Internet hosting companies 24 / 7 / 365.

ControlMan™ Web Interface can be used from any PC or device which supports internet Web or mobile browsing. Only authorized users can use the service.

ControlMan™ Web Interface can be maintained remotely. New control units, users, groups, views, reports etc. can be added and configured remotely.

ControlMan™ Web Interface gives instant status of the street lights on the dynamic map. The problems like burned lamps or fuses are automatically detected. Alarms can be automatically forwarded to servicemen’s cell phones or e-mails.

The multi featured interface has alarm views, trend views, process views, reports and much more!
AutoLog® Pump control is a modern solution for the management of sewage pumping stations and water treatment, which allows remote monitoring and control their conditions and statuses.

The standard system can control 1 .. 4 pumps to provide alternate work, overflow alarming, measure pumps' performance, time to maintenance, etc.

All settings and controls in real time could be seen on display using the ControlMan™ cloudSCADA web-service. It is possible to create reports and send reports on accidents to mobile phones on duty personnel.
Communication is performed over GSM / GPRS networks, as well as radio modems, wireless sensor networks and TETRA.

AutoLog® GSM-RTU controls one or two sewer pumps to maintain water levels within acceptable limits. The system is able to identify various unforeseen conditions and allow pumping stations to send messages immediately to ControlMan™ or mobile phone charge of personnel.

When exceeding a certain water level, preliminary pumping stations are commanded to stop pumping. The system calculates the efficiency curves of pumps that can be analyzed through the Internet interface ControlMan™. The efficiency curve shows situation when the pump is slightly clogged or damaged. It is also possible to calculate replacement or maintenance period of the pump.

Flexible control algorithms

Communication is performed over GSM / GPRS networks, as well as radio modems, wireless sensor networks and TETRA.

Preliminary pumps are turned off to stop emptying when the water level exceeds the maximum level.
AutoLog® pump remote monitoring and control system

Control system technical features

**Dynamic map**
- Pumping stations’ statuses and conditions can be seen in the dynamic map.

**Alarms**
- All active alarms in a single window, signals from each pumping station separately
- Alarm history reports
- Alarms via SMS or e-mail to duty personnel.

**Bar graphs and views**
- Fault diagnosis and reporting
- Daily minimum / maximum levels
- Average data per hour
- Pump performance bar graphs
- Diagrams of counters and timers for days, weeks, months and years.
- Diagrams of energy consumption by day, week, month and year.
- Diagrams of pressure by days, weeks, months and years.
- All information can be exported to EXCEL format to create their own reports.

**Configuration**
- Parameters can be set remotely using a web browser or GSM phone.
- Pump controls: start / stop / trigger levels according to alarms, delays.
- Phone numbers and email addresses of service personnel.
- Installation troubleshooting and power saving settings.
- Alarm response time when the pump is used long-term.
- Limits / counters for daily operation of the pumps.
Control device enclosures may have different protection levels (IP21 - IP66) (NEMA 1 - 4X) for installation on existing equipment.

FF-Automation can manufacture and supply control cabinets for the individual pumps and central stations with all necessary electrical equipment, is completely ready for connection and commissioning. Control devices enclosures may have different levels of protection.

AutoLog® control devices can be performed in various configurations to comply with customer requirements.
Control systems manufacturing

All of our control devices are designed and manufactured in Finland, at our factory in Valkeakoski city. Rigid quality control ensures our products a long and trouble-free operation in harsh environments for many years.
FF-Automation has a worldwide network of AutoLog® system integrators and distributors. We are also constantly seeking more new co-operation partners, representatives and software partners.
For more information about FF-Automation and the AutoLog® range of control products and automation solutions, please open www.ff-automation.com

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