

HI 98183 • HI 98184 • HI 98185

pH/ORP/ISE Waterproof Portable Meters

Feature Highlights

- pH Calibration Check™
- Electrode condition on display
- Five point pH calibration with seven standard buffers and five custom buffers
- Automatic logging and log on demand
- Menu driven for ease of use
- Soft-key extended functionality
- Multiple language selection
- Contextual help at the touch of a button
- GLP features
- USB
- Backlit, graphic LCD and battery life on display
- Waterproof and rugged casing

Rechargeable batteries

These models have up to 200 hours of extended battery life to guarantee long operation in the field. When the batteries are low, you don't have to worry about carrying a spare set with you, the batteries can be recharged with HANNA's inductive recharger. Simply leave the meter on the recharger for a few hours and you're ready to go. The recharger can be plugged into a standard 115V or 230V socket using the appropriate HANNA adapter.



HI 98183, HI 98184 and HI 98185 are waterproof, portable meters designed for demanding applications. HI 98183 measures pH/ORP and temperature while HI 98184 and HI 98185 also include ISE measurement.

Choose from 7 standard pH buffers and 5 custom pH buffers to obtain up to five point calibration and achieve high precision readings with a pH accuracy of ± 0.002 and up to ± 0.001 pH resolution.

HANNA's Calibration Check® maintains a history of past calibrations and monitors the pH electrode and buffers during subsequent calibrations for any signs of wide calibration variances due to a dirty or broken electrode or contaminated pH buffers. In measurement mode, the electrode's percent condition is continuously displayed.

Exchange out the pH probe for an ORP probe to obtain mV readings in the ± 2000 mV range. HI 98184 and HI 98185 adds direct ion concentration readings for ISE's and the results are displayed in ppm. The ion charge or nominal slope can be entered manually.

HI 98185 adds auto recognition of 15 different ISE sensors and can be calibrated in up to five points and 6 standard buffers (choice of units). This meter allows an extensive choice of measurement units (ppm, ppt, g/L, ppb, ug/L, mg/mL, M, mol/L, mmol/L, % w/v, user) and has an expanded measuring range of 1.00×10^{-7} to 9.99×10^{-10} .



Press Auto-Hold while measuring and once stabilized, the current reading will remain displayed for your convenience in documenting. Switching to log-on-demand mode allows users to record and save up to 200 samples (HI 98183) or 300 samples (HI 98184 and HI 98185). This data can later be transferred to a PC with the USB connection and HANNA's HI 92000 software. "Out Of Calibration Range Warning" can be engaged to keep the user informed of the current calibration and helps to avoid taking measurements that are out of range.

A backlit, graphic LCD provides easy to read resolution even in low-lit areas. A combination of dedicated and soft keys allows easy, intuitive operation in a choice of languages. Comprehensive GLP data are directly accessible by pressing the GLP key. Access the contextual Help Menu to obtain on-screen information and assistance about each feature at the touch of a button. Designed for field use, these instruments can be operated with one hand and are supplied in a rugged carrying case. With an extended battery life of up to 200 hours, users are assured long operation. The inductive charger can either be plugged into a standard 115V socket with the included adapter or a 12 VDC source, such as a car's 12 V accessory outlet.

These meters come equipped with the HI 72911B pH/ temperature electrode with rugged, titanium casing.



Calibration

pH calibration features detailed Calibration Check™ message.

Users are guided through the calibration procedure with step-by-step on-screen instructions.



Setup screen

Our extensive setup screen features a host of configurable options such as time, date, temperature units and language for help screens and guides.



Help

Users can consult the on-screen help from any mode simply by pressing the HELP key. The instrument will then explain the options currently available.



GLP

Comprehensive GLP functions are directly accessible by pressing the GLP key. Calibration data, date and ID info are stored for retrieval at a later time.

SPECIFICATIONS	HI 98183	HI 98184	HI 98185
Range			
pH	-2.0 to 20.0; -2.00 to 20.00; -2.000 to 20.000 pH		
mV	±2000 mV		
ISE	-	from 1.00 E-3 to 1.00 E5 concentration	from 1.00 E-7 to 9.99 E10 concentration
Temperature	-20.0 to 120.0 °C (-4.0 to 248.0°F)		
Resolution			
pH	0.1; 0.01; 0.001 pH		
mV	0.1 mV		
ISE	-	3 digits 0.01; 0.1; 1; 10 concentration	
Temperature	0.1°C (0.1°F)		
Accuracy			
pH	±0.01; ±0.002 pH		
mV	±0.2 mV		
ISE	-	±0.5% of reading (monovalent ions), ±1% of reading (divalent ions)	
Temperature	±0.4°C (±0.8°F) (excluding probe error)		
Calibration			
pH	up to five point calibration, seven standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) + five custom buffers		
ISE	-	up to two point calibration, six standard solutions (0.1, 1, 10, 100, 1000, 10000 ppm)	up to five point calibration, six standard solutions (0.1, 1, 10, 100, 1000, 10000 ppm)
Slope	From 80 to 110%		
Temperature Compensation (pH)	manual or automatic from -20.0 to 120.0°C (-4.0 to 248.0°F)		
Probe	HI 72911B Titanium body, pH electrode with internal temperature sensor, BNC connector and 1 m (3.3' cable)		
Logging	log on demand 200 samples (100 ea. range)	log on demand 300 samples (100 each range)	
PC Connectivity	opto-isolated USB with optional HI 92000 software		
Input Impedance	10 ¹² Ohms		
Battery Type / Life	1.2V AA rechargeable batteries (4) / approximately 200 hours of continuous use without backlight (50 hours with backlight)		
Auto-off	user selectable: 5, 10, 30, 60 min or can be disabled		
Environment	0 to 50°C (32 to 122°F); RH 100%		
Dimensions	226.5 x 95 x 52 mm (8.9 x 3.75 x 2")		
Weight	525 g (18.5 oz.)		

ORDERING INFORMATION

HI 98183-01 (115V), HI 98183-02 (230V), HI 98184-01 (115V), HI 98184-02 (230V) and HI 98185-01 (115V) and HI 98185-02 (230V) are supplied with HI 72911B pH electrode, HI 70004 pH 4.01 buffer solution sachet, HI 70007 pH 7.01 buffer solution sachet, rechargeable batteries, HI 710042 inductive battery charger with power adapter, instructions and hard carrying case.

ELECTRODES AND PROBES

Combination pH electrodes with BNC connector and 1 m (3.3') cable:

- HI 1043B** Use: strong acids and bases. glass-body, double junction, refillable
- HI 1230B** Use: general purpose. PEI body, double junction, gel-filled
- HI 72911B** Use: general purpose. titanium body, double junction, gel-filled with internal temperature sensor
- HI 3230B** Use: For oxidizing reactions. platinum tipped ORP probe, PEI body, single junction, gel-filled
- HI 4430B** Use: Strong oxidizing solutions gold tipped ORP probe, PEI body, single junction, gel-filled
- HI 7662** Temperature probe with 1 m (3.3') screened cable

SOLUTIONS

- HI 5004L** pH 4.01 buffer solution, 500 mL
- HI 5007L** pH 7.01 buffer solution, 500 mL
- HI 5010L** pH 10.01 buffer solution, 500 mL
- HI 7061L** Electrode cleaning solution, 500 mL
- HI 70300L** Electrode storage solution, 500 mL
- HI 7091L** ORP reducing pretreatment solution, 500 mL
- HI 7092L** ORP oxidizing pretreatment solution, 500 mL
- HI 7020L** ORP test solution @200-275 mV, 500 mL
- HI 7021L** ORP test solution @240 mV, 500 mL
- HI 7020L** ORP test solution @470 mV, 500 mL

ACCESSORIES

- HI 920013** USB cable for PC connection
- HI 92000** Windows® compatible software

For a complete list of Solutions and Electrodes, see the end of pH Section 3 and ISE Section 4.