HI 9828

Multiparameter Water Quality Portable Meter

The HI 9828 Multiparameter Portable Meter is a comprehensive analytical instrument, capable of measuring up to 13 critical water quality parameters (6 measured and 7 calculated), including pH, EC/TDS, ORP, DO, atmospheric pressure, and temperature. Some of the most advanced capabilities available are incorporated into this portable meter. Designed for intuitive operation, the menu-driven navigation is user-friendly and logical. A backlit 128 x 64 pixels graphic LCD, that automatically sizes the digits, allows full configuration of each measured parameter, displays on-screen graphing and has options for units and language selections, provides high-quality resolution and sophistication that is unsurpassed in its class.

Engineered with smart features such as auto recognition of pH/ORP probe, auto-ranging adjustments for EC/TDS readings, and measurement check - to eliminate erroneous readings - and more, our design actually simplifies operations and handling. There is virtually no learning curve to getting into this meter and quickly mastering it's capabilities. Each parameter is fully supported by the on-screen contextual HELP function, which is active during measurement and calibration modes. For field applications, Hanna's Quick Calibration allows the user to standardize pH, conductivity and dissolved oxygen, all with one solution! While in calibration mode, the meter will also assess and verify probe functionality. For monitoring and recording data, HI 9828 can be equipped with the optional T.I.S. - Tag Identification System: iButton©s with unique ID numbers. Installed at any sampling site, these tags will record and match specific location information with logging data. Comprehensive GLP features, such as last calibration date and status information, calibration time-out, and date and time tags associated with sample measurements, ensure consistency and accountability. The LOGGER function memorizes data from each connected sensors and log-on-demand & automatic logging can record up to 60,000 data samples. All data is downloadable to a PC via USB connectivity.

HI 9828 is designed for demanding outdoor environments. The meter is impact resistant and waterproof to IP67 standards (30 minutes immersion under 1 m of water), and the multi-sensor probe, HI 769828, with an IP68 rating, can be left underwater for an extended period of time. This intelligent probe contains a built-in microprocessor with amplifiers, interprets the high impedance signals from each sensor and sends the converted data to the meter. Consequently, common tolerance issues associated with high impedance signals, such as limiting cable length, and noise interferences are eliminated. The probe maintains reliable communication with the meter, and the user is warned of any problems, such as a broken cable line.

Five out of six measured parameters are housed in the probe: pH/pH mV, ORP, EC, % saturation and mg/L (ppm) oxygen and temperature. Each sensor is independently replaceable, and easy to maintain & clean. The sensors are protected by a rugged outer PVC/stainless steel sleeve, the design of which is suited for use in 2" wells. The intact probe housing is rated to IP68. Standard cable lengths are 4, 10 and 20 meters and custom lengths are available upon request. The galvanic DO sensor has a built-in thermistor to provide fast temperature corrected readings. Of course, there is no polarization time for this sensor, so it is ready for measurement at a moment's notice. For EC, a 4-ring conductivity system ensures stable readings that are immune to polarization and the buffering effect of surface coating. Absolute conductivity, temperature corrected conductivity, salinity, specific gravity and TDS determinations are possible with measurements from this sensor. 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. It accepts both alkaline and rechargeable batteries and can be recharged in the field via the 12V car accessory outlet adapter, included.

Order Information:
HI 9828 is supplied with HI 769828 multisensor probe (pH/ORP, EC, DO, temperaure), HI 9828-25 quick calibration standard solution (500 mL), probe maintenance kit, rechargeable C size Ni-MH batteries (4), power adapter & cable, car 12V accessory outlet adapter, HI 7698281 USB interface cable, HI 92828 Windows® compatible software and instruction manual in a rugged carrying case.

- **Specifications**

Range	pH	0.00 to 14.00 pH
Resolution	pH	0.01 pH
Accuracy	pH	±0.02 pH
Range	mV	±600.0 mV
Resolution	mV	0.1 mV
Accuracy	mV	±0.5 mV
Range	mV	±2000.0 mV
Resolution	mV	0.1 mV
Accuracy	mV	±1.0 mV
Range	DO	0.0 to 500.0%; 0.00 to 50.00 mg/L
Resolution	DO	0.1% / 0.01 mg/L
Accuracy	DO	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
Range	EC	0.000 to 200.000 mS/cm (actual EC up to 400 mS/cm)
Resolution	EC	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	EC	±1% of reading or ±1 µS/cm whichever is greater
Range	Resistivity	0 to 999999 Ω•cm; 0 to 1000.0 kΩ•cm; 0 to 1.0000 MΩ•cm
Resolution	Resistivity	Dependent on resistivity reading
Range	TDS	0 to 400000 mg/L or ppm (the maximum value depends on the TDS factor)
Resolution	TDS	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	TDS	±1% of reading or ±1 mg/L
Range	Salinity	0.00 to 70.00 PSU (extended Practical Salinity Scale)
Resolution	Salinity	0.01 PSU
Accuracy	Salinity	±2% of reading or 0.01 PSU whichever is greater
Range	Seawater Specific Gravity	0.0 to 50.0 σt, σ0, σ15
Resolution	Seawater Specific Gravity	0.1 σt, σ0, σ15
Accuracy	Seawater Specific Gravity	±1 σt, σ0, σ15
Range	Atm. Pressure	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	Atm. Pressure	0.1 mmHg; 0.01 inHg; 0.1 mbar; 0.001 psi; 0.0001 atm; 0.01 kPa
Accuracy	Atm. Pressure	±3 mmHg within ±15°C from the temperature during calibration
Range	Temperature	-5.00 to 55.00°C; 23.00 to 131.00°F; 268.15 to 328.15K
Resolution	Temperature	0.01°C; 0.01°F; 0.01K
Accuracy	Temperature	±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
Calibration	mV	Automatic at 1 custom point

Calibration	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
Calibration	DO	Automatic 1 or 2 points at 0, 100% or 1 custom point
Calibration	Resistivity, TDS	Based on conductivity or salinity calibration
Calibration	Atm. Pressure	Automatic at 1 custom point
Calibration	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
PC Connection		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.)