



# Trace Analyzer for water

Powered by German Hardware

## GreenMon<sup>®</sup> Online-Analyser

The GreenMon<sup>®</sup> is a fully automatic, wet-chemical multichannel online analyser.

It detects trace concentrations in fluids.

The operating interface is especially user-friendly.

### Features:

- New photometer technology with high stability allows trustworthy measurements at low trace levels
- Many functions are included in the standard version, eg. Cyclical self-calibration and dilution processes
- RS-232/RS-485, LAN, CAN-bus
- Intelligent event handling via SMS, Fax or E-Mail
- Communication via TCP/IP over LAN, (optional W-LAN, GSM, GPRS and UMTS)
- Comprehensive software products are offered for archiving (SQL database), programming, visualization and real-time representation
- Administration of operation and analysis data in a MYSQL databank with data interface for integration, interrogation and further analysis of the data
- Use of wet chemical methods (Ionometry, Colorimetry, ...)
- Fully automatic operation with self-monitoring
- Compact user-friendly construction with minimal maintenance expenditure
- Actuation and control (PID) of metering pumps, metering units, valves, analog and digital, PLC functionality
- Implementation of PCS functions e.g. connection of external sensors and control via external actuators and calculation of complex parameters
- SCADA option with Remote Display and Operation from a PC via cable, Intranet, Internet, GPRS or UMTS
- Easy maintenance due clear and easy setup and easy reachable parts.
- Color TFT touch Display with good readability

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# GreenMon<sup>®</sup> Sodium ISE

## GreenMon<sup>®</sup> Sodium ISE

Full automatic online analyzer for measuring medium concentrations in fluids according to wet chemical methods

The Ionometric Sodium version of the GreenMon<sup>®</sup> system comprises the following equipment:

Analyzer unit, control and measurement electronics in metal cabinet  
Number of probe channels: 1 (optional up to 6 Channels on request)

### Procedure : Sodium

Range: 0 - 200 ppb to 0 - 1000 ppm )

A Buffer (designed for the specific sample conditions) is added to the sample to adjust the pH and the Ion Strength.  
The Concentration is than measured with an sodium sensitive glass Electrode.

### Typical performance data using aqueous standards:

#### Test conditions: range 0 – 1,0 mg/L

Minimal measuring time (at 20°F)	approx. 5 min
Interferences	Potassium-, Lithium-, Silver-Ions
Measurement accuracy	± 5 % of range

### System description GreenMon:

- Optimal dilution rate programmable
- Integrated PC with Linux-based operating system
- Graphical user interface with interactive touch screen operation
- Full network capability via direct LAN connection
- All standard communications interfaces are supported CAN-Bus, LAN, Modem and RS232 or RS485
- Protocols Modbus TCP and Modbus serial, other on request
- (Profibus DP optional)
- Connection of additional sensors (e.g. pH, conductivity, O<sub>2</sub>, Turbidity, ISA spectrometer or other) is optional via the CAN-Bus §

**Modem:** The following modem types are optional available: UMTS, ISDN or Analog modem.

### Technical Details:

Power 110/220 VAC  
Protection classification: IP 54 (optional IP65)  
Dimensions (HxWxD): Analyzer cabinet: 800 x 600 x 350 mm  
Optional: Reagent cabinet 350 x 600 x 400 mm  
Cabinet material: Stainless Steel SS 316  
Sample pressure: 0 bar (max 0.05 bar overpressure)  
Sample temperature: 10 ... 35°C  
Sample flow rate: 2... 10 l/h, no suspended solids  
Environmental temperature: 15 ... 35°C  
Operating system: Embedded Linux  
Power consumption (average): 45W

### Measurement, control inputs and digital outputs, Interfaces:

1x Ethernet (incl. MOD Bus)  
1x RS232 or RS485 (incl. MOD Bus)  
1x CAN bus (for connecting further GreenMon system modules for sensors and actuators)  
1x modem slot for UMTS, ISDN or analog modem (modem optional)

### Actuators:

2x current output 4 - 20mA alternatively 0 - 10V  
2x relays for alarm function

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