

The
AutoLog[®]
Family
presents



AutoLog[®] Success Story



We've got it under control
Sophisticated Control Technology

Grundfos, AutoLog[®] OEM-RTUs



FF-AUTOMATION OY



Facts about the Grundfos Group

- Annual production of more than 10 million pump units.
- Number of employees 11,700
- Turnover (2003) 1,8Billion USD.
- 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
- Grundfos 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.





What FF-Automation is delivering to Grundfos ?

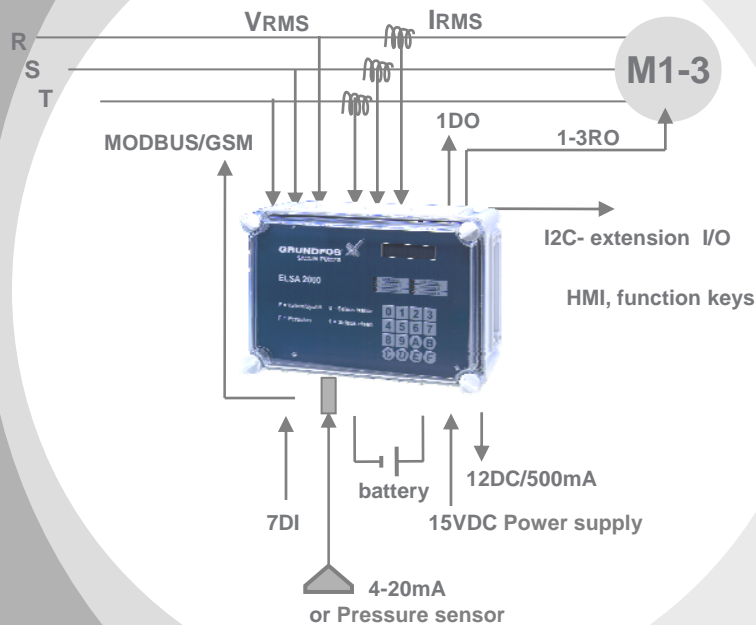
Technical information from RTU:



- GRUNDFOS-FIBOX EK-box,
- 1 x RS232/485 and 1 x RS232 for – GSM-modem etc...
- HMI
- A place for an additional GSM-module
- 230VAC power supply
- UPS-function and an external 12V/1,2Ah battery
- A supply for external devices after UPS, 12VDC/300mA,

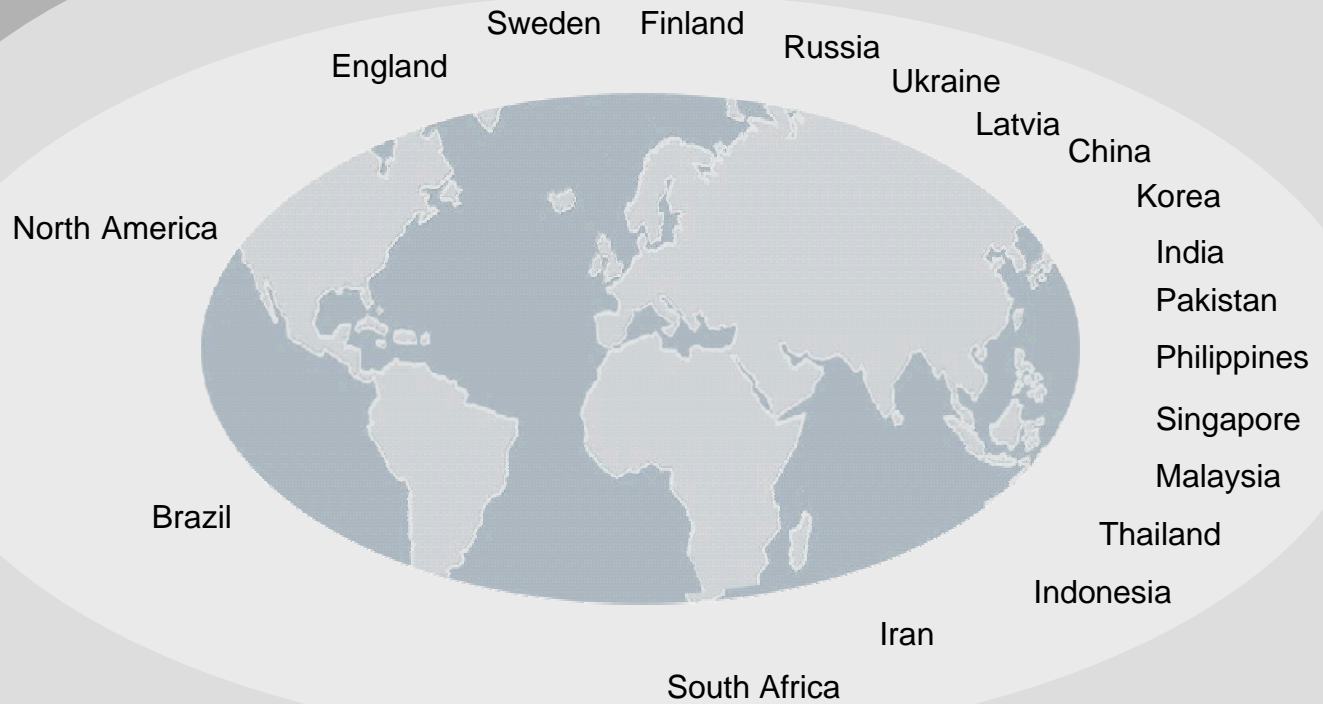
The data transfer protocols:

- MODBUS RTU master/slave (KAUKO), GSM SMS or DATA
- The device can be programmed with FFA WINALPRO- the old programs can be utilized directly (ELSA500/2000).



Technical specifications:

- 3+3 AI, 12bit, measuring 50Hz current and voltage RMS values, true three phase power and energy consumed,
- RMS-values with 8 bit accuracy, External current transformer and voltage transformer or resistor divider,
- Pressure sensor, for ex. SENSORTECHNICS, on board, Alternatively connectable to a 4-20mA analog input.
- Bell type pressure sensing,
- 1 AI, Battery voltage monitoring and deep discharge protection,
- Power supply level monitoring ON/OFF,
- Current measurement 0-5A Ac from external current transformer, external shunt resistor 0,1ohm, voltage measurement with external transformer or a resistor divider,
- 3 relay outputs, 24 - 230VAC/3A,
- 1 DO, 24VDC/0,5A,
- 7 DI, opto-isolated, 12 – 24VDC,
- integrated display, 2 x 16 characters and 6 buttons,
- 6 programmable LEDs,
- clock/calendar



FF-Automation has a worldwide network of AutoLog system integrators and distributors.

AutoLog® Connections



FF-AUTOMATION OY



For more information
about FF-Automation and
the AutoLog range of
control products and
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