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Анализаторы качества воды Global Water

Технические характеристики

WQ101 Temperature Sensor

Rugged Water Temperature Sensor

Features

- Fully encapsulated electronics
- 4-20 mA output
- Marine grade cable with strain relief

Description

Global Water's WQ101 Temperature Sensor is a rugged and reliable device for highly accurate submersible water temperature measurement. The sensor's probe is molded to 25 ft of marine grade cable, with lengths up to 500 ft available upon request. The WQ101 has a two-wire configuration for minimum current draw. The unit's electronics are completely encapsulated in marine grade epoxy within a stainless steel housing.

Applications

Ideal for stream and lake monitoring, aquaculture studies, baseline analyses, mitigation monitoring, and other environmental applications.

Specifications

Output	4-20 mA
Range	-58 to +122° F (-50 to +50°C)
Accuracy	±0.2°F or ±0.1°C
Maximum Pressure	Open Water: 0 to 200 psi Online: 50 psi
Operating Voltage	10 to 36 VDC
Current Draw	Same as sensor output
Warm-up Time	5 seconds minimum
Operating Temp	-58 to +212° F (-50 to +100°C)
Size of Probe	Open Water: ¾ inch dia. x 4½ in long (1.9 cm dia. x 11.4 cm long) Online: 1.7 inch dia. x 8 in long (4.3 cm dia. x 20.3 cm long)
Weight	Open Water: 8 oz (227 g) Online: 9.4 oz (272 g)

Ordering & Options

Order No.	Description
WQ101	Temperature Sensor for Open Water (includes 25 ft cable)
WQ101-O	Online Temperature Sensor (with 3/4 inch NPT thread and 25 ft cable)
WQEXC	Extra Sensor Cable, per foot (up to 500 ft)

WQ201 pH Sensor

Rugged Water pH Sensor

Description

Global Water's WQ201 pH Sensor is a rugged and reliable water pH measuring device. The pH transmitter is mounted on 25 ft of marine grade cable, with lengths up to 500 ft available upon request. The sensor's output is 4-20 mA with a three-wire configuration. The WQ201's electronics are completely encapsulated in marine grade epoxy within a stainless steel housing. The unit also uses a removable shield and replaceable pH sensor element for easy maintenance.

Record and Control

As with all of Global Water's 4-20 mA output sensors, you can add recording and control capabilities to the WQ201 with the GL500 Datalogger and the PC300 Controller. The GL500 (on page 122) connects to the pH sensor's 4-20 mA output to record data, and the PC300 Controller (on page 132) connects to the sensor's output to control pumps or alarms.

Specifications

Output	4-20 mA
Range	0 to 14 pH
Accuracy	2% full scale
Maximum Pressure	40 psi
Operating Voltage	10 to 30 VDC
Current Draw	5.5 mA plus sensor output
Operating Temperature	23 to +131°F (-5 to +55°C)
Warm-up Time	3 seconds minimum
Size of Probe	Open Water: 1¼ inch dia. x 10 in long (3.2cm dia. x 25.4cm long) Online: 2 inch dia. x 12 in long (5cm dia. x 30.5cm long)
Weight	1 lb (454 g)

Ordering & Options

Order No.	Description
WQ201	pH Sensor for Open Water (includes 25 ft cable)
WQ201-O	Online pH Sensor (with 1inch NPT thread and 25 ft cable)
00-449	pH Sensor Replacement
WQEXC	Extra Sensor Cable, per foot (up to 500 ft)

Please call us for calibration standards.

Features

- Submersible pH measurements
- Fully encapsulated electronics
- 4-20 mA output
- Marine grade cable with strain relief
- Stainless steel housing
- Replaceable pH element

Applications

Ideal for stream and lake monitoring, aquaculture studies, baseline analyses, mitigation monitoring, and other environmental applications.

You may also like . . .

695pH Industrial pH Transmitter
Durable pH transmitter with 4-20 mA output, LCD display, and a protective enclosure.
Page 91

pH-10 Handheld pH Meter
Handheld meter with LCD display for fast and easy pH measurements.
Page 84

pH3110 Waterproof pH Meter
Meter with LCD screen that displays pH or mV and temperature.
Page 66

"Whiskey is for drinking; water is for fighting over."

– Mark Twain

WQMS Water Quality Monitoring System

System for Monitoring Multiple Water Quality Parameters

Introduction to Water Quality Monitoring

In environmental waters, water quality is degraded when pollutants in the water cause conditions to exceed the aquatic system's ability to balance the changes. Two major categories of water pollutants include: point source pollutants from specific sources such as industrial pipes; and diffuse land-based non-point source pollutants carried to water bodies by runoff.

In order to identify, control, and remediate pollutants, water quality monitoring can be conducted in a variety of ways to meet many purposes. Monitoring can occur: continually at fixed sites to characterize waters and identify changes over time; at select sites on an as-needed basis to identify specific conditions; on a temporary basis to identify emerging problems; at random sites to gather information for broad programs; or on an emergency basis to respond to spills. Increasingly, monitoring efforts are aimed at determining the condition of entire watersheds to address the impact of non-point source pollutants.

Data that is collected and shared helps to inform pollution control and remediation plans, especially in cases of watershed-wide decision making. The EPA's STORET is one of the largest online systems for ambient water quality data. Various entities collect and enter data into the database, and raw data can be accessed and used for a variety of purposes. The EPA is currently updating STORET to address developing technologies and provide users with more flexibility in working with online data. The next generation site is tentatively called the Water Quality Exchange.

Description

Global Water's WQMS Water Quality Monitoring System allows you to monitor multiple water quality parameters with a fully integrated, easy to use, economical system. The standard system includes our multichannel datalogger (featuring 7 analog channels and 2 digital channels for data recording) and four of our rugged 4-20 mA water quality sensors for measuring water temperature, pH, conductivity, and dissolved oxygen. To customize the WQMS for your application, you can select up to three more analog sensors and up to two digital sensors to monitor additional parameters such as turbidity, ORP, water level, wind speed/direction, rainfall, and more.

Smart Water Quality Data Recorder

The WQMS's water quality data recorder features 7 analog channels, 2 pulse channels, and USB and serial communication ports. The durable and powerful datalogger is enclosed within a sturdy weatherproof case. The unit will operate for several months before its internal 12VDC battery requires recharging. Please see the GL500-7-2 on page 122 for additional information.

Powerful PC and PDA Software

The WQMS includes Windows™-based Global Logger II software, which makes accessing stored data and setting options easy. The software provides many useful features, such as real time readout, measurement interval and engineering unit selection, station ID setting, and sensor calibration. The WQMS also includes Windows™ CE-based PDA software for simple data collection in the field. Data downloaded from the recorder can easily be opened in any PC spreadsheet program for analysis and graphic presentation.

Rugged Water Quality Sensors

The WQMS comes standard with four rugged and reliable 4-20 mA water quality sensors, including our water temperature sensor, pH sensor, conductivity sensor (with a 0 to 5000µS range standard), and dissolved oxygen sensor. Each sensor is mounted on 25 ft (7.6 m) of marine-grade cable, with lengths up to 500 ft (152.4 m) available by special order. The sensors' electronics are completely encapsulated in marine-grade epoxy within a stainless steel housing. Each sensor outputs a 4-20 mA signal. Please see the WQ101, WQ201, and WQ301 starting on page 60 and the WQ401 on page 63 for more detail about these sensors.

Remote Communication Options

To add remote communication capabilities, select the GL500-Mod Modem Package for telephone modem communications (see Ordering & Options) or the RM100 for radio communications (see page 126). We also offer solar panels and a battery charger to support your WQMS installation. See the Accessories table on the opposite page for additional information.

Customize for Your Application

To customize your WQMS, you can select up to three additional analog sensors and two digital sensors from Global Water's line of rugged water quality, weather, level, and flow sensors. Please see Ordering & Options on the next page and the sensors in this document for additional information.

If you require a unique water quality monitoring system to meet the needs of your specific application, Global Water can work with you to design a factory-integrated custom system. Please contact Global Water regarding this option.

Applications

Ideal for stream and lake monitoring, aquaculture studies, baseline analyses, mitigation monitoring, and other environmental applications.

Features

- Monitor temperature, DO, pH, conductivity, and 5 additional parameters at the same time
- High quality, rugged sensors
- Battery powered for remote locations
- User-friendly Windows™ and Windows™ CE-based PDA software included
- Four sample modes: timed, 10 times per second, logarithmic, and exception
- Both USB and serial communication ports
- Rugged, lockable, weather resistant enclosure

Specifications

Datalogger

Memory	Non-volatile flash memory
Power	Voltage: 7.2 VDC min. to 24.0 VDC absolute max. Standby Current: 70µA typical Logging Current: 5mA typical + sensor current
Analog Sensor Inputs	4-20 mA (0-5 VDC as factory option) Resolution: 12-bit, 4096 steps Channels: 7 input channels + battery voltage monitor Sensor Warm-up Time: Programmable, 0-60 sec
Digital Inputs	Two independent pulse counters Maximum Input Voltage: 24VDC Maximum Frequency: 100Hz Minimum Pulse Width: 2mS Maximum Count: 65,535 (16-bit)
Sample Now Input	Sample-on-demand input, software enabled Maximum Input Voltage: 24 VDC Minimum Pulse Width: 2 mS
Sample Modes	Fixed interval programmable from 1 sec to >1 yr High speed 10 samples per second Logarithmic sample rate (approximation) Exception (log only on deviation from previous reading)
Storage Capacity	40,879 recordings for all inputs plus time stamp
Data Overwrite	Select memory wrap or unwrap (unwrap will stop logging once memory is full)
Communication Ports	RS-232 DB9 or USB Type B
Selectable Baud Rates	9600, 19200, 28800, 38400, 57600, 115200
Clock	Synchronizes to user's computer
Operating Temperature	Industrial, -40 to +185°F (-40 to +85°C) (battery may not apply)
Enclosure	Expanded UV protected PVC 9 x 7.5 x 4.5 inch (23 x 19 x 11 cm)
Battery	12 Volt, 2.2 A/hr, rechargeable (gell cell)
Weight	3.5 lbs (1.6 kg)

Global Logger II Software

Compatibility	Microsoft's Windows™ 98, ME, 2000, NT, XP, and Vista
Features	Tabular Display/Printout; data in standard spreadsheet format (CSV); programmable alarm start and stop times; field calibration software included

Water Quality Sensors

Please see the WQ101 Temperature Sensor, WQ201 pH Sensor, and WQ301 Conductivity Sensor starting on page 60 and the WQ401 Dissolved Oxygen Sensor on page 63 for specifications.

"The stone in the water knows nothing of the hill which lies parched in the sun."

– African Proverb

Ordering & Options

Water Quality Monitoring System

Order No.	Description
WQMS[1]	Water Quality Monitoring System
WQEXC	Extra Sensor Cable, per foot (up to 500 ft)

1) The standard unit includes a datalogger, temperature sensor, pH sensor, conductivity sensor (with a 0-5000µS range unless otherwise specified), and DO sensor. For a custom system, please call us.

Accessories

Order No.	Description
GL500-Mod	Modem Package
RM100-CSK	Wireless Communication System Client/Server Kit, see page 126
WQ730	Turbidity Sensor, see page 64
WQ600	Redox/ORP Sensor
WL400	Water Level Sensor, see page 6
RG200	Rain Gauge 6 inch, see page 109
RG600	Rain Gauge 8 inch, see page 109
BC100	Smart Charger, see page 128
SP101	Solar Panel (2 watt), see page 128
SP102	Solar Panel (5 watt), see page 128
PDAWL16	PDA Package

You may also like . . .

RM100 Wireless Communication System
Industrial RF transmitters and receivers for remote data collection from your WQMS.
Page 126

SIT65 Satellite Internet Telemetry
Alternate datalogger to easily collect water quality data on the web via satellite Internet.
Page 127

intuitive user interface features security code settings to prevent unauthorized tampering. A built-in diagnostic menu assists in troubleshooting.

Versatile Outputs

The TB500 includes an isolated 4-20 mA current output that may be used for chart or data recording, remote monitoring, PLCs, or SCADA systems. Two user-settable alarm relays may be connected to an autodialer or local alarm to notify you before dangerously high turbidity levels occur. Also included is an RS-485 digital output that may be interfaced with a Modbus system to link multiple units or to integrate the TB500 into your existing network.

What's in the Box

Each TB500 turbidimeter is shipped fully calibrated and includes desiccant, an in-line pressure regulator, a universal 100-250 volt power supply, and an operator's manual. The TB502 models also include a spare measuring cuvette with a light shield.

Applications

Ideal for continuous measurement of turbidity in filtered water, raw water, final wastewater effluent, and industrial applications.

You may also like . . .

GL500 Datalogger
Add recording capabilities to the TB500.
Page 122

AD200 Voice Alarm Autodialer
Receive turbidity alarm notifications.
Page 138

CL500 Chlorine Analyzer

Online Meter for Free or Total Chlorine Measurements

Description

The CL500 Free/Total Chlorine Analyzer is an accurate and reliable instrument for continuous online free or total chlorine residual measurement. The CL500 uses the reliable and economical, colorimetric DPD (N,N-diethyl-p-phenylenediamine) chemistry, proven to be the most accurate method for measuring free or total residual chlorine. With no troublesome mixing or pump components to wear out, the CL500 provides reliable operations with minimal maintenance.

The CL500's user selectable sample settings conserves reagents by allowing you to set the cycle time from 90 seconds up to 10 minutes. The low volume reagent and sample chamber saves on reagent costs and decreases water consumption. A removable sample cuvette allows for simple cleaning and maintenance, and the viewable sample chamber provides a clear view of the sample cuvette while the instrument is sampling.

The CL500 provides a programmable 4-20 mA output signal that may be used with one of our chart recorders for reporting purposes or to control a chemical feed system. There are also two user-selectable Hi/Low limit relays that can trigger one of our AD200 autodialers (page 138) or a local alarm system. The unit's compact and corrosion-resistant NEMA 4X (IP66) enclosure allows for a simple installation.

The CL500 comes with an inline pressure regulator, replacement tubing/cuvette kit (one year supply), a power supply, and an owners manual. Please note that reagents must be purchased separately.

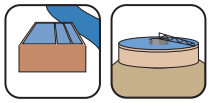
Specifications

Range	0 to 10 mg/l
Cycle Time	User selectable, 90 seconds to 10 minutes
Resolution	0.01 mg/l
Accuracy	± 5% or 0.03 mg/l of Cl^2, whichever is greater
Method	USEPA accepted DPD method of analysis
Standard outputs	4-20 mA and RS-485 with Modbus
User Alarms	2 user selectable alarms (form C 240VAC 2A)
Operating Temp	41° to 104°F (5° to 40°C)
Input Pressure	1 to 200psi
Display	Backlit LCD
Enclosure	ABS Plastic, NEMA 4X, IP66
Power	100 to 240 Volt auto switchable 47 to 63hz
Certifications	CE, UL, CSA, (ETL, ETLc)
Weight	8 lbs (3.6 kg)
Dimensions	16x16x10 inches (41x41x26 cm)

Features

- Proven colorimetric DPD chemistry
- Reliable, low maintenance design
- Range of 0 to 10 ppm
- EPA accepted method

Applications



Ideal for monitoring and controlling the residual in water and wastewater treatment plants.

Ordering & Options

Chlorine Analyzer

Order No.	Description
CL500	Free/Total Chlorine Analyzer

Reagents & Replacement Parts

Order No.	Description
09951GW	Reagent Set for Free Chlorine (30 Day)
09952GW	Reagent Set for Total Chlorine (30 Day)
09953GW	Reagent Set for Free Chlorine (60 Day)
09954GW	Reagent Set for Total Chlorine (60 Day)
09939-G	Replacement Tubing/Cell Kit
CL500-ZCK-120	Zero Calibration Kit, 120 V
CL500-ZCK-240	Zero Calibration Kit, 240 V

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