

Graphic Display pH Meters

with USB and Rechargeable Batteries



Industrial Grade Portables

Ease of use and high-end features come together in our new family of pH, ISE, ORP, Conductivity (section 3) and Dissolved Oxygen (section 4) field instruments.

A backlit 128 x 64 pixel graphic LCD provides a clear display of measured parameters and set-up screens. Dedicated soft-keys allow fast and intuitive operation in a choice of languages with content sensitive on-screen help always available.

These instruments can be easily operated with one hand for field use and are housed in rugged waterproof or water resistant casings. The function key operation allows users to navigate from screen to screen with immediate access to important information such as calibration status, methods set up, units and logged data.

All instruments feature log-on-demand and a USB port to transfer stored data to a computer. Other common features include a user defined calibration due warning (to prevent errors due to old calibration), auto endpoint of measurement (the instrument freezes the LCD when the reading is stable), comprehensive GLP functions and °C or °F temperature display.

Feature Highlights

- Exclusive Calibration Check™
- Rechargeable batteries with inductive recharger
- Backlit, graphic LCD and battery life on display
- Menu driven for ease of use
- Rugged, durable casing
- Soft-key extended functionality
- Multiple language selection



- GLP information (date, time, buffers, offset and slope %) at a push of a button.

Rechargeable batteries with inductive recharger

These models have up to 200 hour 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.



ISE Feature Highlights

- Direct measurement in multiple units available on HI 98185 (ppm, ppt, g/L, mg/L, ppb, µg/L, mg/mL, M, mol/L, mmol/L, %w/v, user)
- Electrode type selection
- Up to 5 calibration points (select models)

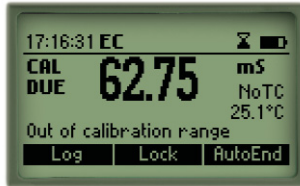
pH Feature Highlights

- Calibration Check™
- 0.001 pH resolution (select models)
- pH electrode with a built-in temperature sensor (select models)
- Up to 5 calibration points with standard or custom buffers (select models)
- Relative mV scale

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Screen Highlights



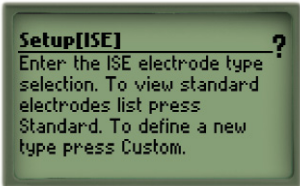
Measurement

Large backlit graphic display shows multiple messages along with the current measurement readings.



Language Selection

Help screens and guides are available in a choice of languages.



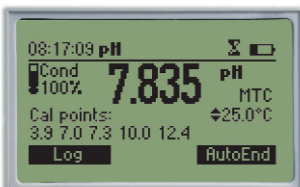
Help

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



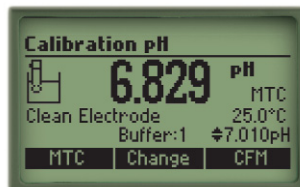
GLP

Comprehensive GLP functions are directly accessible by pressing the GLP key.



pH Measurement Screen

Electrode condition and the option to display calibration points.



pH Calibration

Detailed Calibration Check™ messages.



ISE GLP

Calibration data, date and ID information are stored for retrieval at a later time.



"The reason for me to insist on HANNA products is simple: the professional service rendered to me is second to none as I've experienced so far in my career path."

MD. IKHLAS HOSSAIN (MR)

SITE MANAGER
YTL Sentul Park Koi Centre—Biggest Koi center in South East Asia
Malaysia



ISE Measurement Screen

Direct ISE readings shown in a choice of units (HI 98185). LCD also displays electrode type used, current temperature, remaining battery life, and time simultaneously.



ISE Calibration

Up to 5 point calibration with 6 standard solutions. Users are guided through the calibration procedure with step-by-step on-screen instructions.



ISE Setup Screen

HI 98185 allows direct choice of probe type and measurement unit while the HI 98184 reads only in ppm range.

HI 98180 • HI 98181 • HI 98182 • HI 98183 • HI 98184 • HI 98185

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Meters with pH and ORP ...

All meters feature HANNA's exclusive Calibration Check™: during calibration the pH electrode state is compared to the previous calibration and the user is warned in the event of significant changes to avoid erroneous calibration due to a bad/dirty electrode or a contaminated buffer. The electrode condition is always displayed on the LCD and the OUT OF CALIBRATION RANGE warning alerts the user if the measurement is taken too far from the calibration points.

For added versatility, these meters offer up to 5 calibration points using either HANNA's standard or user defined buffer values. An mV scale is also available for ORP measurements.



SPECIFICATIONS		HI 98180	HI 98181	HI 98182	HI 98183
Range	pH	-2.0 to 16.0; -2.00 to 16.00 pH		-2.0 to 20.0; -2.00 to 20.00; -2.000 to 20.000 pH	
	mV	—	±2000 mV	±2000 mV	
	Temperature	-20.0 to 120.0 °C (-4.0 to 248.0°F)		-20.0 to 120.0 °C (-4.0 to 248.0°F)	
Resolution	pH	0.1; 0.01 pH		0.1; 0.01; 0.001 pH	
	mV	—	0.1 mV	0.1 mV	
	Temperature	0.1°C (0.1°F)		0.1°C (0.1°F)	
Accuracy (@20°C)	pH	±0.01 pH		±0.01; ±0.002 pH	
	mV	—	±0.2mV	±0.2mV	
	Temperature	±0.4°C (±0.8°F) (excluding probe error)		±0.4°C (±0.8°F) (excluding probe error)	
Calibration	pH	Up to 2 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45)	Up to 3 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45)	Up to 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) + 5 custom buffers	
	Slope	From 80 to 110%		From 80 to 110%	
Temperature Compensation		Manual or automatic from -20.0 to 120.0°C (-4.0 to 248.0°F)		Manual or automatic from -20.0 to 120.0°C (-4.0 to 248.0°F)	
Probes		HI 1230B pH electrode w/BNC and HI 7662 temperature probe		HI 1230B pH w/BNC and HI 7662 temperature probe	HI 72911B pH w/BNC and built-in temperature sensor
Logging		Single reading		Log-on-demand 200 samples	
PC Connectivity		—		Opto-isolated USB (with HI 92000 software)	
Input Impedance		10 ¹² Ohms			
Battery Type/Life		(4) 1.2V AA rechargeable batteries/approx. 200 hrs continuous use (without backlight)			
Water Resistance		Water Resistant		Waterproof	
Auto-off		User Selectable: 5, 10, 30, 60 min or can be disabled			
Environment		0 to 50°C (32 to 122°F); RH 95%		0 to 50°C (32 to 122°F); RH 100%	
Dimensions/Weight		226.5 x 95 x 52 mm (8.9 x 3.75 x 2")/525 g (18.5 oz.)			

ORDERING INFORMATION

HI 98180-01 (115V) and HI 98180-02 (230V), HI 98181-01 (115V) and HI 98181-02 (230V) and HI 98182-01 (115V) and HI 98182-02 (230V) are supplied with HI 1230B pH electrode and HI 7662 temperature probe, pH 4.01 and pH 7.01 buffer solutions, rechargeable batteries (4), HI 710042 inductive battery charger with power adapter, rugged carrying case and instructions.

HI 98183-01 (115V) and HI 98183-02 (230V) is supplied with HI 72911B pH electrode with built-in temperature sensor, pH 4.01 and pH 7.01 buffer solutions, rechargeable batteries (4), HI 710042 inductive battery charger with power adapter, rugged carrying case and instructions.

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... and pH, ORP with ISE

In addition to all the features of the pH models, these meters also include direct ion concentration determination with ion selective electrodes.

HI 98185 allows a choice of measurement units (ppm, ppt, g/L, mg/L, ppb, µg/L, mg/mL, M, mol/L, mmol/L, % w/v, user) and ISE type selection (ammonia, bromide, cadmium, calcium, carbon dioxide, chloride, cupric, fluoride, iodide, lead, nitrate, potassium, silver, sulfate and sulfide).

HI 98184 measures in ppm and the ion charge or nominal electrode slope can be entered manually.

Up to 5 calibration points with six standard values are available.



SPECIFICATIONS

		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 x 10 ⁻³ to 1.00 x 10 ⁵ ppm	From 1.00 x 10 ⁻⁷ to 9.99 x 10 ¹⁰ concentration (choice of units)
	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	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 5 point calibration, 7 standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) + 5 custom buffers	
	ISE	Up to 2 point calibration, 6 standard solutions (0.1, 1, 10, 100, 1000, 10000 ppm)	Up to 5 point calibration, 6 standard solutions (choice of units)
	Slope	From 80 to 110%	
Temperature Compensation (pH)	Manual or automatic from -20.0 to 120.0 °C (-4.0 to 248.0 °F)		
Probes	HI 72911B pH w/BNC and built-in temperature sensor		
Logging	Log-on-demand 300 samples (100 each range)		
PC Connectivity	Opto-isolated USB (with HI 92000 software)		
Input Impedance	10 ¹² Ohms		
Battery Type/Life	(4) 1.2V AA rechargeable batteries/ approx. 200 hrs continuous use (with backlight off)		
Water Resistance	Waterproof		
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/Weight	226.5 x 95 x 52 mm (8.9 x 3.75 x 2) / 525 g (18.5 oz)		

ORDERING INFORMATION cont.

HI 98184-01 (115V) and HI 98184-02 (230V) and HI 98185-01 (115V) and HI 98185-02 (230V) are supplied with HI 72911B pH electrode with built-in temperature sensor, pH 4.01 and pH 7.01 buffer solutions, rechargeable batteries (4), HI 710042 inductive battery charger with power adapter, rugged carrying case and instructions.

ORDERING INFORMATION cont.

ELECTRODES

Combination pH electrodes. All part codes ending with P are provided with BNC & Pin connectors, and 1 m (3.3') cable.

- HI 1043B** Use: strong acids and bases. Glass-body, double junction, refillable
- HI 1053B** Use: emulsions. Glass-body, single junction, refillable
- HI 1230B** Use: general purpose. PEI body, double junction, gel-filled
- HI 72911B** Use: general purpose. Stainless steel body, double junction, gel-filled with built-in temperature sensor
- FC 200B** Use: Semi-solids and food products. PVDF body, single junction, gel-filled
- 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

SOLUTIONS

- 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 70004P** pH 4.01 buffer solution, 20 mL sachets (25)
- HI 70007P** pH 7.01 buffer solution, 20 mL sachets (25)
- HI 70010P** pH 10.01 buffer solution, 20 mL sachets (25)
- HI 77400P** pH 4 and pH 7 buffer solution, (10) 20 mL sachets, (5 ea.)
- HI 70300L** Electrode storage solution, 500 mL
- HI 7061L** Electrode cleaning 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
- HI 70000P** Electrode rinsing sol., 20 mL sachets (25)
- HI 70300L** Electrode storage solution, 500 mL
- HI 7061L** Cleaning solution, 500 mL
- HI 7073L** Protein cleaning solution, 500 mL
- HI 7074L** Inorganic cleaning solution, 500 mL
- HI 7077L** Oil & fat cleaning solution, 500 mL
- HI 7071** 3.5M KCl + AgCl electrolyte solution for single junction electrodes, 30 mL (4)
- HI 7082** 3.5M KCl Refilling electrolyte solution for double junction electrodes, 30 mL bottle (4)

ACCESSORIES

- HI 710042** Inductive battery recharger
- HI 7662** Temperature probe with 1 m (3.3') screened cable
- HI 920013** USB cable for PC connection
- HI 92000** Windows® compatible software