G.O

SYSTEMELEKTRONIK

WE MAKE LIQUIDS TRANSPARENT.

complete solutions for water measurement

Content

Crystal clear!

Check what is going on at any time. Control all data on-line and in real time be able to call it up decoded from our secured internet server (Cloud). Even data measured a few days or weeks before. And to be able to count on immediate notification anytime per SMS should anything go wrong. The GO Systemelektronik solutions are that reliable.

If you talking about measuring, analysing and monitoring of sewage, process and drinking water or soil rehabilitation we are your partner. Our solutions have been in use worldwide in shipping, aquaculture, medicine, in the food industry and other branches for over 20 years. And parallel to this our engineers have been further developing innovative and mobile solutions for GO Systemelektronik. For example, our BlueBox System which combines measuring and controlling in a modular and scalable system which links via a Bussystem over 200 sensors and actuators. This works, as with all interactions of our products, simply by using the plug-in-and play principal.

To guarantee the high quality of our solutions we develop our software ourselves and in addition produce our whole product range exclusively in Germany. Our service includes, besides personal assistance carried out by our dedicated staff, a high degree of flexibility. So that everything runs properly as it is supposed to do, or even better, as soon as possible! Because one thing is always close to our hearts: your satisfaction with our solutions!

Dr. Thorsten Knutz | Managing Director
Gunnar Schlumbohm | Managing Owner

Sensitively and accurately!

GO Systemelektronik offers a multiplicity of own sensors and actors for connection to the BlueBox system. Besides these, it goes without saying that sensors and actors from other manufacturers can also be connected.

Conductivity

ISA
UV-VIS-Spectrometer

Turbidity
Oil in water

pH

O2

Here you find a part parameter and actor list of sensors we offer and their interfaces:

Parameter	Symbol / Units	Principle	Range	Implementation
Conductivity	µS/cm	induction	40 - 4000 µS/cm	flow through, submersible
Temperature	°C	NTC	-4 - +120°C	flow through, submersible
Salinity	PSS	formula	0 - 50+ PSS	
Dissolved Oxygen	O2	galvanic cell, flourescence	0 - 25 mg/l	flow through, submersible
pH	pH	ISFET, Glass electrode	ph 0 - 14	flow through, submersible
Turbidity	FNU /NTU	scattered light 850 nm	0 - 3000 FNU adjustable	flow through, submersible
	FNU /NTU	scattered light 860 nm 90°	0 - 10/100 FNU	flow through
Chlorine	Cl	amperometric	0,01 - 10,00 ppm	flow through
Chlor Dioxid	ClO2	amperometric	0,005 - 10,00 ppm	flow through
Ozone	O3	amperometric	0,05 - 10,0 ppm	flow through
Ammonium	NH4	ISE	0,14 - 14000 ppm	flow through
Flouride	F-	ISE	siehe Datenblatt	flow through
Oil in Water / BTEX	BTX	fluorescence	0,1 - 3000 ppm adjustable	flow through, submersible
Level	m	piezoresistance	0 - 100 m	submersible
Pressure	bar	piezoresistance	0 - 20 bar	screw in
Weather Module	°C, bar, %humidity	NTC, IC	-4 - +60°C, 0 - 10bar, 0 - 100%	
Contact	ON/OFF	elektr. contact	0/1	float switch
Redox	mV	elektr. Voltage	+/- 2000 mV	flow through
Rain	mm/hour	pulse	0 - 200 mm/hr	
Analog Input/Output	4-20mA IN/OUT	ADC /DAC	0 - 20 mA	
	0-5VDC IN/OUT	ADC /DAC	0 - 5000 mV	
Digital Input/Output	Digital IN/OUT			
Pulse IN	Puls NPN/PNP			
Serial IN/OUT	Serial IN			
MODBUS IN/OUT	MODBUS IN			
Relay Output	Relay 24VDC/230VAC			

Spectrometer		UV-VIS light calibration	200 - 710 nm	submersible or flow through version
Biological Oxygen Demand	BSB	3	3	3
Chemical Oxygen Demand	CSB	3	3	3
Benzene / BTEX	BTX	3	3	3
Total Organic Carbon	TOC	3	3	3
Dissolved Oxygen Compounds	DOC	3	3	3
UV254 / SAK254	UV254 / SAK254	3	3	3
Nitrates	NO2-N, NO3-N	3	3	3
Total Suspended Solids	TSS	3	3	3
Turbidity	FNU / NTU	3	3	3
Colour	Colour	3	3	3
Fingerprint		Formula	3	3
Contaminant Alarm		Formula	3	3
Water Quality Index	WQI	Formula	3	3

BlueSense

Converts as you please!

Universally deployable transducer with extensive features

blue sense

BlueSense

Features:

- 2 Sensor inputs inputs freely combinable
- Connection of arbitrary sensors via standard interfaces
- Integrated Logger function with data storage on SD Card
- Comfortable operation via LCD Touchpanel
- Language choice in the menu
- Power source configured for either 24 V DC, 230 VAC or 12 V DC battery operation
- CAN bus interface for connection to the BlueBox system
- Modbus communication over RS232 or RS485
- Measurement value output as 4-20mA, freely programmable
- Integrated PID control
- Customer specific calibration of sensors is supported
- Menu-driven calibration function with up to 6 calibration points
- Setting of limit and alarm values
- Signal output via two signal relays and two switching relays
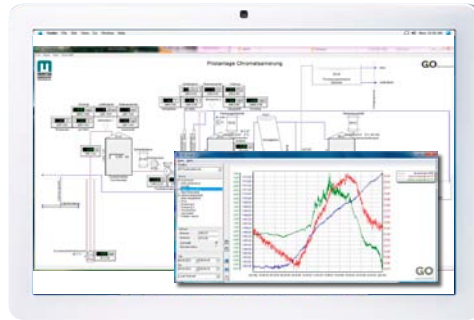- Customized programming is possible

Blue**Box**

Up to every task!

The BlueBox is an ideal measuring and controlling system.
It is the intelligent connection between sensors and actuators.

blue box

BlueBox

Features:

- Modular measurement and control system for all application areas
- Continuous measurement and recording of measurements and control signals
- Measurement storage for an extremely long time (up to 2 years)
- More than 200 sensors and actors can be connected to the system
- Plug-and-Play simple exchange and automatic recognition of sensors and actors (smart sensor)
- Due to implementation of a bus system (CAN bus) a decentralized placement of individual sensors and actors across large distances is simply configurable
- Cost effective connection of remote sensors via radio (Wireless Sensor Module)
- Integration of sensors and actors from all manufacturers
- Ideal for the realization of projects due to the flexible and scalable quality of the system
- Simple adaptation of the system to changing conditions
- Virtual sensors enable the real time calculation of complex measurement entities
- The BlueBox offers extensive SPS functionality and is programmable
- Intelligent Event-handling via SMS, fax or E-mail
- Use of the communication standard TCP/IP over LAN, W-LAN, GSM, GPRS and UMTS
- Comprehensive software products are offered for archiving (SQL data bank), programming, visualization and real-time representation of data
- Remote Control via cable, Intranet, Internet and GPRS or UMTS (roaming freely via BlueGate)

Process Visualisation
SCADA
Online Monitoring

Remote access
Browser
Web-Interface

PDA
Mobile Phone
Personal Computer

WORLD
WIDE
WEB

BLUE
GATE
SERVER

SQL-Data Base

data transfer via   LAN / WLAN   data transfer via   UMTS / GPRS   data transfer via   ETHERNET   data transfer via

BLUESENSE   BLUEBOX   MPS   BLUEMON

The gate to information!

BlueGate is an Internet service that enables platform independent round the clock access from anywhere in the world to the control process, measured values and the status of all devices.
This is made possible by a web server which has a real-time connection with the respective BlueBox system.

Features:

- Automatic administration of all necessary TCP/IP addresses of all registered BlueBox systems via a gateway service. This guarantees the simplest connection of systems at all locations world-wide.
- Provision of a web server for system access
- All devices with a browser function, from mobile phone to PC, can access the BlueBox portal.
- Protected data communication by means of SSL encryption.
- Individual password protected access to all registered systems.
- Automatic saving of all measurement data of the registered devices in an SQL data bank.
- Set up of Subusers with defined access rights
- Real-time representation of the measurement values in tables and line diagrams, including history.
- Export of the measurement values in CSV (Excel) file format.
- Alarm functions individually adjustable, notification via SMS and E-mail (Off-line alarm, Event detection, sensor error)
- Process visualization (SCADA) without special software; only browser functions are required
- Via Internet the simplest form of data protection
- Automatic data dispatch via FTP or SMTP (E-mail; CSV Content)
- Remote access world-wide (remote maintenance) via Internet without roaming expenses (prerequisite is the use of the respective system software, Windows or Android)
- Supply of an OPC-XML interface for the transfer of measurement data to SCADA systems of third party vendors.
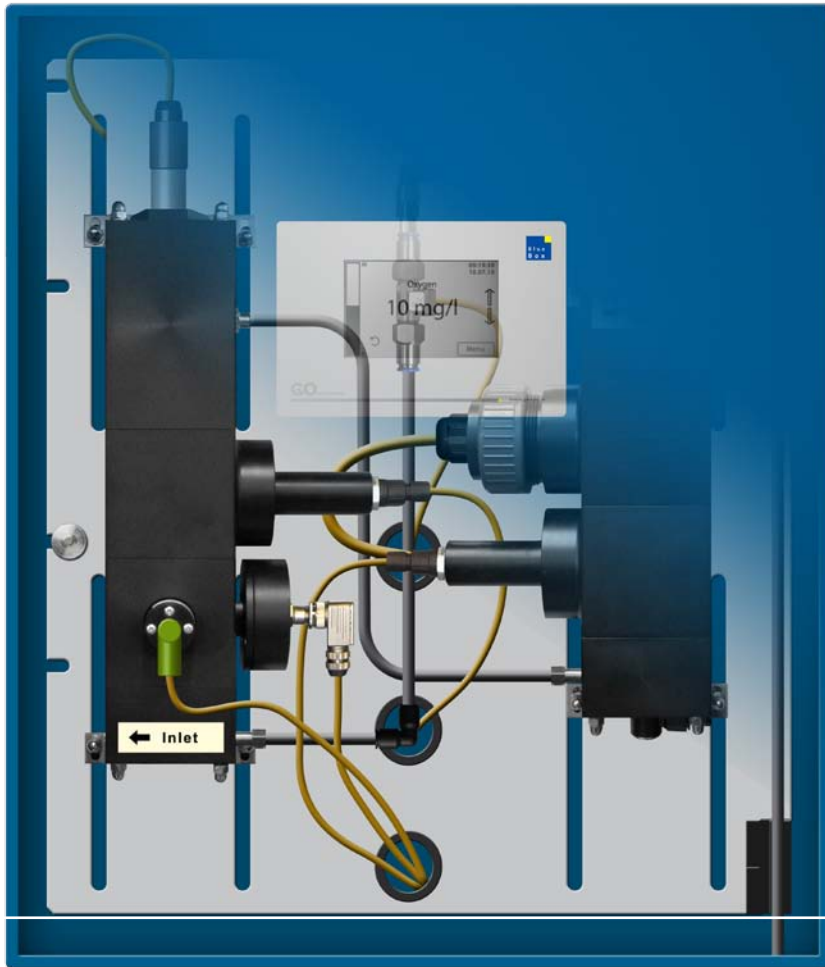
Looks through!

The ISA System is an exceptional combination of in situ Spectrometer with state of the art data processing.

Features:

- By means of the easily adjustable optical measuring path and light intensity, the system can be optimally and simply adapted to the conditions found on location.
- Due to sensor-head construction without active components, unique signal stability, EMC immunity and service friendliness is achieved when compared with other in situ spectrometers!
- Scanning and recording of the Absorption spectrum from 200 nm to 710 nm
- Optical sensor-head, salt water proof, pressure resistant, temperature proof to 120°C
- Automatic integrated compressed air cleaning
- The Calibration algorithms are open for the user to see
- Customer specific Calibration algorithms for parameter calculation
- Individual calibrations are achieved through use of the calibration software ISAplus. Allows calculation of parameters even in complex media compositions.
- Integrated Fingerprint function
- Adaption of the calibration by remote maintenance
- Calculation of up to 99 parameters in real time (Multiparameter calculation)
- Waste water Monitoring, limit detection, water quality monitoring, water quality index
- ATEX certified

Multiparameter System – MPS

Recognizes what comes!

The Multiparameter System is a modular measuring system for continuous monitoring.

mps

Multiparameter System – MPS

Features:

- The MPS is intended for drinking water and clear water applications
- Compatible with all BlueBox system- and software components
- Extendable by connection of external sensors via CAN bus or radio (Wireless)
- The flow-through measurement housing is modular and can be adapted to the demands.
- A large choice of possible sensors is available
- Measurement of more than 12 parameters in one system
- Besides electro-chemical sensors, optical sensors like turbidity and UV/VIS ISA Spectrometer can be integrated
- Continuous recording and control of the water quality
- Intelligent Event-handling via SMS, fax or E-mail
- Use of the communication standard TCP/IP over LAN, W-LAN, GSM, GPRS and UMTS
- Extensive software products are offered for archiving (SQL databank), programming, visualization and real-time representation
- Remote maintenance or Remote Control via cable, Intranet, Internet and GPRS or UMTS (roaming freely via BlueGate)
- Determination of the parameters CSB, BOD; Nitrate, SAK 254; TOC and others by UV/VIS Spectrometry

- Free CL
- Redox
- Temp
- pH
- O2
- FNU
- TOC
- CSB

- SAK
- Nitrate
- Flow
- Conducitivity
- Ammonium

BlueMon

The automatic laboratory!

BlueMon is a fully automatic multi-channel real-time analysis system.

blue
mon

BlueMon

Features:

- With a new user-friendly software method, analyses cycles can be very simply programmed
- Applicable to a wide spectrum of wet-chemical methods
- A new photometer technology with highest stability allows lowest measurement levels
- Implemented Functions, eg. cyclic self-calibration and dilution processes
- Fully automatic operation with self-monitoring
- Compact user-friendly construction with minimal maintenance expenditure
- The operation and analysis data are administered in a MYSQL databank. A data interface hereby exists for the integration, interrogation and subsequent further analysis of the data.
- The innovative software guarantees optimized analysis cycles with short run times.
- The BlueMon Analyser possesses all functions of the BlueBox system, such as for example the connection of external sensors and the calculation of complex parameters
- Intelligent Event-handling via SMS, fax or E-mail
- Use of the communication standard TCP/IP over LAN, W-LAN, GSM, GPRS and UMTS
- Extensive software products are offered for archiving (SQL data bank), programming, visualization and real-time representation
- Remote Control via cable, Intranet, Internet and GPRS or UMTS (roaming freely via BlueGate)

BlueBox systemsoftware

One for all!

A uniform software solution for the following systems:

BlueSense – BlueBox – ISA-Spektrometer - MultiParameterSystem MPS und MPS kompakt - BlueMon

- SQL based databank system for measurement values and configuration
- BlueBox BlueMon MYSQL software family
- This uniform software serves to administer all device components.
- The data of the different device lines can be brought together in the SQL data bank.
- Due to the project oriented databank structure, oversight is guaranteed even with changing applications.
- Uniform interfaces between the software components for administration, representation and subsequent treatment of measurement values.
- Interface for WEB based data archiving and representation.
- Administration of ModBus RTU and ModBus TCPIP for communication with SCADA and other control systems.

The following software packages are available:

BlueBox PC Software, Administration and Representation
- Database application for archiving and processing of measured values
- Calculation of complex mathematical functions based on the measured parameters (virtual sensors)
- Production of logical and temporal linkages between sensors and actors (SPS functionality)
- Production of program cycles
- Administration of messages, e.g. SMS, E-mail or fax
- Visualization online (real-time) and offline

BlueControl, the SCADA solution
- A powerful SCADA solution for the BlueBox system for process visualization (real-time)
- Representation of system-general data points from spatially separated process cycles
- Interactive visual interface for process control
- Freely configurable visualisation, multi-level
- Data interface TCP/IP, Internet gateway

ISA plus, chemometric parameter determination
- Program to calculate calibration functions according to chemometric principles
- The program determines from spectral data and analysis values the functions for the calculation of even complex parameters.
- Consideration of local media qualities

BlueMon PC Software
- New innovative Flow Chart representation of process cycles
- Extremely simple and user-friendly operating surface
- This software can administer an arbitrary number of BlueMon systems.
- Production and administration of analysis-cycle-programs

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