Global Water

Instrumentation, Inc.

11390 Amalgam Way
Gold River, CA 95670
Telephone : 800-876-1172
International : (916) 638-3429, Fax : (916) 638-3270
globalw@globalw.com

Turbidity Sensor
WQ750

Congratulations on your purchase of a Global Water WQ750 Turbidity Sensor. This instrument has been quality tested and approved for providing accurate and reliable measurements. We are confident that you will find the logger to be a valuable asset to your applications. Should you require assistance, our technical staff will be happy to help.

Table of Contents

I. Checklist: 3

II. Inspection: 3

III. Warranty: 3

IV. WQ750 Specifications: 4

V. Introduction 5

VI. Electrical Connections 6

VII. Requirements: 6

VIII. Maintenance: 6

IX. Troubleshooting: 7

X. Customer Support: 7

Copyright © Global Water Instrumentation, Inc. 2007

I. Checklist:

a. WQ750 Turbidity Sensor
b. Wiper Timer Assembly

II. Inspection:

a. Your Turbidity Sensor was carefully inspected and certified by our Quality Assurance Team before shipping. If any damage has occurred during shipping; please notify Global Water Instrumentation, Inc. and file a claim with the carrier involved.

III. 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) replace or (II) repair; 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. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.

b. The warranty begins on the date of your invoice.

Copyright © Global Water Instrumentation, Inc. 2007

IV. WQ750 Specifications:

Turbidity Sensor:

Power:	10 VDC to 24 VDC Current Draw: ~220mA @ 12 VDC
Operating Temperature	0ºC to 50ºC (32ºF to 122ºF)
Analog Sensor Output:	4-20mA Isolated Signal Filter - 10 Seconds
Measurement Mode:	90º scattered light with pulsed infrared light, according to ISO 7027 (DIN 38404) Range: 1 – 1,000 NTU/FNU Resolution: 12-bit
Operating Pressure:	6 bar (87 PSI) maximum

Timer Module:

Power Requirements:	10 VDC to 24 VDC, 50 mA
Operating Temperature:	0ºC to 50ºC (32ºF to 122ºF)

Sensor Housing:

Material:	Housing: 316 SS Wiper: Rubber Sensor Window: Quartz glass
Dimensions:	Diameter: 38 millimeters (~1.5 inches) Length: 146 millimeters (~5.75 inches) Process Connection: 1” BSPP
Weight:	0.7kg (1.4 lbs) without cable

Cable:

Conductors:	7 each 22 AWG
Shield:	Aluminum foil/tinned copper wire
Cable length:	13 meters (~42.5 feet)

Copyright © Global Water Instrumentation, Inc. 2007

V. Introduction

The WQ750 Turbidity Sensor is a sensor capable of monitoring turbidity in water. The turbidity sensor employs the 90 degree pulsed scattered light method with a measuring frequency in the near-infrared light range of 880 nm, according to ISO 7027 (DIN 38404). Reflections from stationary objects in the area of the probe (e.g. casing, wall, ground, etc.) can affect the probe's measurements at low turbidity levels, causing the probe to falsely measure higher turbidity values. It is important to take this into account when performing control measurements in small vessels. The distance between the probe and the next object should be large enough to avoid reflections.

The sensor processes an analog 4 – 20 mA signal, which is supplied by the sensor electronics, after compensation of temperature and ambient light. A mechanical cleaning wiper helps to prevent contamination of the measuring windows.

An external timer module, which is included with the sensor, controls the wiper cycle. The timer cycles the wiper for the first seven-second period after the sensor is requested to take a sample. The recommendation is to use a 15-second delay or warm-up time to allow the wiper to complete its cycle before a sample is read.

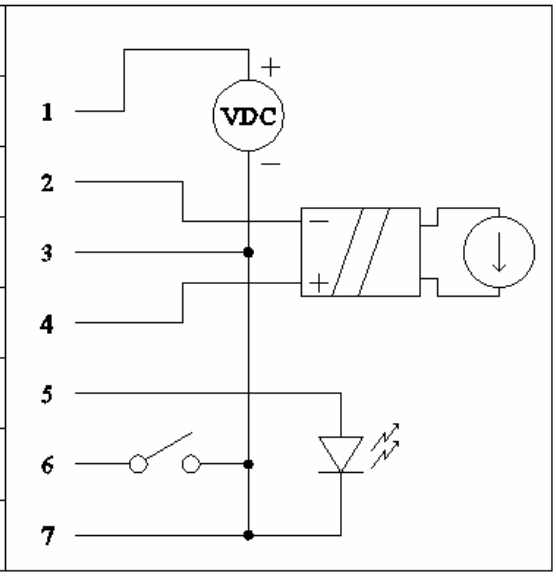
Some potential applications for this sensor could be:

- Water Quality Monitoring
- Wastewater Plant Effluent Monitoring
- Surface Water Monitoring of Lakes, Rivers and Streams
- Wastewater Recycle & Discharge
- Fish Farming
- Filtrate Monitoring
- Industrial Quality Control
- Condensate Monitoring
- Industrial Water Monitoring

Copyright © Global Water Instrumentation, Inc. 2007

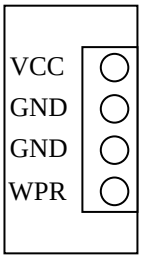
VI. Electrical Connections

Pin No:	Function	Color
1	Power Supply: 10-24VDC	White
2	4-20mA Return (-)	Brown
3	Power Supply Ground	Green
4	4-20mA Output (+)	Yellow
5	Sensor Status Indicator	Gray
6	Wiper Trigger	Pink
7	Sensor Housing	Black (Shield)



Timer

VCC	Input Voltage
GN	Ground
GN	Ground
WP	Wiper



VII. Requirements:

a. Power supply capable of delivering 10 VDC to 24 VDC (~270 mA when sampling)
b. Logger or other equipment necessary to record sample data.

VIII. Maintenance:

a. Clean the sensor housing using clean water and a small, soft brush to remove any debris.
b. Clean the quartz lenses with alcohol and a cotton swab.

Copyright © Global Water Instrumentation, Inc. 2007

Troubleshooting:

Issue: Sensor is reading incorrectly.

c. Verify the battery supply has enough voltage. To operate properly, the sensor must have a minimum of 10 volts.
d. Verify the sensor calibration is correct
e. Clean the sensor windows to remove any contamination.

IX. Customer Support:

Call Global Water for tech support: 800-876-1172 or 916-638-3429 (many problems can be solved over the phone). Fax: 916-638-3270 or Email: globalw@globalw.com.

When calling for tech support, have the following information ready:

1. Model number
2. Unit serial number.
3. P.O.# the equipment was purchased on.
4. Global Water sales number or the invoice number.
5. Repair instructions and/or specific problems relating to the product.

Be prepared to describe the problem you are experiencing including specific details of the application, installation, and any additional pertinent information.

In the event that the equipment needs to be returned to the factory for any reason, please call to obtain an RMA# (Return Material Authorization). Do not return items without an RMA# displayed on the outside of the package. Include a written statement describing the problems.

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

Copyright © Global Water Instrumentation, Inc. 2007