



# Letter To Our Customers

## Our Commitments to You

---

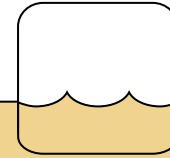
Global Water Instrumentation, Inc. is a manufacturer, distributor, and systems integrator of water instrumentation. We serve the needs of the water, wastewater, and environmental instrumentation markets. Since our founder, John Dickerman, established Global Water in 1990, our company has developed a reputation worldwide for providing high quality products and exceptional customer support. More information about us can be found on page 142.

We are committed to producing accurate, rugged, and reliable monitoring and control solutions at reasonable prices. Our products are engineered for simple installation, easy operation, and minimal maintenance. Our products are always fully supported and 100% guaranteed (see our warranty on page 142).

This Resource Book has been created to meet the needs of water-related agencies, organizations, and companies around the world who have a wide range of requirements for water instrumentation. You will be able to find a variety of information about the equipment you need for your application in this book and on our comprehensive website at [www.globalw.com](http://www.globalw.com). In addition, we always strive to help you find the best resources for your applications and to offer you any support you may need. We are a customer service-oriented company with well trained sales engineers and service technicians. Feel free to contact us by phone, e-mail, fax, or via our online information request form, and we will be glad to assist you. A form to help you place your order can be found at the end of this book or you can place your order online.

We make the following commitments to you, our customer:

- Global Water aims to be a manufacturer and distributor of the best products available to meet your water instrumentation needs.
- Our number one goal is to meet your technical support needs. We are ready to recommend solutions and to answer your technical questions.
- We will be happy to help you select the right equipment or to customize a design for your application— and we will even help you find instruments that we do not supply.
- Discounts are available to O.E.M's and large volume users; we will be happy to customize a quote for you.
- We are committed to keeping up with the latest ideas and information to keep you aware of new developments in this fast growing industry. As new products come out, we evaluate them in order to determine their effectiveness and usefulness, and then we pass that information on to you with our suggestions. We are always glad to hear from you about new products that you have found useful.



### Ordering Information

We aim to provide you with the finest water instrumentation at a reasonable price. Our products are always fully supported and 100% guaranteed (our warranty information is on page 142).

Our goal is to help you find the best resources for your application and to offer you any support you may need. To discuss your application's requirements, receive a quote, or place an order, please contact us by phone, fax, mail, e-mail, or via our online information request form. A form to help you place your order can be found at the end of this book.

### Contact Us

- **Phone:** (800) 876-1172 or (916) 638-3429. (Our business hours are from 7:00 a.m. to 3:30 p.m., Pacific Time, Monday through Friday.)
- **Fax:** (916) 638-3270
- **Mail:** 11390 Amalgam Way, Gold River, CA, 95670, U.S.A.
- **E-mail:** [globalw@globalw.com](mailto:globalw@globalw.com)
- **Website:** [www.globalw.com](http://www.globalw.com)  
(Fill out our online contact form, and we will contact you!)

### Terms

Please specify ranges and total cable lengths for all orders. Prices are U.S. dollars, F.O.B. Gold River, CA.

- **U.S. and Canada:** Net 30 on approved credit, COD, Check in Advance, Credit Card (VISA and MasterCard).
- **International:** Wire Transfer, Check in Advance, Credit Card. Note: Additional fees may apply. Check and credit card orders may be delayed up to three weeks for bank processing.



## Contact Us

Call us:

**(800) 876-1172** or  
**(916) 638-3429**

(7 a.m. to 3:30 p.m., Pacific Time,  
Monday - Friday)

E-mail us:

**globalw@globalw.com**

Visit our website:

**www.globalw.com**

Fax us:

**(916) 638-3270**


Write us:

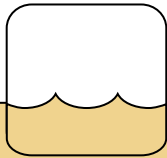
**11390 Amalgam Way  
Gold River, CA, 95670, U.S.A.**

Global Water always attempts to provide the most accurate information possible. However, we cannot guarantee the validity or timeliness of the prices, specifications, and other information presented in this document. The prices in this document were valid at the date of publication, but are subject to change without notice. Due to changes in technology and materials, some products may differ slightly from their descriptions or appearances in this document. For the most current information, prices, and specifications, please visit our online catalog at [www.globalw.com](http://www.globalw.com) or call us at 1-800-876-1172.

Many of Global Water's product photographs in this document are © Bill Santos Photography (<http://santosphoto.com/>).

This Resource Book is © 2010 Global Water Instrumentation, Inc.

Global Water Instrumentation, a Nova Analytics company 



### Technical Notes

|  |     |
|--|-----|
| How to Set Up a Stream Gauging Station.....    | 2   |
| DCX-22 Installation Notes.....                 | 4   |
| Barometric Pressure Compensation.....          | 6   |
| Easy Streamflow Measurement.....               | 22  |
| Managing Inflow and Infiltration Problems..... | 24  |
| Measuring Open Channel Flows.....              | 26  |
| Pipe Layouts for Flow Meters.....              | 34  |
| Micro-Flo Installation Notes.....              | 35  |
| Variable Area Flow Metering.....               | 39  |
| Flume Selection and Installation Tips.....     | 41  |
| Setting Up the WS705-755 .....                 | 44  |
| Sample Types.....                              | 46  |
| Introduction to Water Quality Monitoring.....  | 58  |
| Measuring Water Hardness.....                  | 61  |
| Why Measure DO?.....                           | 63  |
| WQ750 Installation Notes.....                  | 65  |
| Weather Station Installation.....              | 104 |
| Why Measure Weather?.....                      | 106 |
| Measuring Evaporation.....                     | 111 |
| Why Measure Solar Panel Temperature?.....      | 112 |
| Sizing Your Solar System.....                  | 128 |

# Table of Contents

Resource Book Chapters, Technical Notes, and Solution Guides

|   |            |
|---|------------|
| <b>CHAPTER 1.</b><br><b>LEVEL AND PRESSURE</b><br><i>Level and Pressure Loggers, Sensors, Alarms, and Controllers</i>                               | <b>1</b>   |
| <b>CHAPTER 2.</b><br><b>FLOW METERING</b><br><i>Flow Meters, Loggers, Monitors, and Flumes</i>  | <b>20</b>  |
| <b>CHAPTER 3.</b><br><b>SAMPLING</b><br><i>Sampling Systems, Samplers, Groundwater Pumps, and Handheld Samplers</i>                                 | <b>42</b>  |
| <b>CHAPTER 4.</b><br><b>WATER QUALITY</b><br><i>Sensors, Meters, Test Kits, Controllers, Online Analyzers, and Metering Pumps</i>                   | <b>54</b>  |
| <b>CHAPTER 5.</b><br><b>WEATHER</b><br><i>Weather Stations, Sensors, Meters, and Dataloggers</i>  | <b>102</b> |
| <b>CHAPTER 6.</b><br><b>DATA RECORDING AND REMOTE MONITORING</b><br><i>Dataloggers, Remote Monitoring Devices, Chart Recorders, and Accessories</i> | <b>120</b> |
| <b>CHAPTER 7.</b><br><b>CONTROL AND ALARM</b><br><i>Controllers (Process, Level, Water Quality, Weather), Autodialers, and Alarms</i>               | <b>130</b> |
| <b>APPENDIX.</b><br><b>RESOURCES, INDEX, AND ORDER FORM</b><br><i>Mission, Calculations, Contacts, Product Index, Topic Index, Ordering</i>         | <b>140</b> |

## SOLUTIONS

|  |     |
|--|-----|
| Modular and Integrated Solutions.....                | iv  |
| Modular and Integrated Data Recording Solutions..... | 124 |

# Modular and Integrated Solutions

Providing Modular Products and Designing Integrated Systems

## Description

Depending on your needs, Global Water can provide you with modular or integrated instrumentation solutions. We supply modular products that you can easily put together into off-the-shelf systems. We can also design fully integrated, fully tested instrumentation systems that meet your specific needs.

### Modular Solutions

Our products are designed to be easily connected together into systems. For example, you can easily connect our popular, rugged, and highly accurate level, water quality, and weather sensors to our GL500

## Ordering & Options\*

### 4-20 mA Sensors

| Order No. | Description                                  |
|-----------|--|
| WL400     | Water Level Sensor, see page 6               |
| WQ101     | Temperature Sensor, see page 60              |
| WQ201     | pH Sensor, see page 60                       |
| WQ301     | Conductivity Sensor, see page 61             |
| WQ-FDO    | Optical Dissolved Oxygen Sensor, see page 62 |
| WQ401     | Dissolved Oxygen Sensor, see page 63         |
| WQ730     | Turbidity Sensor, see page 64                |
| WE100     | Barometric Pressure Sensor, see page 106     |
| WE300     | Solar Radiation Sensor, see page 106         |
| WE550     | Wind Speed Sensor, see page 107              |
| WE570     | Wind Direction Sensor, see page 107          |
| WE600     | Humidity Sensor, see page 108                |
| WE700     | Temperature Sensor, see page 108             |

**SOLUTIONS**

We supply modular products that you can easily put together into off-the-shelf systems. We can also design fully integrated, fully tested instrumentation systems that meet your specific needs.

### Packaged Systems

| Order No. | Description                                  |
|-----------|--|
| FSS-STD   | Flow Sampling System, see page 46            |
| WQS-STD   | Water Quality Sampling System, see page 48   |
| WQMS      | Water Quality Monitoring System, see page 58 |
| WE800     | Datalogging Weather Station, see page 104    |
| WE900     | 4-20 mA Weather Station, see page 104        |

### Monitoring Instrumentation

| Order No.  | Description   |
|------------|---|
| GL500-7-2  | Global Logger with 7 Analog and 1 Pulse Channels, see page 122        |
| GL500U-2-1 | USB Global Logger with 2 Analog and 1 Pulse Channels, see page 123    |
| GL500S-2-1 | Serial Global Logger with 2 Analog and 1 Pulse Channels, see page 123 |
| SIT65      | Satellite Internet Telemetry, see page 127                            |
| FC200      | Open Channel Flow Monitor, see page 26                                |
| PC300      | Process Controller, see page 132                                      |

### Samplers

| Order No. | Description                                  |
|-----------|--|
| WS755     | Dual-Bottle Sampler, see page 44             |
| WS705     | Single-Bottle Sampler, see page 44           |
| WS700R    | Refrigerated Wastewater Sampler, see page 50 |

Global Logger dataloggers for continuous data recording. You can incorporate our FC200 Open Channel Flow Monitor or PC300 Process Controller for real-time display and capable output signals. These signals can be used to control a variety of external instruments, including our heavy duty samplers, reliable alarms, and other devices. We also offer numerous accessories to support your monitoring system, including remote communication devices and power options.

We attempt to keep most of our products in stock, which means we can ship compo-

### Remote Communication/Alarm Options

| Order No. | Description   |
|-----------|---|
| GL500-Mod | Modem Package for Serial Global Loggers, see page 122     |
| RM100-CSK | Client/Server Wireless Communication System, see page 126 |
| AD200-4   | Voice Autodialer with 4 Inputs, see page 138              |
| CVD-2000  | Cellular Autodialer with 4 Inputs, see page 139           |
| WA400-AC  | Strobe and Sounder Alarm with AC Power, see page 137      |

### Power Options

| Order No. | Description                        |
|-----------|------------------------------------|
| IDEC      | Power Supply Options               |
| BC100     | Smart Charger, see page 128        |
| SP101     | Solar Panel (2 watt), see page 128 |
| SP102     | Solar Panel (5 watt), see pg. 128  |
| 00-010    | 12V 5AH Rechargeable Battery       |
| 00-009    | 12 2.5AG Rechargeable Battery      |
| SMPL-AC   | AC Power Option                    |
| 01-728    | AC Converter 50 Watt               |

\* Please see product pages for specifications and options. Alternate enclosures are available— please see product pages.

nents to you for immediate or short term delivery. You can easily wire these parts together to customize your own monitoring system, and you can reconfigure and expand as required without difficulty.

Our sales engineers and technical support staff are knowledgeable of the entire water instrumentation industry, and they specialize in water instrumentation and its integration. They can recommend products that will address your application's requirements (even if those products are not offered by Global Water), and they can provide you with guidance in putting together systems that will meet your needs.

#### Integrated Solutions

Many of our clients prefer fully connected and tested systems that will work out-of-the-box with little or no assembly required. We offer several pre-packaged, integrated systems to monitor and control a variety of parameters, including: the FSS Flow Sampling System, the WQS Water Quality Sampling System, the WQMS Water Quality Monitoring System, and the WE800 and WE900 Weather Stations.

In addition, unlike many other instrumentation suppliers, Global Water has the advantage of our expert team that can help to design and integrate custom instrumentation solutions. Our sales engineers will work with you to plan a custom system to address your specific application, and our technical engineers will build and test this system at our factory prior to shipment. Our technical support staff can follow up by providing exceptional help answering any questions you may have. Please contact us to learn more about factory customization and systems integration.

