

HI8510

pH Analog Indicator with Self Diagnostic Test



- ATC
 - Automatic temperature compensation
 - Backlight
- Backlit, LCD display

HI8510 is ideal for monitoring pH in process control. It can provide highly accurate pH measurements and display values on the easy to read LCD. BNC input, amplified probe input and input from transmitter are supported.

Designed for easy and fast installation, the HI 8510 is provided with membrane keypads on the front panel, large display, and auto-diagnostic functions to check pH electrode and instrument status. These instruments also provide $\pm 5V$ power output and input terminals for amplified electrodes.

A removable, transparent splash-proof cover protects the front panel.

Specifications HI8510

Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@25°C/77°F)	± 0.02 pH (0 to 100 °C); ± 0.05 pH (-20 to 0 °C); $\pm 0.5\%$ (input transmitter)
Input	high impedance 10^{12} Ohm; reference and matching pin inputs are available; 4-20 mA
Power Output	± 5 Vcc; 150 mA max load for amplified electrodes
Calibration	offset: ± 2 pH with OFFSET trimmer; slope: 80 to 110% with SLOPE trimmer
Temperature Compensation	fixed or automatic with Pt100, from -20 to 100°C (-4 to 212°F)
Recorder Output	0-20 mA or 4-20 mA (isolated)
Backlight	continuous on
Power Supply	115 VAC $\pm 10\%$ or 230 VAC $\pm 10\%$; 50/60 Hz
Enclosure	flame retardant ABS body and front panel; transparent splash-proof front cover
Environment	-10 to 50°C (14 to 122°F); RH max 95% non-condensing
Panel Cutout	141 x 69 mm (5.6 x 2.7")
Weight	1 kg (2.2 lb.)
Ordering Information	The HI8510 is supplied complete with mounting brackets and instructions.
Accessories	HI8427 pH / ORP electrode simulator
	HI931001 pH / ORP electrode simulator with display
	HI8614N pH transmitter
	HI8614LN pH transmitter with display

pH502

pH Digital Controllers

with Matching Pin and PID Control

- **CAL Check™**
 - Alerts users of calibration status
- **ATC**
 - Automatic temperature compensation
- **3 Point Calibration**
 - Up to three point calibration

The pH502 series of controllers offer many features to increase the level of control available in your plant. These instruments can be configured to utilize P, PI, PID controlling. With this feature, the pH502 takes the place of three instruments that only allow one configuration each. The pH502 line includes models that incorporate control through analog output to drive any compatible device, such as an electrovalve or pump. The solid state relay is available to ensure maximum life of the switching device. Each model has a differential input for a grounding bar to extend electrode life.

Fail Safe Alarm System protects against power interruption or line failure. 1, 2 or 3 point automatic calibration and manual or Automatic Temperature Compensation complete the features of this controller.



Specifications	pH502
Range	0.00 to 14.00 pH; -9.9 to 120°C
Resolution	0.01 pH; 0.1°C
Accuracy (@25°C/77°F)	±0.02 pH; ±0.5°C
Input Impedance	10 ¹² Ohm
pH Calibration	automatic, one, two or three point, at pH 4.01, 7.01, 10.01
Temperature Compensation	automatic (with Pt100 probe) or manual from -9.9 to 120°C
Outputs	digital: RS485 bi-directional opto-isolated; or analog, galvanically isolated: 0-1 mA, 0-20 mA and 4-20 mA, 0-5 VDC, 1-5 VDC and 0-10 VDC
Set Point Relay	1 or 2 contact outputs SPDT 5A-250 VAC, 5A-30 VDC (resistive load) or 1 or 2 Solid State Relay (SSR), 1A, 250 VAC (resistive and inductive load), fuse protected (2A, 250V fast fuse)
Alarm Relay	one contact output SPDT, 5A-250 VAC, 5A-30 VDC (resistive load), fuse protected (5A, 250V fuse)
Power Supply	115 VAC ±10% or 230 VAC ±10%; 50/60 Hz
Power Consumption	15 VA
Over Current Protection	400 mA 250V fast fuse
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing
Dimensions	panel cutout:140 x 140 mm, instrument: 144 x 144 x 170 mm
Weight	1.6 kg (3.5 lb.)
Ordering Information	<p>Each pH 502 model is supplied complete with mounting brackets and instructions.</p> <p>Choose your configuration</p> <p>pH502421-1 Dual setpoint with SSR relay, on/off and PID controls, analog output, 115V</p> <p>pH502421-2 Dual setpoint with SSR relay, on/off and PID controls, analog output, 230V</p>

pH500

pH Digital Controllers

with Matching Pin

- **CAL Check™**
 - Alerts users of calibration status
- **Alarm**
 - Fail Safe Alarm System
- **ATC**
 - Automatic temperature compensation
- **3 Point Calibration**
 - Up to three point calibration

pH500 series of controllers are simple to operate, microprocessor-based process meters packed with features. For more flexibility and better resolution for chart recorders, any two points between 0 and 14 pH can be chosen to correspond to the analog output spans. Several pH500 models are equipped with a bi-directional RS232 port. Push button password programming prevents tampering.

The Fail Safe Alarm System protects the pH500 against the pitfalls of process control, like power interruption or line failure. With pH500 quick one, two or three point calibration at pH 4.01, 7.01 and 10.01 comes standard. The temperature can be manually or automatically compensated for. Models with RS232 output allow computer compatibility, a necessity for process control instrumentation. You can also choose from ON/OFF or proportional dosage to save on chemicals.



Specifications

pH500

Range	0.00 to 14.00 pH; -9.9 to 120°C
Resolution	0.01 pH; 0.1°C
Accuracy (@25°C/77°F)	±0.02 pH; ±0.5°C
Input Impedance	10 ¹² Ohm
pH Calibration	automatic, one, two or three point, at pH 4.01, 7.01, 10.01
Temp. Compensation	automatic (with Pt100 probe) or manual from -9.9 to 120°C
Outputs	digital: RS232 bi-directional optoisolated; or analog, galvanically isolated: 0-1 mA, 0-20 mA and 4-20 mA, 0-5 VDC, 1-5 VDC and 0-10 VDC
Set Point Relay	1 or 2 contact outputs SPDT 5A-250 VAC, 5A-30 VDC (resistive load), fuse protected (2A, 250V fast fuse)
Alarm Relay	1 contact output SPDT, 5A-250 VAC, 5A-30 VDC (resistive load), fuse protected (2A, 250V fast fuse)
Power Supply	115 VAC ±10% or 230 VAC ±10%; 50/60 Hz
Power Consumption	15 VA
Over Current Protection	400 mA 250V fast fuse
Max. Oscillation Frequency	4 MHz
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing
Dimensions	panel cutout: 140 x 140 mm, instrument: 144 x 144 x 170 mm
Weight	1.6 kg (3.5 lb.)

Ordering Information

Each pH 500 model is supplied complete with mounting brackets and instructions.

Choose your configuration

- pH500111-1** single setpoint, on/off control, analog output, 115V
- pH500111-2** single setpoint, on/off control, analog output, 230V
- pH500121-1** single setpoint, proportional control, analog output, 115V
- pH500121-2** single setpoint, proportional control, analog output, 230V
- pH500211-1** dual setpoint, on/off control, analog output, 115V
- pH500211-2** dual setpoint, on/off control, analog output, 230V
- pH500221-1** dual setpoint, proportional control, analog output, 115V
- pH500221-2** dual setpoint, proportional control, analog output, 230V
- pH500222-1** dual setpoint, proportional control, RS232 output, 115V
- pH500222-2** dual setpoint, proportional control, RS232 output, 230V

HI8710

pH Analog Controller

with Self-Diagnostic Test

- Alarm
 - Fail Safe Alarm System
- ATC
 - Automatic temperature compensation
- Backlight
 - Backlit, LCD display

HI8710 is a panel mounted pH controller with self-diagnostic test capabilities. Users can set: the setpoint for acid or alkaline dosage, the tolerance of the setpoint before an alarm is activated, the dosing mode: automatic, continuous on or OFF and the over dosage control by setting the overtime dosage knob.

When used in conjunction with the HI8720 ORP controller, the ODCD* function will ensure that the ORP dosing will start only when the pH level is correct.

“Overtime dosage” function with selection knob and jumper for disable on the rear panel. If the dosing relay remains continuously activated for more than selected dosing time the alarm relay is activated, the alarm LED is blinking and the dosing relay is deactivated.

A removable, transparent splash-proof cover protects the front panel.

* ORP dosing consent device



Specifications

HI8710

Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@25°C/77°F)	±0.02 pH (0 to 100 °C); ±0.05 pH (-20 to 0 °C); ±0.5% (input from transmitter)
Input	high impedance 10 ¹² Ohm; reference and matching pin inputs are available 4-20 mA
Power Output	±5 Vcc; 150 mA max load for amplified electrodes
Calibration	offset: ±2 pH with OFFSET trimmer; slope: 80 to 110% with SLOPE trimmer
Temperature Compensation	fixed or automatic with Pt100, from -20 to 100°C (-4 to 212°F)
Recorder Output	0-20 mA or 4-20 mA (isolated)
Set Point Relay	1, isolated, 2 A, max 240 V, resistive load, 1000000 strokes (not fuse protected)
Set Point Range	0.00 to 14.00 pH
Alarm Relay	1, isolated, 2 A, max 240 V, resistive load, 1000000 strokes (not fuse protected)
Alarm Range	0.2 to 3.00 pH
Consent Relay	1, isolated, 2 A, max 240 V, resistive load, 1000000 strokes (not fuse protected)
Dosing Control	OFF/AUTO/ON with selection switch
Over Dosing Control	adjustable, from 5 min to 60 min with knob or disable by wire strap - on rear panel
Backlight	continuous on
Power Supply	115 VAC ±10% or 230 VAC ±10%; 50/60 Hz
Enclosure	flame retardant ABS body and front panel; transparent splash-proof front cover
Environment	-10 to 50°C (14 to 122°F); RH max 95% non-condensing
Panel Cutout	141 x 69 mm (5.6 x 2.7")
Weight	1 kg (2.2 lb.)
Ordering Information	The HI8710 is supplied complete with mounting brackets and instructions.
Accessories	HI8427 pH / ORP electrode simulator
	HI931001 pH / ORP electrode simulator with display
	HI8614N pH transmitter
	HI8614LN pH transmitter with display

HI8711

pH Analog Controller

with Dual Output and Self-Diagnostic Test

- Alarm
 - Fail Safe Alarm System
- ATC
 - Automatic temperature compensation
- Backlight
 - Backlit, LCD display

HI8711 allows the selection of two set points with two independent outputs for acid and alkaline dosages.

Each model accepts either a direct input from a pH or ORP electrode or from a transmitter through 4-20 mA input. The instrument also provides $\pm 5V$ power output and input terminals for amplified electrodes. In addition, you can choose the output configuration for connecting a recorder or a PLC, between 0-20 or 4-20 mA.

The HI8711 incorporates adjustable overtime dosing protection from 5 to 60 minutes. If dosing exceeds selected time, the alarm will be triggered and the dosing contact will deactivate. This feature can be activated or deactivated.

A removable, transparent splash-proof cover protects the front panel.



Specifications HI8711

Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@25°C/77°F)	± 0.02 pH (0 to 100 °C); ± 0.05 pH (-20 to 0 °C); $\pm 0.5\%$ (input from transmitter)
Input	high impedance 10^{12} Ohm; reference and matching pin inputs are available; 4-20 mA
Power Output	± 5 Vcc; 150 mA max load for amplified electrodes
Calibration	offset: ± 2 pH with OFFSET trimmer; slope: 80 to 110% with SLOPE trimmer
Temperature Compensation	fixed or automatic with Pt100, from -20 to 100°C (-4 to 212°F)
Recorder Output	0-20 mA or 4-20 mA (isolated)
Set Point Relay	2, isolated, 2 A, max 240 V, resistive load, 1000000 strokes (not fuse protected)
Set Point Range	alk. set: from 0.00 to 14.00 pH; acid set: from 0.00 to 14.00 pH
Alarm Relay	1, isolated, 2 A, max 240 V, resistive load, 1000000 strokes (not fuse protected)
Alarm Range	0.2 to 3.00 pH
Dosing Control	OFF/AUTO/ON with selection switch
Over Dosing Control	adjustable, from 5 min to 60 min with knob or disable by wire strap - on rear panel
Backlight	continuous on
Power Supply	115 VAC $\pm 10\%$ or 230 VAC $\pm 10\%$; 50/60 Hz
Enclosure	flame retardant ABS body and front panel; transparent splash-proof front cover
Environment	-10 to 50°C (14 to 122°F); RH max 95% non-condensing
Panel Cutout	141 x 69 mm (5.6 x 2.7")
Weight	1 kg (2.2 lb.)
Ordering Information	The HI8711 is supplied complete with mounting brackets and instructions.
Accessories	HI8427 pH / ORP electrode simulator
	HI931001 pH / ORP electrode simulator with display
	HI8614N pH transmitter
	HI8614LN pH transmitter with display

BL931700

pH Mini Controller

with 4-20 mA Recorder Output

- Easy-to-handle
- Fire-retardant casing
- Selectable overdose protection system
- Splash-resistant cover



The BL931700 mini pH controller has been designed for easy, affordable installation in tight spaces to perform simple, yet effective process control. Thanks to its compact size, BL931700 can be installed right next to tanks or vats.

This versatile controller is ideal for a wide variety of applications, such as textiles, papers, photographic solutions, plating baths, chemicals and water treatment.

The BL931700 is provided with a selectable setpoint for acid or basic dosage.

Accuracy is ensured by two-point calibration, performed manually through trimmers on the front panel.

Users can choose automatic or manual dosing mode with a switch on the front panel. Manual control is particularly useful during maintenance operations, because it permits operators to enable or disable the dosing relay according to need. The overtime control system advises users when the relay is active for too long, helping to prevent overdosing.

In addition, this model features a 4-20 mA analog output for recorder connection.

Specifications BL931700

Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy (@25°C/77°F)	±0.02 pH
Calibration	manual, through offset and slope trimmers
Dosing Relay	maximum 2A (fuse protected), 250 Vac, 30 VDC
Dosing Selection	acid or alkaline contact open=acid dosage=relay ON if measurement > setpoint contact closed=alkaline dosage=relay ON if measurement < setpoint
Setpoint	adjustable from 0 to 14 pH
Overtime	adjustable, typically from 5 to approximately 30 minutes
Recorder Output	4 to 20 mA, accuracy ±0.20 mA, 500 Ω maximum load
Input Impedance	10 ¹² Ohm
Power Supply	BL931700-0: 12 VDC adapter (included); BL931700-1: 115/230 VAC; 50/60Hz
Dimensions	83 x 53 x 99 mm (3.3 x 2.1 x 3.9")
Weight	BL931700-0: 200 g (7.1 oz.); BL931700-1: 300 g (10.6 oz.)
Ordering Information	BL931700-0 (12 VDC) and BL931700-1 (115/230V) are supplied with mounting brackets, transparent cover and instruction manual.
Recommended Probe	HI1001 PVDF body pH electrode with 1/2" NPT thread, BNC connector and 3 m (9.8') cable for continuous flow-thru monitoring (not included).