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Кондуктометры Global Water

Технические характеристики



WQ301 Conductivity Sensor

Rugged Water Conductivity Sensor

Description

Global Water's WQ301 Conductivity Sensor is a rugged and reliable water conductivity measuring device. The WQ301 offers a rapid and non-destructive way to measure the ion content in a solution. The conductivity sensor is molded to 25 ft of marine grade cable, with lengths up to 500 ft available upon request. The conductivity sensor's output is 4-20 mA with a three wire configuration. The unit's electronics are completely encapsulated in marine grade epoxy within a stainless steel housing.

Record and Control

As with all of Global Water's 4-20 mA output sensors, you can add recording and controlling capabilities to the WQ301 Conductivity Sensor with the GL500 Datalogger and PC300 Controller. The GL500 (on page 122) connects to the conductivity sensor's 4-20 mA output to record data. Global Water's PC300 Controller (on page 132) connects to the conductivity sensor's output to control pumps or alarms.

Specifications

Output	4-20 mA
Ranges	0 to 500, 0 to 2,000, 0 to 5,000, 0 to 10,000, 0 to 20,000, 0 to 40,000 μ S
Accuracy	1% full scale
Maximum Pressure	50 psi
Operating Voltage	12 VDC (\pm 5%)
Current Draw	0.8 mA plus sensor output
Warm-up Time	3 seconds minimum
Operating Temp	-40 to +131°F (-40 to +55°C)
Temperature Compensation	2% per °C
Electrodes	316 stainless steel
Size of Probe	Open Water: 1 inch dia. x 12 in long (3.175cm dia. x 30.5cm) Online: 2.5 inch dia. x 15.5 in long (6.35cm dia. x 39.4cm)
Weight	Open Water: 8 oz (227 g) Online: 22 oz (624 g)

Features

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

Applications



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

Ordering & Options

Conductivity Sensors for Open Water¹

Order No.	Conductivity Range (μ S)
WQ301A	0 to 5,000
WQ301B	0 to 10,000
WQ301C	0 to 20,000
WQ301D	0 to 2,000
WQ301E	0 to 40,000
WQ301F	0 to 500

1) Sensors include 25 ft of cable.

Online Conductivity Sensors²

Order No.	Conductivity Range (μ S)
WQ301A-O	0 to 5,000
WQ301B-O	0 to 10,000
WQ301C-O	0 to 20,000
WQ301D-O	0 to 2,000
WQ301E-O	0 to 40,000
WQ301F-O	0 to 500

2) Online sensors include 1-1/4 inch NPT thread and 25 ft of cable.

Cable

Order No.	Description
WQEXC	Extra Sensor Cable, per foot (up to 500 ft)

Please call us for calibration standards.

You may also like . . .

392 Industrial Conductivity Transmitter

Durable conductivity transmitter with 4-20 mA output and LCD display.

Page 91

EC400 Conductivity Testers

Handheld meter for fast and easy conductivity measurements.

Starting on Page 85

Measuring Water Hardness

Water hardness is the measurement of the amount of ions that have lost two extra electrons (divalent cations) dissolved in a sample. The more divalent cations dissolved in the water the "harder" the water. Generally, the most common divalent cations are calcium and magnesium, however other divalent cations may contribute to water hardness. Water hardness can be expressed in many different units, including ppm, mg/L CaCO₃, Clark degrees, and French degrees.

Total dissolved solids (TDS) refers to a measure of all inorganic solids dissolved in the water, including ions that contribute to water hardness (like calcium) as well as those that do not (like sodium). Water hardness can be roughly calculated from TDS by dividing the ppm (parts per million) measurement of the TDS by 10. This gives a hardness value with an error of only 2-3 French degrees. TDS measurements can also be derived from a relative conductivity measurement.

Conductivity is a measure of the ability of a substance to conduct an electric current. Conductivity increases with increasing ion content, which means that it can provide a good approximation of TDS using the conversion factor of 1 ppm = 2 μ S/cm. Conductivity is temperature sensitive and is typically standardized to 25°C. While conductivity is a convenient way to get an approximation of water hardness, it does have the drawback of combining all ions in the measurement, including those that do not contribute to the water's hardness. This hardness approximation gives an error similar to the TDS measurement of 2-3 French degrees of hardness.



Features

- Robust shock and water resistant design
- Easy to use interface
- Wide range of applications
- Accurate and reliable TetraCon® probe

“Water helped ancient man learn those first lessons about the rights of others and responsibility to a larger society... It became part of the moral and mental legacy parents passed on to their children.”

– M. Meyer,
Water in the Hispanic Southwest

COND 3110/3210 Handheld Conductivity Meters

Handheld conductivity meter for field measurements

Description

Useable anywhere, the Cond 3110 and Cond 3210 handheld conductivity meters are robust, easy to operate and provide assured accurate readings. From the monitoring of on-line process systems to field studies, handheld conductivity meters will meet all your water, wastewater and environmental measurement needs. Both meters meet IP66/67 standards – no worrying about using it in the rain and mud, or accidentally dropping it in the water. The meters have a sealed silicone keypad which offers real button response, yet allows for easy cleaning.

Cond 3110

This easy to use meter will meet all your

Specifications

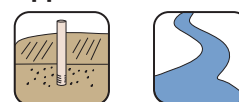
Range	Conductivity (both meters): 0.0 to 1000 mS/cm Conductivity (3210 only): 0.00 to 19.99 uS/cm (for K=0.1 cm ⁻¹), 0.000 uS/cm to 1.999 uS/cm (for K=0.01 cm ⁻¹) Temp (both meters): 23 to 221 °F (-5.0 to +105.0 °C) Salinity (both meters): 0.0 to 70.0 TDS (3210 only): 0 to 1999 mg/l Specific Resistance (3210 only): 0.00 to 20 Mohm cm
Accuracy	Conductivity: ±0.5% of value Temperature: ±0.2 °F (+0.1 °C)
Reference temp	68 or 77 °F (20 or 25 °C), selectable
Cell constant	Both meters: Fixed 0.475 cm ⁻¹ , 0.1 cm ⁻¹ 0.450 to 0.500 cm ⁻¹ , 0.585 to 715 cm ⁻¹ 0.800 to 1.200 cm ⁻¹ , Standard: 0.01 mol/L KCl 3210 meter only: adjustable 0.090 to 0.110 cm ⁻¹
Temperature compensation	3110: nLF 3210: none, nLF, 0.000 to 10.00 %/°K
Memory	3210 only: 200 manual datasets
Power	Four 1.5 V AA batteries or four 1.2 V NiMH
Battery Life	3110: Up to 1000 hours 3210: Up to 800 hours w/o backlight, 150 hours w/backlight
Dimensions (LxWxH)	7x3.15x2.17in (180x80x55mm)
Weight	0.88 lb (0.3kg)

day-to-day demands. With only 6 keys, the Cond 3110 provides easy error-free measurement with temperature measurement, automatic temperature compensation and 4-electrode measuring technology. Typical applications for the Cond 3110 include simple conductivity measurements or use in high schools and universities.

Cond 3210

Loaded with additional features, the Cond 3210 includes parallel temperature display, integrated datalogger, good laboratory practice (GLP) supporting functions, automatic and manual temperature compensation with linear temperature function and a non-linear function for ultrapure water and natural waters according to EN 27 888. The meter's temperature compensation can be switched off; either 68 °F or 77 °F (20 °C or 25 °C) can be selected as the reference temperature. The Cond 3210 has a continuous measurement control (CMC) function that alerts you when your meter is reading outside of the calibrated range.

Applications



Ideal for ground water, surface water, food industries, and pharmaceuticals.

Ordering & Options

Order No.	Description
Cond 3110 Set	Handheld Conductivity Meter Kit Includes TetraCon 325
Cond 3210 Set	Handheld Conductivity Meter Kit Includes TetraCon 325
TetraCon® 325	Conductivity Meter Probe on 9.8 ft (3m) of cable

COND 1970i Portable Conductivity Meters

Portable conductivity and TDS meter for field measurements.

Description

The Cond 1970i conductivity meter combines everything you want in a portable conductivity meter for water, wastewater and environmental monitoring. The meter is nearly indestructible with both hose down proof (IP 66) and submersible (IP

67) ratings as well as being accurate, capable and easy to use. Along with an 800 data point datalogger, a real time clock and recorder output, the meter conforms to all GLP requirements.

Specifications

Profiline Cond 1970i	Range/Resolution: Conductivity: 0.0 uS/cm to 500 mS/cm in 5 measuring ranges or autorange, 0.00 uS/cm to 19.99 uS/cm (for K=0.1 cm ⁻¹), 0.000 uS/cm to 1.999 uS/cm (for K=0.01 cm ⁻¹) Temp: 23 to 221 °F (-5.0 to +105.0 °C) Salinity: 0.0 to 70.0 TDS: 0 to 1999 mg/l
Accuracy	Conductivity: ± 0.5% of value Temperature: ± 0.1 K
Reference temp	68 to 77 °F (20 or 25 °C), selectable
Cell constant	Calibratable 0.450 to 0.500 and 0.800 to 1.200 cm ⁻¹ , fixed: 0.01 cm ⁻¹ freely adjustable 0.25 to 2.5 cm ⁻¹ and 0.09 to 0.11 cm ⁻¹

Temperature comp	Automatic, can be switched off
Power	Rechargeable NiMH batteries (approx. 600 hrs per full charge)
AC power	Wide-range power supply 100-240 VAC 50/60 Hz (included)
Dimensions (LxWxH)	3.54x7.87x7.48 in (90x200x190 mm)
Weight	3.3 lb (1.5 kg) (without plug-in power supply)
Ingress Protection	IP 67
Electrical Safety	Protective class III
Ambient conditions	Operation: 14 to 131°F (-10 to 55°C) Storage: 13 to 149°F (-25 to 65°C)
Test certificates	cETLus, CE



Features

- Nearly indestructible, water proof housing
- Large, easy to read display
- Long lasting rechargeable NiMH batteries
- Measurements up to 300 feet deep with submersible cell

Ordering & Options

Order No.	Description
Cond 1970i	Portable Conductivity Meter Conductivity probe not included
TetraCon® 325	4-electrode cond sensor with integrated temp sensor
TA 197 LF-25	Conductivity probe w/ 82 ft (25 m) of cable and field armor

NOTE: Other lengths available for TA 197 LF sensor.

VARIO 2X00 Cond Meter

Waterproof Conductivity Meter for Simple Operation and Easy Handling

Description

The VARIO Cond provides a powerful and robust conductivity meter in a package that will fit in your pocket. This easy to use meter is ideal for use in water and wastewater process control, environmental field monitoring or anywhere a small, accurate meter is needed. At home in harsh field conditions or in the demanding plant environment the meters are waterproof (IP65) and have firm-grip rubber armoring. With the meter and a suitable sensor module you can measure the conductivity, specific resistance, salinity or TDS (total dissolved solids) of a solution easily.

Specifications

Conductivity	µS/cm: 0.00 to 19.99 (when using module LR01 V), 0.0 to 199.9, 0 to 1999 mS/cm: 0.00 to 19.99, 0.0 to 199.9 Salinity: 0.0 to 70.0 (per IOT) TDS (mg/l): 0 to 1999 Temp: 41 to 221°F (5.0 to 105.0°C)
Reference temp	68 or 77 °F (20 or 25 °C), selectable
Power	One 1.5V AA (approx. 500 hr operation)
Ambient conditions	Storage: 13 to 149°F (-25 to 65°C) Operation: 14 to 131°F (-10 to 55°C)
Dimensions	5.5x3.15x1.3 in (140x80x33 mm) (without sensor module)
Weight	4 oz (115 g) (without sensor module & battery)

Features

- Accurate, easy to use and full of features
- Innovative touch screen interface
- Stands up to the harsh demands of field use

Ordering & Options

Order No.	Description
2X00-001A	VARIO Cond Meter TetraCon V Kit
2X00-001B	VARIO Cond Meter LR01 V ultrapure water cell
301990	TetraCon V 4-electrode cond sensor with integrated temp sensor
LR01 V	Ultrapure water cond cell with integrated temp sensor



Pocket Water Quality Meters

Handheld meters for field measurements

EC400 Conductivity Meter

Specifications

Cond Range	0 to 19.99 mS, 3 ranges
TDS/Salinity Range	0 to 9.99ppt (g/L), 3 ranges
Temp Range	32° to 149°F (0° to 65°C)
Resolution	±1 digit, 0.1°F/ °C
Accuracy	±2%FS, ±1.8°F/1°C

Ordering & Options

Order No.	Description
EC400	Includes meter and conductivity cell, protective sensor cap, sample cup with cap, four SR44W button batteries, and 48in (1.2m) neckstrap.



EC500 Conductivity/ pH Meter

Specifications

Cond Range	0 to 19.99 mS, 3 ranges
TDS/Salinity Range	0 to 9.99ppt (g/L), 3 ranges
pH Range	0.00 to 14.00pH
Temp Range	32° to 149°F (0° to 65°C)
Resolution	±1 digit, 0.1°F/ °C
Accuracy	±2%FS, ±0.01pH, ±1.8°F/1°C

Ordering & Options

Order No.	Description
EC500	Includes electrode, protective sensor cap, sample cup with cap, four 1.5V SR44W batteries, and a 48in (1.2m) neckstrap.



FL700 Fluoride Meter

Specifications

Range	0.1 to 9.99 ppm (mg/L)
Resolution	0.1 ppm
Accuracy	0.01ppm; 0.1°F/°C
Temperature Range	±10% of reading ±0.01ppm; ±1.8°F/±1°C
Temp. Resolution	0.1°F/ °C
Temp. Accuracy	+1.8°F/1°C

Ordering & Options

Order No.	Description
FL700	Includes Fluoride electrode, TISAB reagent tablets, sensor cap, four 3V batteries, and a 48in (1.2m) neckstrap



CL200 Chlorine Meter

Specifications

ppm Range	0.01 to 10.00ppm (10 to 50ppm using dilution method)
Temperature	23° to 194°F (-5° to +90°C)
Max. Resolution	0.01ppm; 0.1°F/°C
Accuracy	±10% of reading ±0.01ppm; ±1.8°F/±1°C

Ordering & Options

Order No.	Description
RE300	Includes ORP electrode, sample cup with cap, batteries, and 48in (1.2m) neckstrap



DO600 Dissolved Oxygen Meter

Specifications

DO Range	0 to 200.0% / 0 to 20.00ppm (mg/L)
Temp Range	32° to 122°F (0° to 50°C)
Max. Resolution	0.1%, 0.01ppm (mg/L), 0.1°F/ °C
Accuracy	+2.0%FS, 0.4 ppm (mg/L), +1.8°F/1°C

Ordering & Options

Order No.	Description
DO600	Includes DO electrode, protective sensor cap, spare membrane cap, electrolyte, four 1.5V SR44W batteries, and a 48in (1.2m) neckstrap



RE300 Handheld ORP Meter

Specifications

Range	-999 to 999mV
Max. Resolution	1mV
Accuracy	+4mV

Ordering & Options

Order No.	Description
RE300	Includes ORP electrode, sample cup with cap, batteries, and 48in (1.2m) neckstrap



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