



BENCHTOP pH METERS



WE DESIGN, MANUFACTURE, SUPPLY AND SUPPORT ALL OF OUR PRODUCTS.

THAT'S 360° VALUE

Over the past 30 years, HANNA has never failed to design fresh and innovative products and the new Benchtop pH Meters are no exception.

HANNA is the largest family-owned manufacturer of analytical instrumentation in the world. The Benchtop pH Meters are manufactured in our European state-of-the-art ISO 9001:2000 production facility and are CE compliant to EN 61326-1 and EN 61010-1 standards.

When you buy a HANNA product, you're not only buying the best value for your money, but you're also adding the benefit of HANNA's unsurpassed customer service and post-sale technical support.

SIMPLICITY IN DESIGN

HANNA's new Benchtop Meters are an affordable solution for laboratory testing without compromising accuracy. These benchtop pH meters are compatible with a wide range of pH electrodes with BNC connectors.

They feature an extra wide (6.5" x 1.5") LCD which displays both the primary reading and temperature simultaneously. These meters also feature prompts and symbols that guide the user during the calibration procedure as well as during measurements.

FEATURES

- Extra wide LCD (6.25" x 1.5")
 - Simultaneous display of primary reading and temperature
- On-screen calibration guides
 - Automatic temperature compensation

GENERAL SPECIFICATIONS

pH Probe	HI 1131B Glass-body Combination pH Electrode with 1 m (3.3') Cable
Temperature Probe	HI 7662-T Temperature Probe
Input impedance	10 ¹² ohms
Power Supply	12 VDC
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing
Dimensions	235 x 218 x 108 mm (9.2 x 8.5 x 4.2")
Weight	1.3 Kg (2.9 lb); with holder 2.1 Kg (4.6 lb.)

Glass Body pH Electrode & Starter Solutions Included!

FIND THE INSTRUMENT THAT'S RIGHT FOR YOU

	HI 2250	HI 2223	HI 2221	HI 2216	HI 2215	HI 2214	HI 2213	HI 2212	HI 2211	HI 2210
Page	4	6	6	8	9	9	10	10	11	11
pH	•	•	•	•	•	•	•	•	•	•
mV	•	•	•	•	•	•	•		•	
ISE				•						
EC/TDS	•									
NaCl	•									
Temperature	•	•	•	•	•	•	•	•	•	•
pH Cal. Points	Up to 5	Up to 5	Up to 5	Up to 5	Up to 5	Up to 5	Up to 3	Up to 3	Up to 2	Up to 2
ATC	•	•	•	•	•	•	•	•	•	•
Auto Calibration	•	•	•	•	•	•	•	•	•	•
CAL CHECK™		•	•							
GLP	•	•	•	•	•	•	•	•		
Calibration Exp. Reminder	•	•	•	•	•	•	•	•		
Standard Buffers	7	7	7	7	7	7	5	5	5	5
Custom Buffers	2			2	2	2	2	2		
PC Compatible	USB	USB	USB	USB	USB	USB				
Manual Logging	200	500	100	200	100	100				
Interval Logging	500			500	500					



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HI 2550 pH/mV and EC/TDS/NaCl Meter

- Up to 5 point pH calibration with 7 standard and 2 custom buffers
- Autoranging (EC/TDS)
- Automatic temperature compensation (pH & EC)
- Manually log up to 200 records and interval log up to 500 records
- PC compatible via USB

GLP (Good laboratory Practice)

GLP is a set of functions that allows storage and retrieval of data regarding the maintenance and status of the electrode. All data regarding pH, Rel mV, EC and NaCl calibration is stored for the user to review when necessary.

Calibration Expiration Reminder

For pH calibration, this instrument allows the user to set the number of days before the next required calibration. This value can be set from 1 to 7 days, or disabled.

Calibration data

The last calibration data is stored automatically after a successful calibration.

SPECIFICATIONS

HI 2550

Range	pH	-2.0 to 16.0 pH; -2.00 to 16.00 pH; -2.000 to 16.000 pH
	ISE & ORP	± 999.9 mV; ± 2000 mV
	EC	0.00 to 29.99 µS/cm; 30.0 to 299.9 µS/cm; 300 to 2999 µS/cm; 3.00 to 29.99 mS/cm; 30.0 to 200.0 mS/cm; up to 500.0 mS/cm uncompensated
	TDS	0.00 to 14.99 ppm; 15.0 to 149.9 ppm; 150 to 1499 ppm; 1.50 to 14.99 g/l; 15.0 to 100.0 g/l; up to 400.0 g/l uncompensated (with 0.80 factor)
	NaCl	0.0 to 400.0%
	Temperature	-20.0 to 120.0 °C (pH and EC range)
Resolution	pH	0.1 pH; 0.01 pH; 0.001 pH
	ISE & ORP	0.1 mV (±999.9 mV); 1 mV (± 2000 mV)
	EC	0.01 µS/cm; 0.1 µS/cm; 1 µS/cm; 0.01 mS/cm; 0.1 mS/cm
	TDS	0.01 ppm; 0.1 ppm; 1 ppm; 0.01 g/l; 0.1 g/l
	NaCl	0.1% NaCl
	Temperature	0.1 °C
Accuracy	pH	± 0.01 pH; ± 0.002 pH
	ISE & ORP	± 0.2 mV (±999.9 mV); ± 1 mV (±2000 mV)
	EC	± 1 % reading (±0.05 µS/cm or 1 digit, whichever is greater)
	TDS	±1% of reading (±0.03 ppm or 1 digit, whichever is greater)
	NaCl	±1% of reading
	Temperature	± 0.4 °C (excluding probe error)
Relative mV Offset		±2000 mV
pH Calibration		Up to 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45), and 2 custom buffers
EC Calibration		1 point slope calibration; 6 buffers available: 84.0 µS/cm, 1413 µS/cm; 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm; 1 point offset: 0.00 µS/cm
NaCl Calibration		1 point with HI 7037L buffer (optional)
Temperature Compensation		Manual or Automatic from -20.0 to 120.0 °C (pH RANGE); -20.0 to 120.0 °C (EC RANGE) (can be disabled on conductivity range to measure actual conductivity)
Cond. Temp. Coefficient		0.00 to 6.00 %/°C (for EC and TDS only) default value is 1.90 %/°C
TDS Factor		0.40 to 0.80 (default value is 0.50)

ORDERING INFORMATION

HI 2550 is supplied with HI 1131B glass-body combination pH electrode with 1 m (3.3') cable, HI 76310 conductivity/TDS probe, HI 7662 temperature probe, HI 76404N electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL each), HI 7071S electrolyte solution, 12 VDC power adapter and instruction manual.



HI 2221 & HI 2223

Calibration Check™ pH Meters

- Up to 5 point pH calibration with 7 standard and 2 custom buffers
- Automatic temperature compensation
- Manually log up to 200 records and interval log up to 500 records
- PC compatible via USB
- Enhanced calibration messages and electrode diagnostics

GLP (Good laboratory Practice)

GLP is a set of functions that allows storage and retrieval of data regarding the maintenance and status of the electrode. All data regarding pH, Rel mV, EC and NaCl is stored for the user to review when necessary.

Calibration Expiration Reminder

For pH calibration, this instrument allows the user to set the number of days before the next required calibration. This value can be set from 1 to 7 days, or disabled.

Calibration data

The last calibration data is stored automatically after a successful calibration.



Enhanced Calibration Messages

Calibration Error and Warning Messages

The calibration history is used to issue error and warning messages during calibration to help ensure the highest accuracy.

If a substantial change is seen from a previous calibration, error messages such as to clean or check the electrodes and/or buffers appear if the calibration parameters are out of accepted windows. Calibrations cannot be completed until the errors are corrected.



Enhanced Electrode Diagnostics

Electrode Condition and Response Time

When using an appropriate HANNA P-Type BNC electrode, the HI 2221 and HI 2223 will assess the electrode condition and response time during each calibration and display the status for the rest of the day.

The digital gauge for electrode condition is a representation of the offset and slope performance of the electrode. The response gauge is a function of the stabilization time between the first and second calibration buffers.

The condition and response are also visible when viewing GLP data.

SPECIFICATIONS		HI 2221	HI 2223
Range	pH	- 2.00 to 16.00 pH	-2.00 to 16.00 pH; -2.000 to 16.000 pH
	mV	± 699.9 mV; ± 2000 mV	±999.9 mV; ±2000 mV
	Temperature		- 20.0 to 120.0 °C
Resolution	pH	0.01 pH	0.01 pH; 0.001 pH
	mV	0.1 mV (± 699.9 mV); 1 mV (± 2000 mV)	0.1mV(± 999.9mV); 1mV(± 2000mV)
	Temperature		0.1 °C
Accuracy	pH	± 0.01 pH	±0.01 pH; ±0.002 pH
	mV	± 0.2 mV (± 699.9 mV); ± 1 mV (± 2000 mV)	±0.2mV(± 999.9mV); ±1mV(± 2000mV)
	Temperature		± 0.2 °C (excluding probe error)
pH Calibration		Up to 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45), and 2 custom buffers	
Temperature Compensation		Manual or automatic from -20 to 120°C	
pH Electrode		HI 1131P glass body, single junction, refillable with BNC connection and 1 m (3.3') Cable	
Temperature Probe		HI 7662 stainless steel probe	
PC Connection		USB	
Data Logging		100 points	500 points

ORDERING INFORMATION

HI 2221 and **HI 2223** are supplied with HI 1131P glass-body combination pH electrode with 1 m (3.3') cable, HI 7662 temperature probe, HI 76404N electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL each), HI 7071S electrolyte solution, 12 VDC power adapter and instruction manual.

HI 2216

pH Meter with ISE

The HI 2216 is state of the art, heavy-duty pH, mV, ISE meter designed to provide laboratory results and accuracy under harsh industrial conditions. HI 2216 can also measure Oxidation Reduction Potential (ORP) in mV range and ion concentration using ISE (Ion Selective Electrodes). Relative mV feature is also provided.

- Simultaneous display of primary reading and temperature
- On-screen calibration guides
- Up to 5 point pH calibration with 7 standard buffers
- Up to 2 point ISE calibration with 5 standard solutions
- Good laboratory practice
- Calibration expiration reminder
- Automatic temperature compensation
- Manually log up to 200 records and interval log up to 500 records
- PC compatible via USB



SPECIFICATIONS		HI 2216
Range	pH	-2.0 to 16.0 pH; -2.00 to 16.00 pH; -2.000 to 16.000 pH
	mV	±999.9 mV; ±2000 mV
	ISE	0.001 to 19990 ppm
	Temperature	-20.0 to 120.0 °C
Resolution	pH	0.1 pH; 0.01 pH; 0.001 pH
	mV	0.1 mV ; 1 mV
	ISE	0.001 (to 1.999 ppm); 0.01 (to 19.99 ppm); 0.1 (to 199.9 ppm); 1 (to 1999 ppm); 10 (to 19990 ppm)
	Temperature	0.1 °C
Accuracy	pH	±0.01 pH
	mV	±0.2 mV (±999.9 mV); ±1 mV (±2000 mV)
	ISE	±0.5% FS
	Temperature	±0.4 °C (excluding probe error)
Relative mV Offset Range		±2000 mV
pH Calibration		Up to 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45), and 2 custom buffers
Temperature Compensation		Manual or Automatic from -20 to 120°C
pH Electrode		HI 1131B glass body, single junction, refillable with BNC connection and 1 m (3.3') Cable
PC Connectivity		USB
Data Logging		Manual: 200 records; Interval: 500 records

ORDERING INFORMATION

HI 2216 is supplied with HI 1131B glass-body combination pH electrode with 1 m (3.3') cable, HI 7662 temperature probe, HI 76404N electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL each), HI 7071S electrolyte solution, 12 VDC power adapter and instruction manual.



HI 2214 • 2215 0.001 Resolution and Datalogging pH Meters

The HI 2215 is a 0.001 pH resolution microprocessor-based pH and Temperature bench meter that can also measure Oxidation Reduction Potential (ORP) in mV. Relative mV feature is also provided.

The HI 2214 is a microprocessor-based pH and Temperature bench meter that can measure Oxidation Reduction Potential (ORP) in mV.

- Extra wide LCD (6.25" x 1.5")
- Simultaneous display of primary reading and temperature
- On-screen calibration guides
- Up to 5 point pH calibration with 7 standard buffers
- Good laboratory practice
- Calibration expiration reminder
- Automatic temperature compensation
- Manually log up to 100 records
- Interval log up to 500 records (HI 2215)
- PC compatible via USB

SPECIFICATIONS		HI 2214	HI 2215
Range	pH	-2.0 to 16.0 pH; -2.00 to 16.00 pH	-2.0 to 16.0 pH; -2.00 to 16.00 pH; -2.000 to 16.000 pH
	mV	±999.9 mV; ±2000 mV	
	Temperature	-20.0 to 120.0 °C	
Resolution	pH	0.1 pH; 0.01 pH	0.1 pH; 0.01 pH; 0.001 pH
	mV	0.1 mV; 1 mV	
	Temperature	0.1 °C	
Accuracy	pH	±0.01 pH	
	mV	±0.2 mV (±999.9 mV); ±1 mV (±2000 mV)	
	Temperature	±0.4 °C (excluding probe error)	
Relative mV Offset Range		±2000 mV	
pH Calibration		Up to 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45), and 2 custom buffers	
Temperature Compensation		Manual or Automatic from -20 to 120°C	
pH Electrode		HI 1131B glass body, single junction, refillable with BNC connection and 1 m (3.3') Cable	
PC Connectivity		USB	
Data Logging		Manual: 100 records	Manual: 100 records; Interval: 500 records

ORDERING INFORMATION

HI 2214 and **HI 2215** are supplied with HI 1131B glass-body combination pH electrode with 1 m (3.3') cable, HI 7662 temperature probe, HI 76404N electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL each), HI 70715 electrolyte solution, 12 VDC power adapter and instruction manual.



HI 2212 & HI 2213

pH Meters with 3 Point Calibration

The HI 2212 and HI 2213 are microprocessor- based pH and temperature bench meters. HI 2213 can also measure Oxidation Reduction Potential (ORP) in mV range. Relative mV feature is also provided.

- Simultaneous display of primary reading and temperature
- On-screen calibration guides
- Up to 3 point pH calibration with 5 standard buffers and 2 custom
- Good laboratory practice
- Calibration expiration reminder
- Automatic temperature compensation

SPECIFICATIONS		HI 2212	HI 2213
Range	pH	-2.00 to 16.00 pH	
	mV	-	±699.9 mV; ±2000 mV
	Temperature	-20.0 to 120.0 °C	
Resolution	pH	0.01 pH	
	mV	-	0.1 mV; 1 mV (ISE & ORP)
	Temperature	0.1 °C	
Accuracy	pH	±0.01 pH	
	mV	-	±0.2 mV (±699.9 mV); ±1 mV (±2000 mV)
	Temperature	±0.4 °C (excluding probe error)	
Relative mV Offset Range		-	±2000 mV
pH Calibration		Up to 3 point calibration, 5 standard buffers available (4.01, 6.86, 7.01, 9.18, 10.01), and 2 custom buffers	
Temperature Compensation		Manual or Automatic from -20 to 120°C	

ORDERING INFORMATION

HI 2212 and **HI 2213** are supplied with HI 1131B glass-body combination pH electrode with 1 m (3.3') cable, HI 7662 temperature probe, HI 76404N electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL each), HI 7071S electrolyte solution, 12 VDC power adapter and instructions.



HI 2210 & HI 2211 pH/mV/°C Meters

HANNA's new HI 2211 and HI 2210 are microprocessor based pH and °C meters.

HI 2211 adds a dual mV range (± 399.9 or ± 2000 mV) which can be used for ISE measurements, ORP measurements or to check the offset and slope of the pH electrode.

- 1 or 2 point calibration with 5 standard buffers
- Simultaneous display of pH and Temperature
- Automatic Temperature Compensation

SPECIFICATIONS		HI 2210	HI 2211
Range	pH	-2.00 to 16.00 pH	
	mV	–	± 399.9 mV ; ± 2000 mV
	Temperature	-9.9 to 120.0°C	
Resolution	pH	0.01 pH	
	mV	–	0.1 mV; 1 mV
	Temperature	0.1°C	
Accuracy (@20°C)	pH	± 0.01 pH	
	mV	–	± 0.2 mV (± 399.9 mV); ± 1 mV (± 2000 mV)
	Temperature	± 0.5 °C (0.0 - 100.0 °C); ± 1 °C (outside) (excluding probe error)	
pH Calibration		Up to 2 points, 5 standard buffers available (pH 4.01, 6.86, 7.01, 9.18, 10.01)	
Temperature Compensation		Manual or automatic from -9.9 to 120.0°C	
pH Electrode		HI 1131B glass-body, single junction, refillable with BNC connector and 1 m cable	

ORDERING INFORMATION

HI 2210 and **HI 2211** are supplied with HI 1131B glass-body combination pH electrode with 1 m (3.3') cable, HI 7662 temperature probe, electrode holder, pH 4.01 & 7.01 buffer solutions (20 mL ea.), HI 7071S electrolyte solution, 12 VDC power adapter and instruction manual.

Electrodes, Solutions & Accessories

pH BUFFER SOLUTIONS

HI 70004P	pH 4.01 buffer solution, (25) 20 mL sachets
HI 7004L	pH 4.01 buffer solution, 500 mL
HI 70007P	pH 7.01 buffer solution, (25) 20 mL sachets
HI 7007L	pH 7.01 buffer solution, 500 mL
HI 70010P	pH 10.01 buffer solution, (25) 20 mL sachets
HI 7010L	pH 10.01 buffer solution, 500 mL

CONDUCTIVITY SOLUTIONS*

HI 70030C	12880 $\mu\text{S}/\text{cm}$, (25) 20 mL sachets
HI 7030L	12880 $\mu\text{S}/\text{cm}$, 500 mL
HI 70031P	1413 $\mu\text{S}/\text{cm}$, (25) 20 mL sachets
HI 7031L	1413 $\mu\text{S}/\text{cm}$, 500 mL
HI 70033P	84 $\mu\text{S}/\text{cm}$, (25) 20 mL sachets
HI 7033L	84 $\mu\text{S}/\text{cm}$, 500 mL
HI 70039P	5000 $\mu\text{S}/\text{cm}$, (25) 20 mL sachets
HI 7039L	5000 $\mu\text{S}/\text{cm}$, 500 mL
HI 7034L	80000 $\mu\text{S}/\text{cm}$, 500 mL

* $\mu\text{S}/\text{cm}$ ($\mu\text{mho}/\text{cm}$)

ORP PRETREATMENT SOLUTIONS

HI 7091L	Reducing pretreatment solution, 500 mL
HI 7092L	Oxidizing pretreatment solution, 500 mL

TDS SOLUTIONS

HI 7032L	1382 ppm (mg/L), 500 mL
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ELECTRODE CLEANING SOLUTIONS

HI 7061L	General cleaning solution, 500 mL
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pH ELECTRODE STORAGE SOLUTIONS

HI 70300L	Storage solution, 500 mL
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pH ELECTRODE REFILL SOLUTION

HI 7071	3.5M KCl + AgCl electrolyte for single junction electrodes (4) 30 mL
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ACCESSORIES

HI 76404N	Electrode holder
HI 92000	Windows® compatible software.



pH ELECTRODES

HI 1230B	Plastic-body (PEI), double junction, gel-filled, combination pH electrode. Use: general, field
HI 1131B	Glass-body, single junction, refillable, combination pH electrode. Use: general purpose
HI 1083B	Glass-body, micro, Viscolene, non-refillable, combination pH electrode. Use: biotechnology, micro titration
FC 200B	Plastic-body (PVDF), open junction, conic, Viscolene, non-refillable, combination pH electrode. Use: meat & cheese.
HI 1413B	Glass-body, single junction, flat tip, Viscolene, non-refillable, combination pH electrode. Use: surface measurement