HI 9828

Multiparameter Water Quality Meter

HANNA® instruments

With Great Products, Come Great Results™

HI 9828 Multiparameter Water Quality Meter...

Feature Highlights

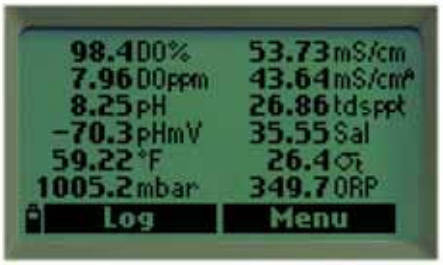
- Display up to 12 parameters
- Graphic LCD with backlight
- Meter features IP67 and probe features IP68 waterproof protection
- Exclusive T.I.S.—Tag Identification System simplifies test logging
- Quick Calibration feature calibrates all sensors with one solution
- Built-in barometer
- Measurement check eliminates any erroneous readings
- Auto recognition of pH/ORP probe
- LOGGER function memorizes the data of all connected sensors
- Log-on-demand and automatic logging (up to 60,000 samples)
- Can display logged data as graphs
- USB for PC connectivity
- Auto-range of EC and TDS readings
- Good Laboratory Practice feature with the latest 5 calibrations recorded
- All sensors are field replaceable
- Meter accepts both alkaline and rechargeable batteries
- Rugged probe with stainless steel tip has a diameter under 2" for wells and pipes

pH • pH/mV • ORP • % saturation DO • mg/L DO • EC • absolute EC • resistivity • TDS • salinity • seawater specific gravity • atmospheric pressure • temperature

HANNA's new HI 9828 is a multiparameter portable instrument that monitors up to 13 different water quality parameters (6 measured, 7 calculated). The meter has a 128 x 64 pixel dot matrix backlit LCD that automatically sizes the digits and allows full configuration of each parameter measured, units and language selection, and on-screen graphing. Each parameter is fully supported by the on-screen context sensitive help both in the calibration mode and during measurement. For monitoring and recording data, HI 9828 is equipped with HANNA's exclusive T.I.S. – Tag Identification System: iButton®s with unique ID numbers can be installed at various sampling sites and are used to record specific location information when logging. The meter incorporates comprehensive GLP features, and download of data is done via USB connectivity.

Designed for outdoor environments, the meter is impact resistant and waterproof to IP67 standards (30 minutes immersion under 1 m of water). The multi sensor probe can be left underwater (IP68 standard). For field calibration, HANNA's Quick Calibration allows the user to standardize pH, conductivity and oxygen with one solution.

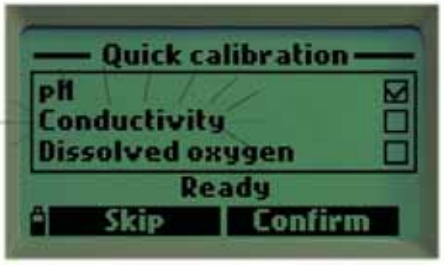
Intuitive Configuration, Calibration and Measurement



Fully Configurable Measurement Screen

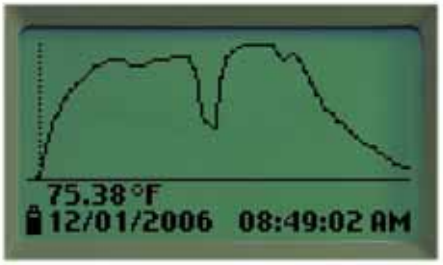
Calibration

In the field the Quick Calibration feature verifies probe functionality and probe calibration with a single calibration solution (HI 9828-25). Simply screw the calibration beaker with solution onto the probe, Select Quick calibration from the menu and OK. Calibration may also be made individually for the measurement parameters using multiple calibration points.



Pressure

Atmospheric pressure calibration and measurement can be made in a choice of units.



Graphing

Trend graphing may be viewed on the display or copied to a PC. Select the Lot to be displayed, select the parameter from a pick list, then OK. The sample date and time stamp will be displayed also.

Help

The context sensitive help screen is always accessible.

T.I.S. *Tag Identification System*

HANNA's iButton© Tag Identification System simplifies test logging. iButton©s with a unique ID can be installed at various sampling sites. When the matching connector of the meter contacts the button and measurements are logged, they are labeled with the alphanumeric user-entered location ID.

... with Intelligent Probe

SENSOR REPLACEMENT IS QUICK AND EASY with screw type connectors and color coded sensors.

THE GALVANIC D.O. SENSOR has a built-in thermistor to provide fast temperature corrected readings.

The galvanic sensor does not require polarization time so it is ready for measurement at a moment's notice.

THE METER AUTOMATICALLY RECOGNIZES THE presence of either the pH or pH/ORP sensor. Both sensors have a cloth junction which allows greater sensitivity, and are gel filled for improved resistance to contamination.

The meter also displays pH mV readings ideal for trouble shooting.

THE 4-RING CONDUCTIVITY SYSTEM ENSURES stable conductivity readings that are immune to surface coating. Absolute conductivity, temperature corrected conductivity, salinity, specific gravity and TDS determinations are possible with measurements from this sensor.

HANNA's HI 769828 multiparameter probe incorporates a built-in microprocessor and amplifiers that convert the high impedance signals from the sensors of the probe eliminating common problems associated with high impedance signals such as limitation of cable length and noise. This allows the probe to have reliable communication with the meter and the user is immediately warned of problems such as a broken cable. The standard cable lengths of the probe are 4, 10 and 20 meters (13, 32 and 64 feet) and custom lengths are also available.

The probe also features HANNA's Quick Calibration which allows the user to calibrate pH and conductivity with one solution in a single, simple, step. Dissolved Oxygen is also calibrated in a single step in saturated air. The probe houses 7 of the 8 measured parameters: pH, pH mV, ORP, EC, Absolute EC, % saturation and mg/L (ppm) oxygen, and temperature. The sensors are all replaceable independently and are easy to maintain and keep clean, and are protected by the outer PVC/stainless steel sleeve and cap, suitable for use in 2" wells. The probe housing is rated IP68 standard.

SPECIFICATIONS		HI 9828
pH	Range	0.00 to 14.00 pH
	Resolution	0.01 pH
	Accuracy	±0.02 pH
mV of pH input	Range	±600.0 mV
	Resolution	0.1 mV
	Accuracy	±0.5 mV
ORP	Range	±2000.0 mV
	Resolution	0.1 mV
	Accuracy	±1.0 mV
Dissolved Oxygen	Range	0.0 to 500.0% / 0.00 to 50.00 mg/L
	Resolution	0.1% / 0.01 mg/L
	Accuracy	0.0 to 300.0%: ±1.5% of reading or ±1.0% whichever is greater; 300.0 to 500.0%: ±3% of reading; 0.00 to 30.00 mg/L: ±1.5% of reading or 0.10 mg/L whichever is greater; 30.00 mg/L to 50.00 mg/L: ±3% of reading
Conductivity	Range	0.000 to 200.000 mS/cm (actual EC up to 400 mS/cm)
	Resolution	Manual: 1 µS/cm; 0.001 mS/cm; 0.01 mS/cm; 0.1 mS/cm; 1 mS/cm Automatic: 1 µS/cm from 0 to 9999 µS/cm; 0.01 mS/cm from 10.00 to 99.99 mS/cm ; 0.1 mS/cm from 100.0 to 400.0 mS/cm Automatic mS/cm: 0.001 mS/cm from 0.000 to 9.999 mS/cm; 0.01 mS/cm from 10.00 to 99.99 mS/cm; 0.1 mS/cm from 100.0 to 400.0 mS/cm
	Accuracy	±1% of reading or ±1 µS/cm whichever is greater
Resistivity	Range	0 to 999999 Ω•cm; 0 to 1000.0 kΩ•cm; 0 to 1.0000 MΩ•cm
	Resolution	Dependent on resistivity reading
TDS	Range	0 to 400000 mg/L or ppm (the maximum value depends on the TDS factor)
	Resolution	Manual: 1 mg/L (ppm); 0.001 g/L (ppt); 0.01g/L (ppt); 0.1 g/L (ppt); 1 g/L (ppt) Auto-range scales: 1 mg/L (ppm) from 0 to 9999 mg/L (ppm); 0.01 g/L (ppt) from 10.00 to 99.99 g/L (ppt); 0.1 g/L (ppt) from 100.0 to 400.0 g/L (ppt) Auto-range g/L (ppt) scales: 0.001 g/L (ppt) from 0.000 to 9.999 g/L (ppt); 0.01 g/L (ppt) from 10.00 to 99.99 g/L (ppt); 0.1 g/L (ppt) from 100.0 to 400.0 g/L (ppt)
	Accuracy	±1% of reading or ±1 mg/L
Salinity	Range	0.00 to 70.00 PSU (extended Practical Salinity Scale)
	Resolution	0.01 PSU
	Accuracy	±2% of reading or 0.01 PSU whichever is greater
Seawater Specific Gravity	Range	0.0 to 50.0 σ_t, σ_0, σ_{15}
	Resolution	0.1 σ_t, σ_0, σ_{15}
	Accuracy	±1 σ_t, σ_0, σ_{15}
Atm. Pressure	Range	450 to 850 mmHg; 17.72 to 33.46 inHg; 600.0 to 1133.2 mbar; 8.702 to 16.436 psi; 0.5921 to 1.1184 atm; 60.00 to 113.32 kPa
	Resolution	0.1 mmHg; 0.01 inHg; 0.1 mbar; 0.001 psi; 0.0001 atm; 0.01 kPa
	Accuracy	±3 mmHg within ±15°C from the temperature during calibration
Temperature	Range	-5.00 to 55.00°C; 23.00 to 131.00°F; 268.15 to 328.15K
	Resolution	0.01°C; 0.01°F; 0.01K
	Accuracy	±0.15°C; ±0.27°F; ±0.15K
Calibration	pH	Automatic 1, 2, or 3 points with 5 memorized standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or 1 custom buffer
	ORP	Automatic at 1 custom point
	Conductivity, Salinity	Automatic 1 point with 6 memorized standards (84 µS/cm, 1413 µS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm) or custom point
	D.O.	Automatic 1 or 2 points at 0, 100% or 1 custom point
	Resistivity, TDS, σ	Based on conductivity or salinity calibration
	Atmos. Pressure	Automatic at 1 custom point
	Temperature	Automatic at 1 custom point
Temperature Compensation		Automatic from -5 to 55°C (23 to 131°F)
Logging Memory		Up to 60000 samples with 13 measurements each
Logging Interval		1 second to 3 hours
Computer Interface		USB (with HI 92000 software)
Waterproof Protection		Meter IP67, Probe IP68
Environment		0 to 50°C (32 to 122°F); RH 100%
Power Supply		(4) 1.5V alkaline C cells (approx. 150 hours of continuous use without backlight)/ (4) 1.2V rechargeable C cells (approx. 70 hours of continuous use without backlight)
Dimensions		Meter: 221 x 115 x 55 mm (8.7 x 4.5 x 2.2"); Probe: 270 x 46 mm DIA (10.6 x 1.8" DIA)
Weight		Meter: 750g (26.5 oz.); Probe: 750g (26.5 oz.)

ORDERING INFORMATION

HI 9828 is supplied with HI 769828 pH/ORP/DO/EC/temperature probe; HI 9828-25 quick calibration standard solution, 500 mL; probe maintenance kit; (4) rechargeable C size, Ni-MH batteries; power adapter & cable; car 12V accessory outlet adapter; (5) iButton©s with holder; HI 7698281 USB interface cable; HI 92000 Windows® compatible software and instruction manual in a rugged carrying case.

HANNA instruments® is an **ISO 9001:2000 Certified** company

At **HANNA** we design and manufacture the most complete range of analytical products. We strive to work with you to develop a **HANNA** solution to address your specific instrumentation needs —on your budget.

Solid build quality, helpful customer service and competitive pricing place us ahead of the competition. Since 1978, more and more professionals all over the world choose and recommend **HANNA** for their laboratory testing needs

For more information or for a distributor near you:

800.504.2662

laboratory@hannainst.com

www.hannainst.com

Authorized Distributor

HANNA® instruments

With Great Products, Come Great Results™

P/L HI9828 1.03 PRINTED IN USA