



Tips for the Most Accurate Measurements

Keep Electrode Hydrated

Ideally, pH electrodes should be kept in a storage solution when not in use. Placing the electrode in a small glass filled with storage solution is suitable. An option for pocket meters is to place a small piece of sponge into the meter's cap and pour storage solution into the cap to wet the sponge. Pouring off any excess solution beforehand, the cap can then be placed on the meter.

If a storage solution is not available the next best option is to use pH 4.01 buffer (pH 7.01 is also suitable to a lesser extent).

Clean Electrodes Before Use

Clean the junction of your electrodes once a day or at least once a week to prevent junction clogging and to maintain accuracy. Immerse the electrode in the proper cleaning solution for at least 15 to 20 minutes. Hanna offers a wide range of cleaning solutions for general purpose and specific applications.

Replace Electrodes Once a Year

If your electrode takes too long to stabilize a reading, or readings fluctuate wildly, it is most likely time to replace the electrode. The typical life span of any pH electrode is from 6 months to 1.5 years.

Additional Tips

- Calibration and storage solutions should be changed regularly (i.e. monthly)
- Calibrate the meter often if a high degree of accuracy is required.
- Remember that the calibration is as only as good the buffer being used (i.e. old or contaminated buffer may not have the same value on the label).
- Calibration sachets, as opposed to bottles, ensure that your buffer solution is always fresh.
- If the meter takes an unusually long time to get a stable reading, the junction may be clogged.
- Rinse the probe with purified water after each use.

Code	HI1230 []	HI1144 []
Description	combination pH electrode	refillable, combination pH electrode with calomel references
Reference	double, Ag/AgCl	single, Hg/Hg ₂ Cl ₂
Junction / Flow Rate	ceramic, single / 15-20 µL/h	ceramic / 15-20 µL/h
Electrolyte	gel	KCl 3.5M
Max Pressure	2 bar	0.1 bar
Range	pH: 0 to 13	pH: 0 to 14
Recommended Operating Temp.	0 to 70°C (32 to 158°F) – HT	0 to 60°C (32 to 140°F) – HT
Tip / Shape	spheric (dia: 7.5 mm)	spheric (dia: 9.5 mm)
Temperature Sensor	no	no
Amplifier	no	no
Body Material	PEI	glass
Cable	coaxial; 1 m (3.3')	coaxial; 1 m (3.3')
Recommended Use	field applications	tris buffer
Connection	HI1230B BNC HI1230D DIN	HI1144B BNC HI1144D DIN



HI9126 Portable pH/mV Meter

- **CAL Check™**
 - Alerts users of calibration status
- **Backlight**
 - Backlit, multi-level LCD display
- **Battery Error Prevention System (BEPS)**
 - Automatically shuts off meter when battery is too low to take accurate readings
- **Battery indicator**
 - Battery percentage displayed on startup.
- **Help feature**
 - Tutorial messages displayed on LCD

The HI9126 includes Hanna's exclusive CAL Check™ technology. CAL Check™ monitors the pH bulb and reference junction of the electrode every time the instrument is calibrated. In the event of a dirty pH electrode, CAL Check™ warns users that maintenance may be needed.

Calibrated buffers are continuously displayed in measurement mode to remind users of the instrument's calibration point. Users can easily determine if readings are taken too far outside the calibration range.

The HI9126 can store and recall a reading at the touch of a button and features a real-time clock.

HI9126 utilizes the HI1230B double junction pH electrode. The double junction design helps to minimize junction contamination for consistently accurate results. The HI9126 can also measure ORP in the mV range using an optional ORP probe.

Specifications

	HI9126	
pH*	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	automatic, one or two-point with seven standard buffers available (pH 1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) and two custom buffers
mV	Range	±699.9 mV; ±1999 mV
	Resolution	0.1 mV; 1 mV
	Accuracy	±0.2 mV; ±1 mV
Temperature*	Range	-20.0 to 120.0°C; -4.0°F to 248.0°F
	Resolution	0.1°C; 0.1 °F
	Accuracy	±0.4°C; ±0.8°F
Additional Specifications	pH Electrode	HI1230B PEI body pH electrode with BNC connector and 1 m (3.3') cable (included)
	Temperature Probe	HI7662 stainless steel temperature probe with 1 m (3.3') cable (included)
	Slope / Offset Calibration	from 80 to 108% / ±1 pH
	Input Impedance	10 ¹² Ohm
	Battery Type / Life	1.5V (3) AAA / approximately 200 hours of continuous use without backlight (50 hours with backlight)
	Auto-off	after 20 minutes of non-use (can be disabled)
	Environment	0 to 50°C (32 to 122°F); RH max 100%
Dimensions / Weight	185 x 72 x 36 mm (7.3 x 2.8 x 1.4") / 300 g (10.6 oz.)	
Ordering Information	HI9126 is supplied with HI1230B pH electrode, HI7662 temperature probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer sachet, HI700601 electrode cleaning solution sachet, 100 mL plastic beaker, 1.5V AAA batteries (3), instructions and hard carrying case.	

* Limits will be reduced to actual sensor limits

pH and ORP electrodes begin on page 3.77; pH and ORP solutions begin on page 3.100

HI9124 • HI9125

Portable pH/mV Meters

- Automatic Temperature Compensation (ATC)
- Five-Point calibration
- Waterproof casing
- Battery Error Prevention System (BEPS)
 - Automatically shuts off meter when battery is too low to take accurate readings
- Battery life indicator
 - Battery percentage displayed on startup
- Help feature
 - Tutorial messages displayed on LCD

The HI9124 and HI9125 are portable, waterproof pH meters. The HI9125 can utilize ORP (oxidation reduction potential) electrodes and display results in the mV range.

A large dual-level LCD displays both the pH and temperature along with an operational guide. Graphic symbols are displayed to help the users during the calibration process.

The pH calibration procedure is automatic with five memorized pH buffer values.

These meters utilize the HI1230B double junction pH electrode. The double junction helps to minimize junction contamination for accurate, consistent results.



Specifications	HI9124	HI9125	
pH*	Range	-2.00 to 16.00 pH	-2.00 to 16.00 pH
	Resolution	0.01 pH	0.01 pH
	Accuracy	±0.01 pH	±0.01 pH
	Calibration	one or two-point with five standard buffer values (pH 4.01, 6.86, 7.01, 9.18, 10.01)	one or two point-with five standard buffer values (pH 4.01, 6.86, 7.01, 9.18, 10.01)
mV	Range	–	±699.9 mV; ±1999 mV
	Resolution	–	0.1 mV; 1 mV
	Accuracy	–	±0.2 mV; ±1 mV
Temperature*	Range	-20.0 to 120.0°C (-4.0°F to 248.0°F)	-20.0 to 120.0°C (-4.0°F to 248.0°F)
	Resolution	0.1°C (0.1°F)	0.1°C (0.1°F)
	Accuracy	±0.4°C (±0.8°F)	±0.4°C (±0.8°F)
Additional Specifications Both All Meters	pH Electrode	HI1230B PEI body pH electrode with BNC connector and 1 m (3.3') cable (included)	
	Temperature Probe	HI7662 stainless steel temperature probe with 1 m (3.3') cable (included)	
	Slope / Offset Calibration	from 80 to 108% / ±1 pH	
	Input Impedance	10 ¹² Ohm	
	Battery Type / Life	1.5V AAA (3) / approximately 200 hours of continuous use.	
	Auto-off	auto-off after 20 minutes of non-use (can be disabled)	
	Environment	0 to 50°C (32 to 122°F); RH max 100%	
	Dimensions / Weight	185 x 72 x 36 mm (7.3 x 2.8 x 1.4") / 300 g (10.6 oz.)	
Ordering Information	HI9124 and HI9125 are supplied with HI1230B pH electrode, HI7662 temperature probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, 100 mL plastic beaker, batteries, instructions and hard carrying case.		

* Limits will be reduced to actual sensor limits



HI8424 General Purpose pH/mV Meter

- Automatic Temperature Compensation (ATC)
- Waterproof
 - Compact, heavy-duty, and waterproof protected casing
- Two-Point calibration
 - Easy manual one or two-point calibration
- Hold
 - HOLD function
- Battery indicator
 - Low battery indicator

The HI8424 is a highly accurate, portable pH/mV meter. It is one of the most popular pH meters on the market. This instrument is able to perform pH, mV and temperature measurements with a high degree of accuracy and fast response.

Calibration is automatic at one or two points, with three memorized buffer values (pH 4.01, pH 7.01 and pH 10.01). Once the instrument has been calibrated, the buffer values used during calibration are displayed with tags on the LCD. This feature keeps users informed of the current calibration and helps to avoid taking measurements that are out of range.

Users can exchange the pH probe for an ORP probe to obtain ORP readings in the mV range. The HI8424 also offers measurements in °C and °F and has an auto-off feature to preserve battery life.

Specifications

HI8424

pH*	Range	-2.00 to 16.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	one or two-point, three standard buffers available (4.01, 7.01, 10.01)
	Temperature Compensation	automatic from -20.0 to 120.0°C (-4.0 to 248.0°F) or manual without temperature probe
mV	Range	±699.9 mV; ±1999 mV
	Resolution	0.1 mV; 1 mV
	Accuracy	±0.2 mV; ±1 mV
Temperature*	Range	-20.0 to 120.0°C; -4.0 to 248.0°F
	Resolution	0.1°C; 0.1°F
	Accuracy	±0.4°C; ±0.8°F
Additional Specifications	pH Electrode	HI1230B PEI body pH electrode with BNC connector and 1 m (3.3') cable (included)
	Temperature Probe	HI7662 stainless steel temperatures probe with 1 m (3.3') cable (included)
	Slope / Offset Calibration	from 75 to 110% / ±1 pH
	Input Impedance	10 ¹² Ohm
	Battery Type / Life	9V / approximately 150 hours of continuous use
	Auto-off	after 20 minutes of non-use (can be disabled)
	Environment	0 to 50°C (32 to 122°F); RH max 100%
	Dimensions / Weight	164 x 76 x 45 mm (6.5 x 3.0 x 1.8") / 180 g (6.3 oz.)
Ordering Information	HI8424 is supplied with HI1230B pH electrode, HI7662 temperature probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI700601 electrode cleaning solution sachets (2), battery, protective case and instructions.	

pH and ORP electrodes begin on page 3.77; pH and ORP solutions begin on page 3.100

* Limits will be reduced to actual sensor limits

HI83141 • HI8314

Analog pH/mV Meters

- Automatic Temperature Compensation (ATC)
- Two-Point Calibration
- Waterproof
 - Compact, heavy-duty, and waterproof protected casing
- Battery Indicator
 - Low battery indicator

The HI83141 and HI8314 are portable pH/mV meters designed to be accurate, reliable and easy to use.

The HI8314 uses the HI1217D pre-amplified pH electrode with built-in internal temperature sensor.

The HI83141 uses the HI1230B pH electrode and HI7669AW temperature probe using separate connections.

Manual calibration is performed at one or two points by adjusting the trimmers on the front panel. Capable of measuring pH/mV and °C, these meters are great for field work, providing one meter for multiple uses.

This instrument is ideal for applications that require a custom calibration point. Manual calibration can be extremely useful in order to achieve better accuracy.

These meters can also be used for ORP measurements with the optional probes below:

HI83141: HI3131B
HI8314: HI3618D or HI4619D



Specifications

		HI83141	HI8314
pH*	Range	0.00 to 14.00 pH	0.00 to 14.00 pH
	Resolution	0.01 pH	0.01 pH
	Accuracy	±0.01 pH	±0.01 pH
	Calibration	manual, two-point, via trimmers	
	Temperature Compensation	automatic, 0 to 70°C (32 to 158 °F)	
mV	Range	±1999 mV	±1999 mV
	Resolution	1 mV	1 mV
	Accuracy	±1 mV	±1 mV
Temperature*	Range	0.0 to 100.0°C	0.0 to 100.0°C
	Resolution	0.1°C	0.1°C
	Accuracy	±0.4°C	±0.4°C
Additional Specifications	pH Electrode	HI1230B PEI body pH electrode with BNC connector and 1 m (3.3') cable (included)	HI1217D PEI body, pre-amplified pH electrode with internal temperature sensor, DIN connector and 1 m cable (included)
	Temperature Probe	HI7669AW stainless steel temperature probe, BNC connector (included)	–
	Slope/Offset Calibration	from 80 to 110%/±1 pH	
	Input Impedance	10 ¹² Ohm	
	Battery Type / Life	9V / approximately 100 hours of continuous use	
	Environment	0 to 50°C (32 to 122°F); RH max 100%	
	Dimensions	145 x 80 x 36 mm (5.7 x 3.1 x 1.4")	
	Weight	230 g (8.1 oz.)	
Ordering Information	HI83141 is supplied with HI1230B pH electrode and HI7669AW temperature probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI700601 electrode cleaning solution sachets (2), calibration screwdriver, battery, protective case and instructions.		
	HI8314 is supplied with HI 1217D pH electrode, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI700601 electrode cleaning solution sachets (2), calibration screwdriver, battery, protective case and instructions.		

* Limits will be reduced to actual sensor limits

HI8010 • HI8014 Educational pH Meters

- Automatic Temperature Compensation (ATC)
- Two-Point Calibration

Hanna Instruments manufactures meters for all levels of use, from education to research grade. HI8010 and HI8014 are rugged, handheld pH meters specifically designed with ease of use in mind. These affordable meters are ideal for education and field applications.

HI8010 and HI8014 perform pH measurements with manual temperature compensation. HI8014 also performs ORP measurements using the mV range and optional ORP electrode (HI3131B).

Two-point calibration can be performed with trimmers on the front panel. Temperature is manually compensated by using the trimmer.

These rugged, manual pH meters are perfect for teaching students the fundamentals of pH measurement.



Specifications	HI8010	HI8014	
pH*	Range	0.00 to 14.00 pH	0.00 to 14.00 pH
	Resolution	0.01 pH	0.01 pH
	Accuracy	±0.01pH	±0.01pH
	Calibration	manual, two point, through trimmers (offset ±1 pH; slope: 85 to 105%)	manual, two point, through trimmers (offset ±1 pH; slope: 85 to 105%)
	Temperature Compensation	manual from 0 to 100°C (32 to 212°F)	manual from 0 to 100°C (32 to 212°F)
mV	Range	–	±1999 mV
	Resolution	–	1 mV
	Accuracy	–	±1 mV
Additional Specifications	pH Electrode	HI1230B PEI body pH electrode with BNC connector and 1 m (3.3') cable (included)	
	Slope/Offset Calibration	from 80 to 105%/±1 pH	
	Input Impedance	10 ¹² Ohm	
	Battery Type / Life	9V / approximately 100 hours of continuous use	
	Environment	0 to 50°C (32 to 122°F); RH max 95%	
	Dimensions / Weight	185 x 82 x 53 mm (7.3 x 3.2 x 2.1") / 265 g (9.3 oz.)	
Ordering Information	HI8010 and HI8014 are supplied with HI1230B pH electrode, calibration screwdriver, battery and instructions.		

pH and ORP electrodes begin on page 3.77; pH and ORP solutions begin on page 3.100

* Limits will be reduced to actual sensor limits