

Wall Mount pH, ORP & Conductivity Controllers

The Hanna line of controllers have been designed to give outstanding performance with the latest innovative technology. Hanna controllers are precise, rugged, easy-to-use, economical and reliable.



ISO 9001 Certified

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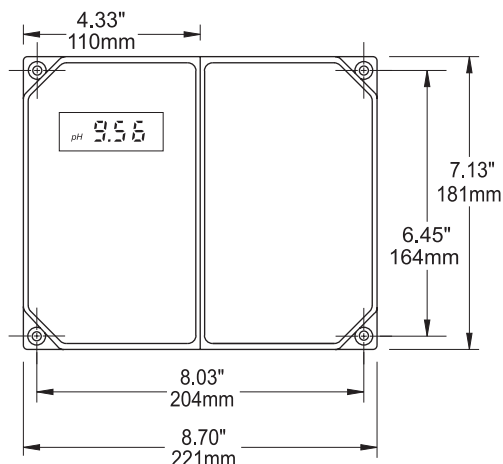
HANNA
instruments
Water Analysis & Control Division

Analog Wall Mounted Controllers

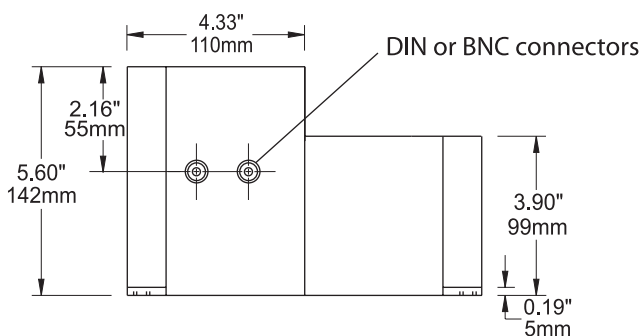
...reliable, accurate controllers.

Hanna pH, ORP & Conductivity/TDS Wall Mounted process controllers

Front View



Bottom View



The modular design isolates electrical connections in a closed compartment while the control settings are accessible and can be made through the adjacent compartment.

TECHNICALLY SUPERIOR

Hanna's wall mounted pH, ORP and conductivity controllers are specifically designed to meet your process control requirements. The controllers come equipped with power relays operating at a maximum of 2A (240V). Electrodes can be installed quickly and easily. Simply plug the universal BNC or DIN connector over the socket and twist it into a secured position. This feature greatly improves the reliability of your instrumentation by assuring a positive connection. Accurate measurements are displayed on a large LCD enabling the operator to check the controller readings easily.

ALARM FEATURE

The Hanna WM series of controllers incorporate a triple contact alarm system that allows the user to select whether the alarm contacts will be in a normally open or normally closed position. When the measured value of the meter is out of range, the alarm is activated. The alarm will also be activated if the unit loses power. When activated, the alarm contacts will open or close triggering the mechanism of your choice, whether a buzzer, light or any other electrical device. The alarm is a necessity when the

installation is in a remote location and corrective action must be taken immediately in the event of an out-of-range condition.

ISOLATED RECORDER OUTPUT

The ability to record the data from the process you are monitoring greatly enhances process troubleshooting. By simply connecting a recorder to the controller's output terminals, you are able to acquire a hard copy of the readings for demonstrative or analytical purposes. The recorder output terminals are isolated from the controller circuitry to avoid any interference and are user-switchable between 0 to 20 mA or 4 to 20 mA.

HIGH IMPEDANCE INPUT

The pH and ORP controllers come with high impedance 10^{12} ohm direct input from the electrode, ideal for applications with a distance of up to 10 meters (33 feet). The greater the distance between the controller and the sample, the greater the chance that line noise will occur, causing faulty readings. Using an AmpHel pH electrode to greatly enhance the input signal allowing high accuracy at distances of up to 50 meters (165 feet).

QUALITY CONSTRUCTION

These controllers are housed in a rugged, modular, fiber-reinforced polypropylene housing. Polypropylene has properties that will resist the harmful effects of most chemicals. When in operation and with the transparent protective cover installed, the units comply with the IP55 standards. The modular design isolates the controller circuitry from all contacts, assuring that there is no noise interference. The use of this rugged design protects the unit from the tough conditions associated with industrial environments, ensuring long and trouble-free operation.

SIMPLE INSTALLATION

The WM controllers have mounting holes molded into the housing to assure simple, quick and secure installation without the need for additional hardware. Once all electrical connections are made, the protective cover can be installed over the front panel, making it possible to perform all adjustments without disassembling any part of the unit. Temperature probes can be installed if ATC is desired (pH models). Pumps to be used in conjunction with the controller simply plug into the controller's 110/115 or 220/240 input and will be powered up through the unit's internal power supply.



HI 9910

Accessories for HI 9910

- HI 1002/5** pH electrode with 16.5' (5 m) cable
- HI 5001/5** Stainless steel Pt 100 probe with 5 m (16.5') cable
- HI 7004L** pH 4.01 buffer solution (500 mL)
- HI 7007L** pH 7.01 buffer solution (500 mL)
- HI 7010L** pH 10.01 buffer solution (500 mL)
- HI 8427** pH and ORP electrode simulator
- HI 931001** pH and ORP electrode simulator

HI 9910 Wall Mounted, Single Setpoint pH Controller

HI 9910 is a single setpoint pH controller with a user-selectable switch to dose either acid or alkaline solutions. Standard features include proportional control to fine tune your treatment program and minimize chemical usage, 4-20 mA output for data collection, one 2A 240 volt control relay, one 2A 240 volt alarm relay (separate from control relay), large LCD display and a splash resistant plastic panel cover. The HI 9910 comes with a differential circuit which eliminates ground loops from the process being monitored and significantly extends the life of the electrode.

SPECIFICATIONS

Model	HI 9910
Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@20°C/68°F)	±0.02 pH
Typical EMC Deviation	±0.1 pH
Calibration	2 points through trimmers on the front panel
Temp. Comp.	Manual or automatic with Pt100 probe from -10 to 80°C
Setpoint	Selectable from 0.00 to 14.00 pH
Recorder Output	Selectable from 0 to 20 mA or 4 to 20 mA, isolated
Proportional Control	Adjustable: pH from 0.0 to 2.0 and time cycle from 0 to 90 seconds
Dosing Contact	One powered terminal for pH correction (115 or 240V) Max. 2 A, 1,000,000 strokes; activated proportionally when pH > setpoint for acid dosage or pH < setpoint for alkaline dosage
Alarm Relay	One, activated when pH varies (selectable 0 to 2.0) from the setpoint and/or max. dosage time (1 to 10 minutes) elapses. Isolated , Max 2 A, Max 240 V, resistive load, 1,000,000 strokes
Power Supply	110/115V or 220/240V; 50/60 Hz
Environment	14 to 122°F (-10 to 50°C); RH 95% non-condensing
Enclosure	7.1L x 8.7W x 5.6H" (181L x 221W x 142H mm)
Weight	1.6 Kg (3.5 lb.)



HI 9911

Accessories for HI 9911

- HI 1002/5** pH electrode with 16.5' (5 m) cable
- HI 5001/5** Stainless steel Pt 100 probe with 5 m (16.5') cable
- HI 7004L** pH 4.01 buffer solution (500 mL)
- HI 7007L** pH 7.01 buffer solution (500 mL)
- HI 7010L** pH 10.01 buffer solution (500 mL)
- HI 8427** pH and ORP electrode simulator
- HI 931001** pH and ORP electrode simulator

HI 9911 Wall Mounted, Dual Setpoint pH Controller

HI 9911 is a dual setpoint pH controller. Fine tuning the proportional control adjustment trimmers located on the front panel uses two individual control relays to dose acid and/or alkaline solutions. The 2A 240-volt control relay used with the Hanna's BL series chemical dosing pumps ensures accurate control over your process. Other standard features include, 4-20 mA output for data collection, one 2A 240 volt control relay, one 2A 240 volt alarm relay (separate from control relay), large LCD display and a splash resistant plastic panel cover. The HI 9911 comes with a differential circuit which eliminates ground loops from the process being monitored and significantly extends the life of the electrode.

SPECIFICATIONS

Model	HI 9911
Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@20°C/68°F)	±0.02 pH
Typical EMC Deviation	±0.1 pH
Calibration	2 points through trimmers on the front panel
Temp. Comp.	Manual or automatic with Pt100 probe from -10 to 80°C
Setpoint	Two, selectable from 0.00 to 14.00 pH
Recorder Output	Selectable from 0 to 20 mA or 4 to 20 mA, isolated
Proportional Control	Adjustable: pH from 0.0 to 2.0 and time cycle from 0 to 90 seconds
Dosing Contacts	Two powered terminals for acid and alkaline correction (115 or 240V) Max. 2 A, 1,000,000 strokes Proportional acid dosage: activated when pH > setpoint Proportional alkaline dosage: activated when pH < setpoint
Alarm Relay	One activated when pH varies (selectable 0 to 2.0) from the setpoint and/or max. dosage time (1 to 10 minutes) elapses. Isolated , Max 2A, Max 240V, resistive load, 1,000,000 strokes
Power Supply	110/115V or 220/240V; 50/60 Hz
Environment	14 to 122°F (-10 to 50°C); RH 95% non-condensing
Enclosure	7.1L x 8.7W x 5.6H" (181L x 221W x 142H mm)
Weight	1.6 Kg (3.5 lb.)



HI 9920

HI 9920 Wall Mounted, Single Setpoint ORP Controller

HI 9920 is a single setpoint ORP controller with a user-selectable switch to dose either reducing or oxidizing solutions. Standard features include proportional control to fine tune your treatment program and minimize chemical usage, 4-20 mA output for data collection, one 2A 240 volt control relay, one 2A 240 volt alarm relay (separate from control relay), large LCD display and a splash resistant plastic panel cover. The HI 9920 come with a differential circuit which eliminates ground loops from the process being monitored and significantly extends the life of the electrode.

SPECIFICATIONS

Model	HI 9920
Range	-500 to +1500 mV
Resolution	1 mV
Accuracy (@20°C/68°F)	±5 mV
Typical EMC Deviation	±6 mV
Calibration	1 point through trimmer on the front panel
Temp. Comp.	Manual or automatic with Pt100 probe from -10 to 80°C
Setpoint	Selectable from -500 to +1500 mV
Recorder Output	Selectable from 0 to 20 mA or 4 to 20 mA, isolated
Proportional Control	Adjustable: mV from 0 to 200 and time cycle from 0 to 90 seconds
Dosing Contact	One powered terminal for ORP correction (115 or 240V) Max. 2 A, 1,000,000 strokes; activated when mV > setpoint for proportional reducing dosage or mV < setpoint for proportional oxidizing dosage
Alarm Relay	One, activated when mV varies (selectable 0 to 200 mV) from the setpoint and/or max. dosage time (1 to 10 minutes) elapses. Isolated , Max 2 A, Max 240 V, resistive load, 1,000,000 strokes
Power Supply	110/115V or 220/240V; 50/60 Hz
Environment	14 to 122°F (-10 to 50°C); RH 95% non-condensing
Enclosure	7.1L x 8.7W x 5.6H" (181L x 221W x 142H mm)
Weight	1.6 Kg (3.5 lb.)

Accessories for HI 9920

HI 2002/5	ORP Pt electrode with 16.5' (5 m) cable
HI 7020L	ORP test solution 200/275 mV (500 mL)
HI 7091L	Reducing solution (500 mL)
HI 7092L	Oxidizing solution (500 mL)
HI 8427	pH and ORP electrode simulator
HI 931001	pH and ORP electrode simulator

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HI 9923

Accessories for HI 9923

HI 1002/5	pH electrode with 16.5' (5 m) cable
HI 7638	Immersion conductivity/°C probe
HI 3001D	In-line conductivity/°C probe
HI 7004L	pH 4.01 buffer solution (500 mL)
HI 7007L	pH 7.01 buffer solution (500 mL)
HI 7010L	pH 10.01 buffer solution (500 mL)
HI 7031L	1413 μ S/cm conductivity solution (500 mL)
HI 7039L	5000 μ S/cm conductivity solution (500 mL)
HI 931001	pH and ORP electrode simulator

HI 9923

Wall Mounted, pH and Conductivity Controller

HI 9923 is a 2-in-1 pH and Conductivity controller engineered to control two separate parameters for applications such as cooling towers and boilers. Narrow band setpoint adjustments allow operators to activate independent mechanical relay from 5 to 10 pH and 1.00 to 6.00 mS/cm (1000 to 6000 microsiemens). Front panel LED allows the monitoring of alarm and dosing activities along with a water flow (flow switch not provided). Other standard features include two 2A 240 volt dosing relay, one 2A 240 volt alarm relay (separate from control relay), large LCD display and a splash resistant plastic panel cover. The **HI 9923** comes with a differential circuit, which eliminates ground loops from the process being monitored and significantly extends the life of the electrode.

SPECIFICATIONS

Model	HI 9923
Range	0.00 to 14.00 pH and 0.00 to 10.00 mS/cm (mmho/cm)
Resolution	0.01 pH and 0.01 mS/cm (mmho/cm)
Accuracy (@20°C/68°F)	± 0.02 pH and $\pm 2\%$ F.S.
Typical EMC Deviation	± 0.1 pH and $\pm 2\%$ F.S.
Calibration	2 points for pH and 1 for conductivity through trimmers on the front panel
Hysteresis	Conductivity adjustable from 0 to 0.5 mS/cm
Setpoint	Selectable from 5.00 to 10.00 pH and from 1.00 to 6.00 mS/cm
Dosing Contacts	Two powered terminals for alkaline pH and conductivity correction (240V) Max. 2 A, 1,000,000 strokes;
Alarm Relay	One, activated when pH exceeds (selectable 0 to 2.0) the setpoint or mS/cm drops below (selectable 0 to 2 mS) the setpoint and/or max. dosage time (selectable 0 to 90 minutes) elapses. Isolated , Max 2A, Max 240V, resistive load, 1,000,000 strokes
Power Supply	110/115V or 220/240V; 50/60 Hz
Environment	14 to 122°F (-10 to 50°C); RH 95% non-condensing
Enclosure	7.1L x 8.7W x 5.6H" (181L x 221W x 142H mm)
Weight	1.6 Kg (3.5 lb.)



HI 9912

Accessories for HI 9912

HI 1002/5	pH electrode with 16.5' (5 m) cable
HI 2002/5	ORP Pt electrode with 16.5' (5 m) cable
HI 7004L	pH 4.01 buffer solution (500 mL)
HI 7007L	pH 7.01 buffer solution (500 mL)
HI 7010L	pH 10.01 buffer solution (500 mL)
HI 7020L	ORP test solution 200/275 mV (500 mL)
HI 7091L	Reducing solution (500 mL)
HI 7092L	Oxidizing solution (500 mL)
HI 8427	pH and ORP electrode simulator
HI 931001	pH and ORP electrode simulator

HI 9912

Wall Mounted, pH and ORP Controller

HI 9912 is a 2-in-1 pH and ORP controller designed specifically for the pool and spa market. Each parameter has individual setpoint and proportional dosing adjustment controls, dosing contacts for pump control and calibration adjustment trimmers. Setpoint adjustments (from 6 to 8 pH and 500 to 900 mV) and the calibration of the electrodes are easily accomplished by using the adjustment trimmers on the front panel. A large LCD display, dosing and alarm LED lights and a splash resistant plastic panel cover are ideal for the pool chemical room environment. The **HI 9912** comes with a differential circuit, which eliminates ground loops from the process being monitored and significantly extends the life of the electrode.

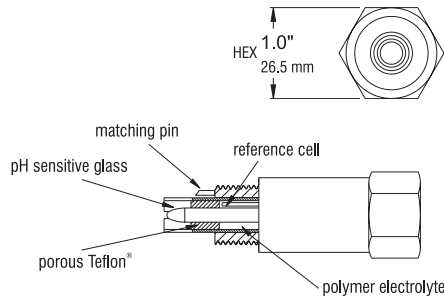
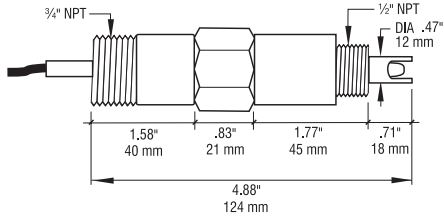
SPECIFICATIONS

Model	HI 9912
Range	0.00 to 14.00 pH and 0 to 1000 mV
Resolution	0.01 pH and 1 mV
Accuracy (@20°C/68°F)	± 0.02 pH and ± 5 mV
Typical EMC Deviation	± 0.1 pH and ± 6 mV
Calibration	2 points for pH and 1 for ORP through trimmers on the front panel
Setpoint	Selectable from 6.00 to 8.00 pH and 500 to 900 mV
Proportional Control	Adjustable: pH from 0.0 to 2.0, mV from 0 to 200 and time cycle from 0 to 90 seconds
Dosing Contacts	Two powered terminals for pH and ORP correction (115 or 240V) Max. 2 A, 1,000,000 strokes; Proportional dosage: activated when pH > setpoint; and/or mV < setpoint
Alarm Relay	One, activated when pH varies (selectable 0 to 2.0) or mV varies (selectable 0 to 200) from the setpoint and/or max. dosage time (1 to 10 minutes) elapses. Isolated , Max 2A, Max 240V, resistive load, 1,000,000 strokes
Power Supply	110/115V or 220/240V; 50/60 Hz
Environment	14 to 122°F (-10 to 50°C); RH 95% non-condensing
Enclosure	7.1L x 8.7W x 5.6H" (181L x 221W x 142H mm)
Weight	1.6 Kg (3.5 lb.)

Electrodes

...quality electrodes for high pressure industrial applications.

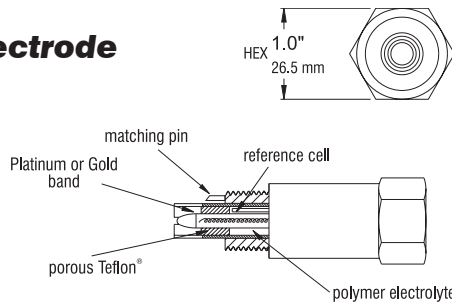
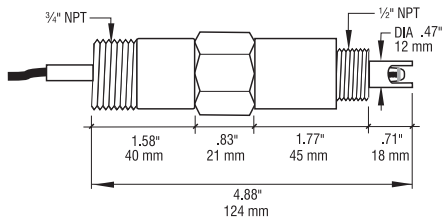
HI 1002/5 Combination pH Electrode



SPECIFICATIONS

Model	HI 1002/5
Reference System	
Junction	Double
Type	Teflon®
Electrolyte	Polymer
Temperature	23 to 176°F (-5 to 80°C)
Max. Pressure	6 bar (87 psi)
Lead	
Connector	BNC
Cable	16.5' (5 m)

HI 2002/5 Combination ORP Platinum Electrode



SPECIFICATIONS

Model	HI 2002/5
Reference System	
Junction	Double
Type	Teflon®
Electrolyte	Polymer
Temperature	23 to 176°F (-5 to 80°C)
Max. Pressure	6 bar (87 psi)
Lead	
Connector	BNC
Cable	16.5' (5 m)

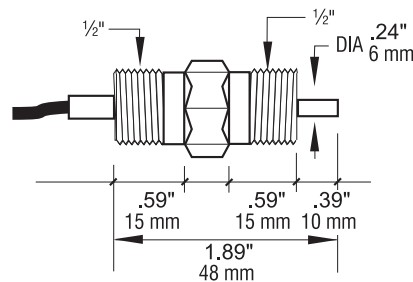
HI 7638 Submersion/in-line conductivity probe



SPECIFICATIONS

Model	HI 7638
Temp. Comp.	Automatic 32 to 122°F (0 to 50°C)
Body Material	Ultem®
Working Temperature	32 to 248°F (0 to 120°C)
Max. Pressure (@25°C/77°F)	5 bar (72.5 psi)

HI 5001/5 Stainless steel Pt 100 probe



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