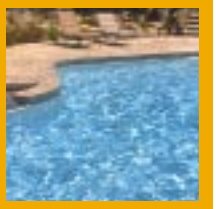

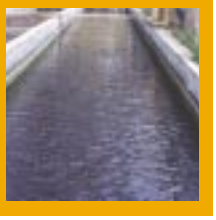

Portable Water Quality Test Instruments

The Hanna line of portable instruments has been designed to give outstanding performance with the latest innovative technology. Hanna meters are precise, rugged, easy-to-use, economical and reliable.

ISO 9001 Certified

1 Stop Shopping
for All Your Water Treatment Needs

HANNA instruments
Water Analysis & Control Division

pH/ORP/Temp

...waterproof and built to last.

- Waterproof
- Automatic Temperature Compensation
- Automatic Calibration

HI 98150

pH/ORP/°C Meter with Intelligent Electrode

The **HI 98150** is one of the most innovative portable pH meters ever offered. This instrument features IP 67 waterproof protection, GLP (Good Laboratory Practice) capabilities and uses the latest in electrode technology - Hanna's intelligent electrodes.

These pH electrodes incorporate a chip which memorizes the calibration date and data performed with a specific instrument. When the "intelligent" electrode is attached to the meter again, it is automatically recognized. This new technology allows the operator to optimize time and efficiency with unsurpassed safety. It avoids erroneous measurements taken in the event the pH electrode is substituted after calibration. This series of electrodes also incorporates a temperature sensor, eliminating the need for an additional temperature probe.

In addition, the **HI 98150** features a dual level backlit LCD which facilitates operation in dimly-lit locations. Graphic symbols and messages on the LCD guide the user through calibration and measurement procedures. The **HI 98150** also allows the operator to set a calibration maximum validity time and will automatically alert the user when recalibration is necessary. Access to the GLP data is password protected for added safety. The **HI 98150** includes a rugged carrying case.

SPECIFICATIONS

	pH	mV	°C
Range	-4.00 to 19.99	±400.0 mV (ISE); ±2000 mV (ORP)	-20.0 to 120.0°C
Resolution	0.01	0.1 mV (-400 to +400 mV); 1 mV (outside)	0.1 (-10 to 120°C)
Accuracy (@20°C/68°F)	±0.01	±0.2 mV (-400 to +400 mV); ±2 mV (outside)	±0.4 (0 to 70°C); ±1 (outside)
Typical EMC Deviation	±0.02	± 1 mV (within ±600 mV); ±2 mV (outside)	±0.4°C
pH Calibration	Automatic 1 or 2 points with 5 memorized standard buffers (pH 4.01, 6.86, 7.01, 9.18 or 10.01)		
Temp. Comp.	Automatic from -20 to 120°C (-4 to 248°F)		
pH Electrode	**HI 1618D** intelligent electrode with temperature sensor, DIN, 3.3' (1 m) cable (included)		
Computer Interface	RS 232		
Logging Function	Up to 500 measurements with log-on-demand		
Input Impedance	10^{12} ohm		
Power Supply	4 x 1.5V AA / approx. 300 hours of continuous use (without backlight) or 12 VDC adapter (included)		
Environment	32 to 122°F (0 to 50°C); RH 100%		
Weight/Dimensions	17.6 oz. (500 g)/7.7 x 3.1 x 2.4" (196 x 80 x 60 mm)		

- Waterproof
- Automatic Temperature Compensation
- Extended Range

HI 991001C

Extended Range, Waterproof pH & Temperature Meter

The new **HI 991001C** portable meter from Hanna offers IP 67 waterproof protection in a compact casing. The **HI 1296D** pH electrode (included) has a built-in temperature sensor and amplifier. The large display shows readings in an extended range from -2.00 to 16.00 pH and simultaneously shows temperature in °C or °F. This meter has a stability indicator and hold feature that prompts you when to take the reading & freezes the display for easy and accurate recording. **HI 991001C** uses extensive graphic symbols to guide you through all operations. The battery life of the meter guarantees over 1500 hours of continuous use. At startup, it performs a self-check and then displays the remaining battery level to assure proper working condition. Calibration is performed automatically at one or two points using standard or N.I.S.T. buffers. The **HI 991001C** includes a yellow shockproof rubber boot for maximum impact protection as well as a rugged carrying case.

SPECIFICATIONS

	pH	Temperature
Range	-2.00 to 16.00	23 to 221°F or -5.0 to 105.0°C
Resolution	0.01	0.1°F or 0.1°C
Accuracy (@20°C/68°F)	±0.02	±1°F up to 140°F, ±2°F up to 221°F/±0.5°C up to 60°C, ±1°C up to 105.0°C
Typical EMC Deviation	±0.02	±0.4°F or ±0.2°C
Calibration	Automatic 2 points with 2 sets of standardized buffers (pH 4.01, 7.01, 10.01 or 4.01, 6.86, 9.18)	
Temp. Comp.	Automatic from 32 to 140°F (0 to 60°C)	
Electrode	**HI 1296D** combination amplified pH/temperature electrode with DIN connector & 3.3' (1m) cable	
Battery Type/Life	3 x 1.5V AA/approximately 1500 hours of continuous use	
Environment	32 to 122°F (0 to 50°C); RH 100%	
Weight/Dimensions	11.3 oz. (320 g)/5.6 x 3.1 x 1.5" (143 x 80 x 38 mm)	

pH/Cond./TDS/Temp

...multi-task with precision.

HI 991300C & HI 991301C

4-in-1 Waterproof pH/Cond./TDS/Temperature Megameter

Hanna offers you a choice of two instruments to meet your water testing requirements. The **HI 991300C** and **HI 991301C** offer you the combination of pH, conductivity, TDS and temperature measurements in °C or °F. To increase accuracy you can select the instrument that works best with your range of measurement.

With only two buttons the user can select testing parameters, calibrate the sensor, change the TDS factor and temperature coefficient (BETA). The housing is waterproof and rated for IP 67 conditions. The multi-functional industrial probe houses the pH and conductivity sensor along with an integrated solid state amplifier to eliminate noise and interference.

The **HI 991300C** and **HI 991301C** are supplied with a blue shockproof rubber boot for maximum impact protection and a rugged carrying case.

- **Waterproof**
- **Automatic Temperature Compensation**
- **Measure pH, Cond./TDS & Temperature with 1 probe**

SPECIFICATIONS

Model		HI 991300C	HI 991301C
Range	pH	0.00 to 14.00	0.00 to 14.00
	Cond.	0 to 3999 µS/cm	0.00 to 19.99 mS/cm
	TDS	0 to 2000 ppm	0.00 to 10.00 ppt
	Temperature	32.0 to 140.0°F or 0.0 to 60.0°C	32.0 to 140.0°F or 0.0 to 60.0°C
Resolution	pH	0.01	0.01
	Cond.	1 µS/cm	0.01 mS/cm
	TDS	1 ppm	0.01 ppt
	Temperature	0.1°F or 0.1°C	0.1°F or 0.1°C
Accuracy (@20°C/68°F)	pH	±0.01	±0.01
	Cond./TDS	±2% F.S.	±2% F.S.
	Temperature	±1°F or ±0.5°C	±1°F or ±0.5°C
Cond./TDS Ratio		Selectable from 0.45, 0.50 (default), 0.55, 0.60, 0.65, 0.68, 0.70, 0.75, 1.00 ppm =1 µS/cm	
pH Calibration		Automatic 1 or 2 points with 2 sets of memorized standard buffers, (pH 4.01/ 7.01/10.01 or pH 4.01/6.86/9.18)	
Cond./TDS Calibration		Automatic 1 point at 1382 ppm (conv.=0.5); 1500 ppm (conv.=0.7); 1413 µS/cm (others)	Automatic 1 point at 6.44 ppt (conv.=0.5); 9.02 ppt (conv.=0.7); 12880 µS/cm (others)
Probe		**HI 1288** pH/conductivity/TDS/temperature probe with 3.3' (1m) cable (included)	
Temperature Compensation		pH: Automatic from 0 to 60°C; conductivity/TDS: Automatic from 0 to 60°C with a selectable BETA of 0.0, 1.8, 1.9, (default), 2.0, 2.1, 2.2, 2.3, 2.4% per °C	
Battery Type/Life		4 x 1.5V AAA/approximately 500 hours of continuous use	
Environment		32 to 122°F (0 to 50°C); RH 100%	
Weight/Dimensions		11.3 oz. (320 g)/5.6 x 3.1 x 1.5" (143 x 80 x 38 mm)	

Cond./TDS/NaCl/Temp

...portable, versatile meters.

- Waterproof
- Automatic Calibration
- Auto Shut-off

HI 98321 & HI 98322

Waterproof Conductivity/TDS/Temperature Meter

The new **HI 98321** & **HI 98322** portable meters from Hanna are designed for quick and easy, high accuracy conductivity, TDS and temperature measurements. These new waterproof instruments have a dual-level LCD that displays conductivity or TDS while simultaneously displaying temperature in either °C or °F.

SPECIFICATIONS

Model		HI 98321	HI 98322
Range	Cond.	0 to 3999 µS/cm	0.00 to 20.00 mS/cm
	TDS	0 to 2000 ppm	0.00 to 10.00 ppt
	Temperature	32.0 to 140.0°F or 0.0 to 60.0°C	32.0 to 140.0°F or 0.0 to 60.0°C
Resolution	Cond.	1 µS/cm	0.01 mS/cm
	TDS	1 ppm	0.01 ppt
	Temperature	0.1°F or 0.1°C	0.1°F or 0.1°C
Accuracy (@20°C/68°F)	Cond./TDS	±2% F.S.	±2% F.S.
	Temperature	±1°F or ±0.5°C	±1°F or ±0.5°C
Calibration		Automatic 1 point at 1413 µS/cm	Automatic 1 point at 12.88 mS/cm
Cond./TDS Conversion Factor		Adjustable from 0.45 to 1.00 (factory default is 0.50)	
Temperature Compensation		BETA = adjustable from 0.0 to 2.4 per °C (factory default is 1.9)	
Battery Type/Life		4 x 1.5V with BEPS / approximately 100 hours of continuous use. Auto shut-off after 8 minutes of non-use	
Environment		32 to 122°F (0 to 50°C); RH 100%	
Weight/Dimensions		7.8 oz. (225 g)/4.7 x 2.1 x 3.1" (120 x 53 x 81 mm)	

- 4 Parameters = 1 Probe!
- Waterproof
- Automatic Temperature Compensation

HI 9835

Waterproof Cond./TDS/NaCl/Temperature Meter with ATC

The **HI 9835** combines the more important parameters you need for measuring conductivity. Now you can sample conductivity, Total Dissolved Solids (TDS), sodium chloride (NaCl) and temperature all at once. Hanna's probe design innovation uses 4 rings enhanced with platinum for greater stability while increasing the range of measurable concentrations and temperature. You can choose between automatic or manual temperature compensation to facilitate your operating requirements. The **HI 9835** includes a hard carrying case.

SPECIFICATIONS

	Conductivity	TDS	NaCl	Temperature
Range (autoranging)	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	0.00 to 14.99 ppm 15.0 to 149.9 ppm 150 to 1499 ppm 1.50 to 14.99 ppt 15.0 to 100.0 ppt Up to 400.0 ppt	0.0 to 400.0%	0.0 to 60.0°C
Resolution	0.01 µS/cm (0.00 to 29.99 µS/cm) 0.1 µS/cm (30.0 to 299.9 µS/cm) 1 µS/cm (300 to 2999 µS/cm) 0.01 mS/cm (3.00 to 29.99 mS/cm) 0.1 mS/cm (Over 30.0 mS/cm)	0.01 ppm (0.00 to 14.99 ppm) 0.1 ppm (15.0 to 149.9 ppm) 1 ppm (150 to 1499 ppm) 0.01 ppt (1.50 to 14.99 ppt) 0.1 ppt (over 15.0 ppt)	0.1%	0.1°C
Accuracy	±1% of reading ±(0.05 µS/cm or 1 digit, whichever is greater)	±1% of reading ±(0.03 ppm or 1 digit, whichever is greater)	±1% of reading	+0.4°C
Cond. Calibration	1 point with 6 memorized buffers			
NaCl Calibration	1 point with **HI 7037** buffer (optional)			
Temp. Calibration	2 points at 0 and 50°C (plus ±1°C adjustment)			
Temp Comp.	Automatic or manual from 0 to 60°C (can be disabled to measure actual conductivity)			
Temp. Coefficient	0.00 to 6.00%/°C (for cond. and TDS only) Default value is 1.90%/°C			
TDS factor	0.40 to 0.80 (default value is 0.50)			
Probe	**HI 76309** 4-ring probe, K=1 nominal and built-in temperature sensor (included)			
Power Supply	4 x 1.5V AA or 12 VDC adapter			
Environment	0 to 50°C; RH 100%			
Weight/Dimensions	18 oz. (500 g)/7.7 x 3.1 x 2.4" (196 x 80 x 60 mm)			

Dissolved Oxygen

...waterproof, simple-to-use dissolved oxygen meters.

HI 9143

Extended Range, Waterproof Dissolved Oxygen Meter

The **HI 9143** has been redesigned and includes an extended range for both altitude and salinity compensation. Now you can have measurements automatically compensated in high altitudes of up to 4,000 meters and in salt or brackish waters up to 80 m/L. This meter is designed for outdoor use with a waterproof case that protects the instrument from cold, snow, dust and very humid environments. You can perform calibration instantly in the air or with calibration solution. The polarographic probe is available with several different lengths of cable enabling you to reach the desired depths for more precise readings with minimal maintenance.

Additional enhancements to the advanced circuitry includes an extended range for percent (%) O_2 over 100% allowing you to accurately measure super-saturated water without error. For extended time studies, this meter can be connected to the available 12 VDC power supply. The **HI 9143** comes with a rugged carrying case.

- **Automatic Calibration**
- **Automatic Temperature Compensation**
- **Auto Shut-off**
- **Altitude Compensation**
- **Salinity Compensation**

SPECIFICATIONS

	ppm O_2	% Saturation O_2	°C
Range	0.00 to 45.00	0.00 to 300.0	0.0 to 50.0
Resolution	0.01	0.1	0.1
Accuracy (@20°C/68°F)	±1.5% F.S.	±1.5% F.S.	±0.5
Typical EMC Deviation	±0.3	±3.5%	±0.5
Calibration	Automatic in air at 100%		
Temp. Comp.	Automatic from 32 to 122°F (0 to 50°C)		
Altitude Comp.	0 to 6230' (0 to 1900 m), 328' (100 m) resolution		
Salinity Comp.	0 to 40 ppt, 1 ppt resolution		
Probe	**HI 76407/4** polarographic D.O. probe with 13' (4 m) cable (included)		
Power Supply	4 x 1.5V AA/approximately 200 hours of continuous use. Power plug for 12 VDC supply		
Environment	32 to 122°F (0 to 50°C); RH 100%		
Weight/Dimensions	15 oz. (425 g)/7.7 x 3.1 x 2.4" (196 x 80 x 60 mm)		

HI 9142

Waterproof Simple-to-use Dissolved Oxygen Meter

The ever increasing demand for instant results for on-site analysis has created a constant need for waterproof portable meters. Measurements in the field can subject the instrumentation to the inclemency of the weather. The cold, rain, snow and dust associated with use in the field can damage the meter rapidly deteriorating its performance and life. **HI 9142** is a rugged, waterproof meter that solves the common problems of field use. It is very simple to use: calibration is performed with **HI 7040L** zero oxygen solution while 100% calibration is done in air. There is no need to use chemical solutions or go through time consuming calibration procedures. The polarographic probe (**HI 76407/4**) will take measurements accurate to 0.3 ppm in minutes and is supplied with a 13' (4 m) cable that allows measurements to be taken in even hard to reach places. For applications that require longer probe cables, the **HI 76407/10** and **HI 76407/20** probes with a 33' (10 m) or 67' (20 m) cable are available. The conic shape of the probe allows it to be used in BOD_5 measurements making it a truly versatile instrument. The **HI 9142** comes with a rugged carrying case.

- **Waterproof**
- **Automatic Temperature Compensation**
- **Simple-to-use**

SPECIFICATIONS

Range	0.0 to 19.9 ppm
Resolution	0.1 ppm
Accuracy (@20°C/68°F)	±1.5% F.S.
Typical EMC Deviation	±0.8 ppm with **HI 76407/4** probe
Calibration	Manual 1 or 2 points (zero & slope)
Temp. Comp.	Automatic from 32 to 86°F (0 to 30°C)
Probe	**HI 76407/4** polarographic D.O. probe with 13' (4 m) cable (included)
Battery Type/Life	4 x 1.5V AA/approximately 500 hours of continuous use
Environment	32 to 122°F (0 to 50°C); RH 100%
Weight/Dimensions	15 oz. (425 g)/7.7 x 3.1 x 2.4" (196 x 80 x 60 mm)

Accessories

...get the most from your measurements.

Solutions and standards are available in a wide variety of sizes.

HI 98150

HI 1618D	Intelligent pH electrode
HI 3620D	Intelligent ORP electrode (Ultem®)
HI 3619D	Intelligent ORP electrode (glass)
HI 7004L	pH 4.01 buffer solution, 16.9 oz. (500 mL)
HI 7007L	pH 7.01 buffer solution, 16.9 oz. (500 mL)
HI 7010L	pH 10.01 buffer solution, 16.9 oz. (500 mL)
HI 70004P	pH 4.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70007P	pH 7.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70010P	pH 10.01 cal. sol., 25 x .68 oz. (20 mL)
HI 77400P	Cal. kit, pH 4 & 7, .68 oz. (20 mL), 5 pcs ea
HI 70300L	Storage solution, 16.9 oz. (500 mL)
HI 7863	mV calibration adapter for use with **HI 8427**
HI 920011	9-pin cable for PC
HI 92000	Windows® compatible software

HI 991001C

HI 1296D	Combination amplified pH/temperature electrode with DIN connector and 3.3' (1 m) cable
HI 7004L	pH 4.01 buffer solution, 16.9 oz. (500 mL)
HI 7007L	pH 7.01 buffer solution, 16.9 oz. (500 mL)
HI 7010L	pH 10.01 buffer solution, 16.9 oz. (500 mL)
HI 70004P	pH 4.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70007P	pH 7.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70010P	pH 10.01 cal. sol., 25 x .68 oz. (20 mL)
HI 77400P	Cal. kit, pH 4 & 7, .68 oz. (20 mL), 5 pcs ea.
HI 70300L	Storage solution, 16.9 oz. (500 mL)
HI 721312	Hard carrying case
HI 710004	Soft carrying case

HI 991300C/HI 991301C

HI 1288	pH/conductivity/TDS/°C probe
HI 70030P	12880 µS/cm cal. sol., 25 x .68 oz. (20 mL)
HI 77100P	1413 µS/cm & pH 7 sol., .68 oz. (20 mL), 10 pcs ea.
HI 77300P	1382 ppm & pH 7 sol., .68 oz. (20 mL), 10 pcs ea.
HI 70038P	6.44 ppt cal. sol., 25 x .68 oz. (20 mL)
HI 77200P	1500 ppm & pH 7 sol., 20 mL, 10 pcs ea.
HI 70004P	pH 4.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70007P	pH 7.01 cal. sol., 25 x .68 oz. (20 mL)
HI 70010P	pH 10.01 cal. sol., 25 x .68 oz. (20 mL)
HI 77400P	Cal. kit, pH 4 & 7, .68 oz. (20 mL), 5 pcs ea.
HI 710008	Orange shockproof rubber boot
HI 710004	Soft carrying case

HI 98321/HI 98322

HI 70031P	1413 µS/cm @ 25°C cal. kit, 25 x .68 oz. (20 mL)
HI 70030P	12880 µS/cm cal. sol., 25 x .68 oz. (20 mL)

HI 9835

HI 76309	Conductivity probe
HI 7031L	1413 µS/cm cal. sol., 16.9 oz. (500 mL)
HI 7030L	12880 µS/cm cal. sol., 16.9 oz. (500 mL)
HI 7033L	84 µS/cm cal. sol., 16.9 oz. (500 mL)
HI 70030P	12880 µS/cm cal. sol., 25 x .68 oz. (20 mL)
HI 70031P	1413 µS/cm cal. sol., 25 x .68 oz. (20 mL)
HI 7037	Sodium chloride solution
HI 721317	Hard carrying case
HI 710005	110V to 12VDC adapter
HI 710006	220V to 12VDC adapter

HI 9142

HI 7040L	Zero oxygen solution, 16.9 oz. (500 mL)
HI 76407/4	D.O. probe with 13' (4 m) cable
HI 76407/10	D.O. probe with 33' (10 m) cable
HI 76407/20	D.O. probe with 67' (20 m) cable
HI 7041S	Refilling electrolyte solution, 1 oz. (30 mL)
HI 7041L	Refilling electrolyte solution, 16.9 oz. (500 mL)
HI 76407A/P	Pack of 5 replacement membranes
HI 721317	Rugged carrying case

HI 9143

HI 7041S	Refilling electrolyte solution, 1 oz. (30 mL)
HI 76407/4	D.O. probe with 13' (4 m) cable
HI 76407/10	D.O. probe with 33' (10 m) cable
HI 76407/20	D.O. probe with 67' (20 m) cable
HI 710005	110V to 12VDC adapter
HI 710006	220V to 12VDC adapter
HI 76407A/P	Pack of 5 replacement membranes
HI 721317	Rugged carrying case

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HANNA instruments
Water Analysis & Control Division

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