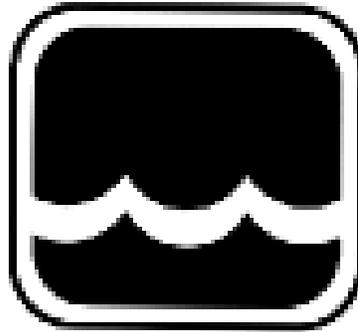




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Conductivity Sensor

WQ-COND-1	0-200uS
WQ-COND-2	200-2000uS
WQ-COND-3	2-20mS
WQ-COND-4	20-200mS
WQ-COND-5	200-2000mS



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Congratulations on your purchase of the Global Water WQ-COND Conductivity Sensor. This instrument has been quality tested and approved for providing accurate and reliable conductivity and temperature measurements. We are confident that you will find this product to be a valuable asset for your application. Should you require assistance, our technical staff will be happy to help.

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I. Overview

The Global Water WQ-COND Conductivity Sensor is suitable for measuring conductivity in a wide variety of applications including laboratories, streams, rivers, and groundwater. Its small size and rugged housing make it useful for hand held measurements or permanent installation.

The sensor uses a 4-electrode measuring technique that provides accurate readings over a wide range of conductivities and temperatures. Because the conductivity of ionic solutions increases with increasing temperature, a temperature sensor is also incorporated and is used to provide automatic temperature compensation of 2%/°C normalized to 25°C. An in-line interface module converts the digital conductivity and temperature data into two separate 4-20mA signals for monitoring with data loggers and PLC devices.

The standard sensor comes with one meter of cable between the sensor and interface module, and 25 feet of marine grade cable for connecting to recording devices. Additional cable can extend the length up to 1000 feet. Available conductivity ranges are 0-200uS/cm, 200-2000uS/cm, 2-20mS/cm, 20-200mS/cm and 200-2000mS/cm. The temperature output has a measurement range of -5°C to +70°C.



II. Sensor Specifications

a. Specifications.

Output Type:	Two 4-20mA outputs	
Accuracy:	Conductivity: +/-0.5% of Reading Temperature: +/-0.2°C (0.4°F)	
Cond. Range/Resolution	0-200uS	0.1uS
	200-2000uS	1uS
	2-20mS	0.01mS
	20-200mS	0.1mS
	200-2000mS	1mS
Temp. Range/Resolution	-5°C to +70°C	0.01°C
	+23°F to +158°F	0.02°F
Pressure:	35 psi maximum (25m/82ft H ₂ O)	
Immersion Depth	36mm (1.4 inches)	
Voltage Requirements:	10-36 VDC	
Supply Current:	20ma plus sum of both 4-20mA outputs	
Warm Up Time:	15 seconds recommended	
Temperature Response:	99% in <20 Seconds	
Operating Temperature:	-5°C to +70°C (23° to 158°F)	
Storage Temperature:	-20°C to +100°C (-4° to 212°F)	
Dimensions:	0.86" (22mm) diameter x 8" (202mm) long	
Weight:	8oz plus cable	

b. Connections:

Red:	10-36 VDC
Black:	Ground
White:	4-20 mA Conductivity Output
Green:	4-20 mA Temperature Output

Warning: Always turn off the power when connecting or disconnecting the sensor or it could be damaged.



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III. Maintenance

Clean the sensor before use, especially when measuring low conductivity solutions. The power should be disconnected before cleaning.

For cleaning mineral deposits, immerse the sensor in acetic acid for 5 minutes. Other types of contamination such dirt and oil can be cleaned using mild soapy water.

Normally the conductivity sensor does not age and will not require periodic calibration. Measuring strong acids, bases or organic solvents can considerably reduce the sensor's lifetime or cause permanent damage. Long term exposure to very high temperatures may also damage it. These types of damage are not covered under warranty.

IV. Trouble Shooting

There are no user serviceable parts inside this sensor

Issue: Sensor reading incorrectly

- a. Check all connections
- b. Inspect the cable for damage
- c. Check that the supply voltage is within specifications
- d. Make sure the conductivity and temperature of the solution is within the measurement ranges of the sensor
- e. Clean the sensor according to the guidelines described in the Maintenance section
- f. Ensure that the minimum immersion depth is maintained or incorrect conductivity and/or temperature readings can result

Technical Support

- a. Call us for technical support: 800-876-1172 or (979) 690-5560 (many problems can be solved over the phone). Fax: (979) 690-0440 or Email: globalw@globalw.com.
- b. In the event that the equipment needs to be returned to the factory for any reason, please call to obtain a RMA # (Return Material



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Authorization). Do not return items without a RMA # displayed on the outside of the package.

Before returning, clean and decontaminate the sensor if necessary.

Include a written statement describing the problems.

Send the package with shipping prepaid to Global Water's factory address. Insure the shipment, as the warranty does not cover damage incurred during transit.

- c. When calling for tech support, please have as much of the following information as possible;
 1. Model #.
 2. Unit serial number.
 3. P.O.# the equipment was purchased on.
 4. Global Water's sales number or the invoice number.
 5. Repair instructions and/or specific problems relating to the product.

V. Warranty

- a. Global Water Instrumentation, Inc. warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment from factory. Global Water's obligations under this warranty are limited to, at Global Water's option: (I) replacing or (II) repairing; any products determined to be defective. In no case shall Global Water's liability exceed the products original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by Global Water Instrumentation, Inc., or which has been subject to misuse, negligence or accident.
- b. The warranty begins on the date of the product's invoice.