



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)

## Models P63 (pH) and R63 (ORP) Analyzers



### ■ Informative Graphic Display.

The large graphic, backlit display provides a complete picture of the Model 63's status. It displays the measured pH (or ORP) in 1/2-inch (13 mm) high numerals. Auxiliary system information is also shown, including analog output values, process temperature, electrode impedance, date, and time. As system conditions change, relay status, diagnostic warnings, and error messages appear.

### ■ Advanced Diagnostics.

True predictive diagnostics forecast the end of sensor life. Reactive diagnostics alert the operator to changes in vital electrode data including measuring and reference electrode impedance, zero, and slope. All diagnostic data are logged and can be set to drive alarms. Self-check tests verify the operating status of the analyzer memory, keypad, and display.

### ■ Event Logbook.

The logbook records up to 100 system events in non-volatile memory. Events include calibrations, warning and failure messages, power-up/power-down, and configuration activity. Each event is logged with the time and date of occurrence, making the logbook ideal for ISO (International Standards Organization) and GMP (Good Manufacturing Practice).

### ■ Passcode-Protected Access.

For security, a user can assign a passcode to restrict access to configuration settings to authorized personnel only.

### ■ "Menu-Guided" Operation.

The large graphic display with conversational text, single-function keys, and logical menu structure make this analyzer easy to use. Menu screens contain up to six lines of text to guide the user through setup, calibration, and operation.

### ■ Uses Differential Technique or Conventional Type Sensor.

The Model 63 can be used with any GLI 5-wire Differential Technique sensor, or with a conventional combination electrode or electrode pair. It also accepts an external temperature sensor (Pt 1000 RTD or NTC 300 ohm thermistor).

### ■ Dual Analog Outputs.

The Model 63 provides two sets of isolated analog outputs. Each set consists of one 4-20 mA and one 0-5 VDC/0-1 mA output. The output sets can be assigned to represent the pH (or ORP), temperature, the PID controller, or a dedicated alarm for wash/cal cycle operation.

### ■ Environmental Immunity.

The Model 63 is housed in a rugged epoxy-coated, metal NEMA 4X enclosure. The analyzer exceeds U.S. and meets European standards for electromagnetic and radio frequency interference.

# Specifications

## Operational:

Display..... Graphic dot matrix LCD, 128 x 64 pixels with LED backlighting; 1/2 inch (13 mm) main display character height; 1/8 inch (3 mm) auxiliary information character height; menu screens contain up to six full lines of conversational text

	Model P63 pH Analyzer Ranges	Model R63 ORP Analyzer Ranges
Main Display.....	0.0-14.0 or 0.00-14.00 pH	-1500 to +1500 mV
Auxiliary Display:		
Temperature.....	-10.0 to +110.0°C	-10.0 to +110.0°C
Opt. PID Controller Output .....	0.0-100.0%	0.0-100.0%
Sensor Status.....	Displays predicted date for end-of-sensor life	Displays predicted date for end-of-sensor life
Date .....	Month/day/year	Month/day/year
Time .....	Hour/minutes	Hour/minutes
Calibration Status.....	Displays next scheduled date for calibration	Displays next scheduled date for calibration
mA Outputs (1 and 2).....	4.00-20.00 mA	4.00-20.00 mA
Active Electrode Impedance*.....	1-999 MΩ	1-250 KΩ
Standard Electrode Impedance* .....	1-999 MΩ	1-999 MΩ
Glass Electrode Impedance** .....	1-999 MΩ	1-250 KΩ
Reference Electrode Impedance** .....	1-250 KΩ	1-250 KΩ
pH Sensor mV Output .....	-500 to +500 mV	Not provided (same as main display)
Relay Status.....	On or off	On or off
Diagnostic Message List .....	Contains submenu screens for: <ul style="list-style-type: none"> <li>• warn and fail messages</li> <li>• calibration record</li> <li>• sensor statistics</li> <li>• logbook</li> <li>• hardware tests</li> <li>• device description</li> <li>• factory assistance reference</li> </ul>	Contains submenu screens for: <ul style="list-style-type: none"> <li>• warn and fail messages</li> <li>• calibration record</li> <li>• sensor statistics</li> <li>• logbook</li> <li>• hardware tests</li> <li>• device description</li> <li>• factory assistance reference</li> </ul>

\* Displayed only when analyzer is used with GLI Differential Technique sensor.

\*\* Displayed only when analyzer is used with conventional combination electrode.

Ambient Conditions ..... -22 to +140°F (-30 to +60°C), 0 to 95% relative humidity, non-condensing

## Relays:

Types/Outputs: Standard ..... Three electromechanical relays; two SPDT (Form C) and one SPST (Form 1A); UL-rated 5A 115/230 VAC, 5A @ 30 VDC resistive

Optional ..... Three solid state AC relays (all SPST); UL-rated 2A continuous; user must provide 24-250 VAC and 0.02 amps RMS minimum

-or-

Three solid state DC relays (all SPST); UL-rated 2A continuous; user must provide 3-60 VDC

Functional Modes..... Each relay (A, B, and C) can be selected to be driven by the measured pH (or ORP) or temperature; or all relays operate as dedicated wash/cal cycle outputs for Cal-Clean system

Operating Modes: Control..... Settings for fail safe on/off, high/low phasing, setpoint, deadband, overfeed timer, on delay, and off delay

Alarm..... Settings for fail safe on/off, high alarm point, high alarm point deadband, low alarm point, low alarm point deadband, on delay, and off delay

Indicators..... Relay A, B and C annunciators indicate respective relay on/off status

Temperature Compensation ..... Automatic or manual, -10.0 to +110.0°C, with selection for temperature element (NTC 300 ohm thermistor, Pt 1000 ohm RTD or Pt 100 ohm RTD), or a manually entered value; 3-wire temperature sensor connection capability; automatic temperature compensation for pure water (0.0-50.0°C)

# Specifications (continued)

## Sensor-to-Analyzer Distance:

GLI 5-wire Differential

Technique Sensor ..... 3000 ft. (914 m) maximum (distances greater than 500 feet/152 meters may degrade sensor impedance diagnostic readings)

Conventional

Combination Electrode ..... 100 ft. (30 m) max. with electrode cable capacitance of less than 30 pF/foot

Power Requirements ..... 105-250 VAC, 50-60 Hz. (20 VA max.); no jumper or switch settings required

## pH Calibration Methods:

Arbitrary (1 or 2-point) Method ..... Enter known value of buffer for each point

Pre-Defined (1 or 2-point) Method ..... Automatic calibration and buffer recognition using buffers from one of these built-in buffer sets:

1. GLI Buffers: 4.00, 7.00, and 10.00 pH
2. NBS Buffers: 1.68, 4.01, 6.87, 9.18, and 12.45 pH
3. DIN 19267 Buffers: 1.09, 4.65, 6.79, 9.23, and 12.75 pH
4. Merck/Riedel de Haën: 2.00, 4.00, 7.00, 9.00, and 12.00 pH
5. Ingold Buffers: 2.00, 4.01, 7.00, and 9.21 pH

Sample (1 or 2-point) Method ..... Enter known value of sample determined by laboratory analysis or comparison reading

Wash/Cal Method ..... When used with a GLI Cal-Clean™ system or other appropriate hardware, initiates automatic wash/cal cycle operation using pre-defined buffer values from a selected built-in buffer set (see five buffer sets listed above)

TTL Auxiliary Inputs (two) ..... Dedicated only for use with automatic GLI Cal-Clean™ system

## Outputs:

Analog\* (standard) ..... Two sets (1 and 2) each with 4 microampere (12-bit) resolution; each set consists of:

Isolated 4-20 mA (900 ohms max. load)

Isolated 0-5 VDC (1 megohm min. load)/0-1 mA (100 ohms max. load)

\*Each analog output set can be assigned to represent the measured pH (or ORP) or temperature. When the analyzer has the optional PID controller, Output 1 can be set to represent the controller output (0-100%). Output 2 can be selected to provide a special dedicated non-variable alarm signal (only 4 mA or 20 mA) instead of its normal proportional output. pH (or ORP) values or temperature values can be entered to define the endpoints at which the minimum and maximum output values are desired (range expand). During calibration, both output sets can be selected to hold their present values, transfer to user-preset values to operate control elements by an amount corresponding to those values, or remain active to respond to the measurement. The display indicates an error message for each output current loop that is open.

TTL (standard) ..... Three isolated auxiliary TTL-level outputs for:

A. Use with automatic GLI Cal-Clean™ system

B. Use as NAMUR diagnostics:

TTL Output A: Instrument is "off line" for calibration or maintenance

TTL Output B: One or more software or system alarms are in the "warn" state

TTL Output C: One or more software or system alarms are in the "fail" state

PID (optional) ..... One isolated 4-20 mA (uses analog output 1); 900 ohms max. load

Memory Backup (non-volatile) ..... All user settings are retained indefinitely in memory (EEPROM)

Logbook ..... Non-volatile memory records up to 100 system events including calibrations, warning and failure messages, power-up/power-down, relay overfeed timer "time outs," and configuration activity; each event is logged with its time and date of occurrence

Real-time Clock ..... Operated by trickle-charged lithium battery (10-year life) when power is interrupted

# Specifications (continued)

## EMI/RFI Immunity:

Standard..... Metal enclosure and filters for line power and low level signals provide substantial protection from electromagnetic and radio frequency interference

Certified CE Compliant (optional) ..... Extra shielding and special shielded glass for the graphic dot matrix display; exceeds U.S. and meets European standards for conducted and radiated emissions (CISPR11 Class A), protection from radiated EMI/RFI to a level of 10 volts/meter (IEC 801-3), electrostatic discharge (IEC 801-2), and conducted electromagnetic interference (IEC 801-4)

## Electrical Certifications (optional):

General Purpose..... CSA and FM

Division 2..... CSA: Class I and II, Groups A, B, C, and D  
FM: Class I and II, Groups A, B, C, D, F, and G

## Analyzer Performance

### (Electrical, Analog Outputs):

Accuracy..... 0.05% of span ( $\pm 1$  count)

Sensitivity ..... 0.05% of span

Stability..... 0.05% of span per 24 hours, non-cumulative

Non-Linearity..... 0.05% of span

Repeatability ..... 0.1% of span or better

Temperature Drift..... Zero: 0.01% of span per °C;  
Span: 0.01% of span per °C

### Mechanical:

Enclosure..... NEMA 4X; polycarbonate face panel, epoxy-coated high-quality cast aluminum door and case with four 1/2 inch (13 mm) conduit holes, nylon mounting bracket, and stainless steel hardware

Mounting Configurations..... Panel, surface, and pipe (horizontal and vertical) mounting

Net Weight..... 5.5 lbs. (2.5 kg) approximately

# Ordering Information



<b>MODEL NUMBER</b>	
<b>P63</b>	pH analyzer with 0-14 pH measuring range; in NEMA 4X enclosure with hardware for panel, surface or pipe mounting.
<b>R63</b>	ORP analyzer with -1500 to +1500 mV measuring range; in NEMA 4X enclosure with hardware for panel, surface or pipe mounting.
<b>SENSOR INPUT TYPE</b>	
<b>A</b>	For GLI 5-wire Differential Technique pH sensor or combination pH electrode with preamp
<b>B</b>	For conventional combination pH electrode (without preamp) or pH electrode pair
<b>C</b>	For GLI 5-wire Differential Technique ORP sensor or combination ORP electrode with preamp
<b>D</b>	For conventional combination ORP electrode (without preamp) or ORP electrode pair
<b>RESERVED CATEGORIES</b>	
<b>FUSING</b>	
<b>1A</b>	Single-fused (for single phase line power)
<b>2A</b>	Dual-fused (for split phase line power)
<b>RELAYS</b>	
<b>1</b>	Electromechanical relays (two SPDT and one SPST)
<b>2</b>	Solid state AC relays (three SPST; 24-250 VAC)
<b>3</b>	Solid state DC relays (three SPST; 3-60 VDC)
<b>PID CONTROLLER</b>	
<b>A1</b>	No
<b>B1</b>	Yes
<b>EMI/RFI ENCLOSURE</b>	
<b>N</b>	No
<b>E</b>	Yes (certified CE compliant)
<b>AGENCY CERTIFICATION</b>	
<b>N</b>	None
<b>C</b>	CSA Certified (General Purpose -- see Note 1)
<b>D</b>	CSA Certified (Div. 2 -- see Note 1)
<b>F</b>	FM Approved (General Purpose)
<b>G</b>	FM Approved (Div. 2)
<b>EQUIPMENT TAGGING (specify tag data)</b>	
<b>N</b>	None
<b>P</b>	Paper
<b>S</b>	Stainless steel

<b>1N</b>		<b>Product Number</b>
-----------	--	-----------------------

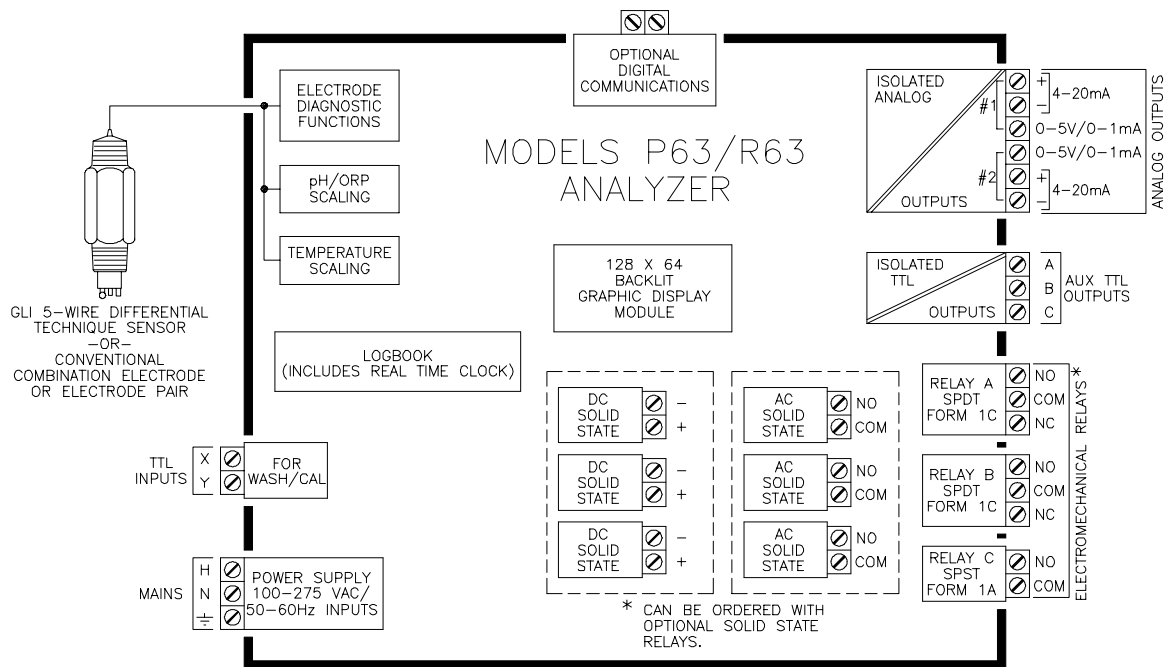
Choose one from each category.

**NOTES:** 1. Specify the "2A" dual-fused option when ordering a CSA-certified analyzer intended for 230 VAC operation.

## Accessories (ordered separately):

- **Sensors** -- Refer to data sheets PD, LRE, HPW, PC, and RP6300M.
- **Automatic Wash/Cal System** -- Unattended operation is achieved with the integrated Cal-Clean™ system. It automatically cleans, rinses, and calibrates the pH electrode without interrupting the process. It substantially reduces maintenance costs in applications requiring frequent pH electrode cleaning and calibration. Refer to data sheet Cal-Clean for complete details.
- **Sun Shield 1000G3088-001** -- Aluminum shield provides additional protection from harmful effects of direct sunlight.

# Inputs/Outputs

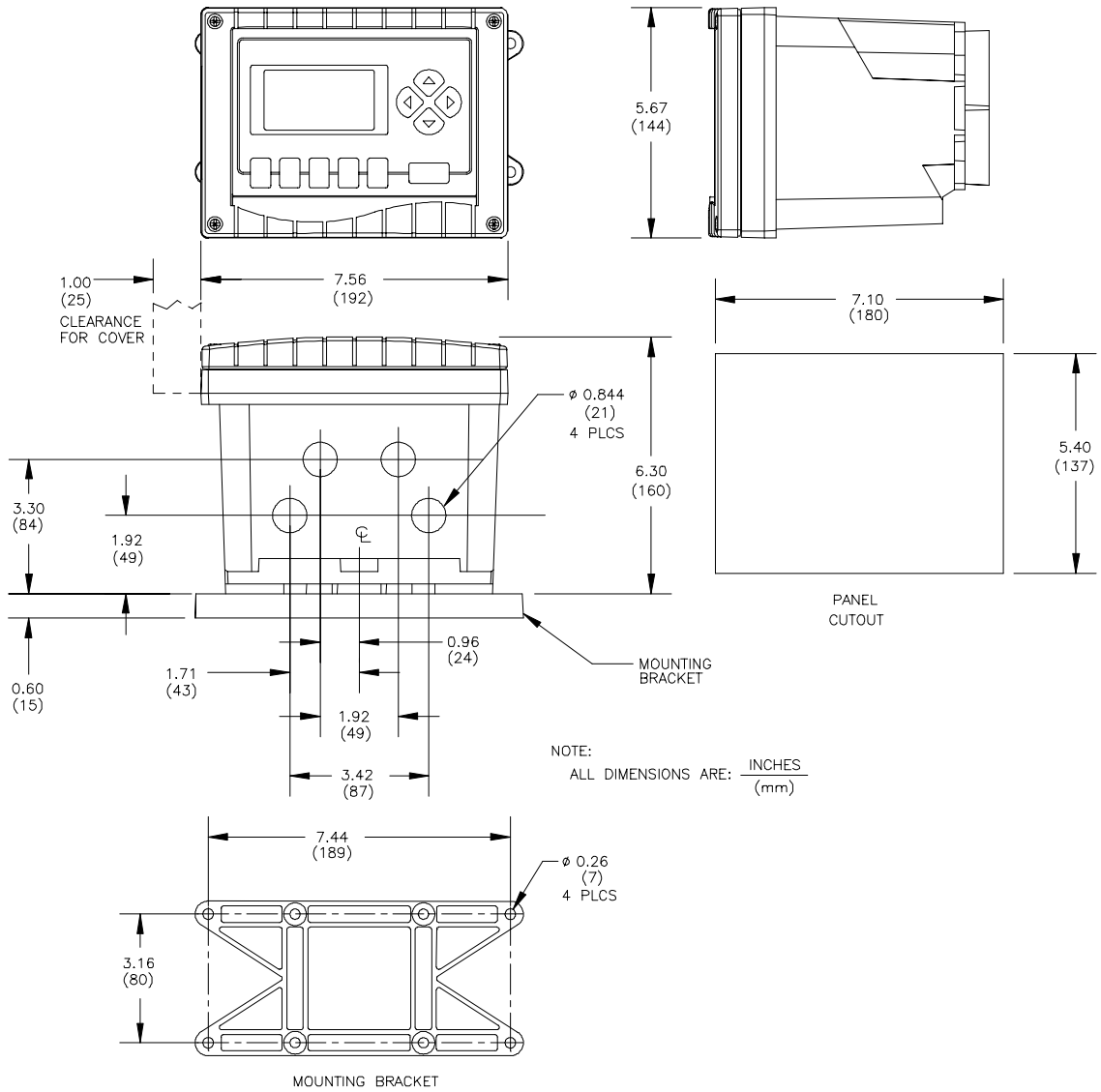


# Engineering Specification

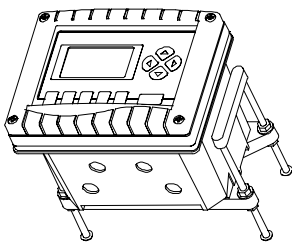
- The analyzer shall be microprocessor-based and accept a GLI 5-wire Differential Technique sensor, a conventional combination electrode, or an electrode pair. It shall also accept an external temperature sensor (Pt 1000 or NTC 300 ohm thermistor for Differential sensor, or Pt 100 or Pt 1000 for conventional combination electrode).
- The analyzer shall have predictive diagnostics to forecast the end of sensor life, and reactive diagnostics for alerting the operator to changes in vital electrode data including measuring and reference electrode impedance, zero, and slope.
- The analyzer shall have an automatic logbook for recording up to 100 system events including calibrations, electrode performance statistics, warning and failure messages, power-up/power-down, relay overfeed timer "time outs," and configuration activity. Each event is logged with its date and time of occurrence.
- The analyzer shall have a graphical dot matrix LCD display with 128 x 64 pixels and LED backlighting. The main display character height shall be 1/2 inch (13 mm). Auxiliary information character height shall be 1/8 inch (3 mm). Menu screens shall contain up to six full lines of conversational text.
- The analyzer main display shall indicate pH (or ORP). Simultaneously displayed auxiliary information shall include analog output values, process temperature, the date and time, the pH sensor's mV output, electrode impedance, relay status, diagnostic warnings, or error messages.
- The pH analyzer shall have four pH calibration methods:
  - Arbitrary: Enter known value of buffer for each point.
  - Pre-defined (1 or 2-point): Automatic calibration and buffer recognition using buffers from one of the five built-in buffer sets.
  - Sample (1 or 2-point): Enter known value of sample determined by laboratory analysis or comparison reading.
  - Wash/cal: When used with a GLI Cal-Clean™ system or other appropriate hardware, initiates automatic wash/cal cycle operation using pre-defined buffer values from a selected built-in buffer set.
- The analyzer shall have a user-assigned passcode to restrict access to configuration settings for authorized personnel only.
- The analyzer shall have fail high, warn high, warn low, and fail low software alarm settings for the measured pH (or ORP), temperature, electrode zero point, electrode slope, active (or glass) electrode impedance, and standard (or reference) electrode impedance. Also, fail high and warn high software alarm settings are provided for the calibration timer.
- The analyzer shall have diagnostic screens for messages (including scrolling lists for fail and warn alarm conditions), calibration records, sensor statistics for the first and last three calibrations, logbook, analyzer hardware tests, device description, and factory assistance.
- The analyzer shall automatically retain calibration records, including the date and time of the last calibration, type of calibration performed, and important electrode statistics such as zero, slope, and electrode impedance.
- The analyzer shall have self-check functions for all memory chips, the keypad, and display pixels.
- The analyzer shall have two sets of isolated analog outputs. Each set shall consist of 0-1 mA/ 0-5 VDC and 4-20 mA. Each output set can be assigned to represent the measured pH (or ORP), or temperature. Output 1 can also represent the optional PID controller output (0-100%). Output 2 can provide the normal proportional output, or a special dedicated non-proportional alarm signal (selectable for 4 mA or 20 mA only). pH (or ORP) or temperature values can be entered to define the endpoints at which the minimum and maximum output values are desired.
- The analyzer shall have an optional PID controller with a software selectable ISA or velocity algorithm. Also, the controller shall have an output timer alarm.
- The analyzer shall have a user-set calibration timer to alert the operator to perform scheduled calibration.
- The analyzer shall be GLI International, Inc. Model P63 (for pH measurement) or Model R63 (for ORP measurement).

# Dimensions

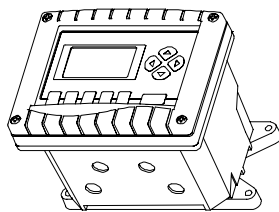
Inches (mm)



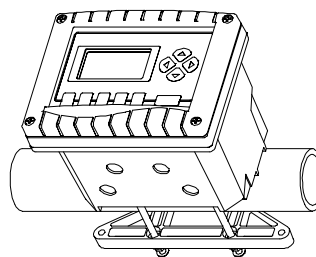
## Mounting Configurations



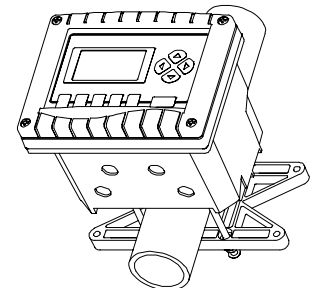
PANEL MOUNT



WALL MOUNT



HORIZONTAL PIPE MOUNT



VERTICAL PIPE MOUNT



# Automate your pH Measurement System with the Cal-Clean™ System



For complete details and specifications, refer to data sheet Cal-Clean.

Data Sheet PR63

## **Worldwide Headquarters and Sales:**

**GLI International, Inc.**  
9020 West Dean Road  
Milwaukee, Wisconsin 53224  
U.S.A.

*Phone:* [414] 355-3601  
*Fax:* [414] 355-8346  
*E-mail:* [info@gliint.com](mailto:info@gliint.com)  
*Web:* [www.gliint.com](http://www.gliint.com)



*In the interest of improving and updating its equipment, GLI reserves the right to alter specifications to equipment at any time.*



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)