



## HI 9828

### Multiparameter Water Quality Portable Meter

- Display up to 12 parameters
  - Waterproof protection for meter (IP67) and probe (IP68)
  - Graphic LCD with backlight
  - Built-in barometer for DO compensation
  - Quick calibration feature
  - Measurement check eliminates erroneous readings
- Auto recognition of pH and pH/ORP probe
  - Logger function records the data of all connected sensors
  - Log on demand and automatic logging (up to 60,000 samples)
  - Logged data can be displayed as graphs
  - USB for PC connectivity
  - Autorange of EC and TDS readings
  - Good Laboratory Practice feature with last 5 calibrations recorded
  - Field replaceable sensors
  - Meter accepts both alkaline and rechargeable batteries
  - Rugged probe with stainless steel tip has a diameter under 2" for wells and pipes

The HI 9828 multiparameter meter with GPS receiver monitors up to 13 different water quality parameters (6 measured, 7 calculated). Measurements include pH, pH/mV, ORP, % saturation DO, mg/L DO, EC, absolute EC, resistivity, TDS, salinity, seawater specific gravity, atmospheric pressure and temperature.

The HI 9828 has a graphic, backlit LCD that automatically sizes the digits to fit the screen and allows full configuration of each parameter measured along with on-screen graphing capability. The meter incorporates comprehensive GLP features and the downloading of data via USB connection.

Each parameter is supported by on-screen context sensitive help, both in the calibration mode and during measurement.

Designed for outdoor environments, the meter is impact resistant and waterproof meeting IP67 standards (30 minutes immersion under 1 m of water). The multi-sensor probe can be left underwater in accordance with IP68 standards.

#### HI 769828 Multiparameter, Intelligent Probe

HANNA's HI 769828 multiparameter probe incorporates a built-in microprocessor and amplifier that convert the high impedance signals from the sensors of the probe to eliminate common problems such as cable length limitations and noise associated with high impedance signals.

This allows the probe to have a reliable communication with the meter and also immediately warns the user 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 one step in saturated air. The probe houses 5 of the 6 measured parameters: pH, ORP, EC, dissolved oxygen and temperature. The sensors are all independently replaceable and are easy to maintain and keep clean. The sensors are protected by an outer

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PVC/stainless

steel sleeve and cap which is suitable for use in 2" wells. The probe housing complies with IP68 standard.

Sensor replacement is quick and easy with screw type connectors and color coded sensors.

The Galvanic DO sensor does not require polarization time so it's ready at a moment's notice.

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.

The HI 9828 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 in mV readings—ideal for troubleshooting.

## Fast Tracker™—Tag Identification System

HANNA's Fact Tracker™—Tag Identification System simplifies test logging. iButton®s with a unique ID can be installed at various sampling sites. When the matching connector on the meter contacts the location button, measurements are logged and labeled with the alphanumeric user-entered location ID. Location, date, time and measurements are logged into the meter which can be transferred to a PC. The Fast Tracker™ system complements the GPS for ultimate tracking.

## iButton® Tags are Easy to Install

Install the optional TAGs near your sampling points for quick and easy iButton® readings. Each TAG contains a computer chip with a unique identification code encased in stainless steel. You can install a practically unlimited amount of TAGs. Additional TAGs can be ordered for all of your traceability requirements.

## Choose your configuration -

HI 9828/4-01 HI 9828 and 4 m (13.1') probe cable, no GPS, 115VAC  
HI 9828/4-02 HI 9828 and 4 m (13.1') probe cable, no GPS, 230VAC  
HI 9828/10-01 HI 9828 and 10 m (33') probe cable, no GPS, 115VAC  
HI 9828/10-02 HI 9828 and 10 m (33') probe cable, no GPS, 230VAC  
HI 9828/20-01 HI 9828 and 20 m (66') probe cable, no GPS, 115VAC  
HI 9828/20-02 HI 9828 and 20 m (66') probe cable, no GPS, 230VAC  
HI 9828/30-01 HI 9828 and 30 m (98') probe cable, no GPS, 115VAC  
HI 9828/30-02 HI 9828 and 30 m (98') probe cable, no GPS, 230VAC  
HI 9828/40-01 HI 9828 and 40 m (131') probe cable, no GPS, 115VAC  
HI 9828/40-02 HI 9828 and 40 m (131') probe cable, no GPS, 230VAC  
HI 9828/50-01 HI 9828 and 50 m (164') probe cable, no GPS, 115VAC  
HI 9828/50-02 HI 9828 and 50 m (164') probe cable, no GPS, 230VAC  
HI 9828/60-01 HI 9828 and 60 m (200') probe cable, no GPS, 115VAC  
HI 9828/60-02 HI 9828 and 60 m (200') probe cable, no GPS, 230VAC  
HI 9828/70-01 HI 9828 and 70 m (230') probe cable, no GPS, 115VAC  
HI 9828/70-02 HI 9828 and 70 m (230') probe cable, no GPS, 230VAC  
HI 9828/80-01 HI 9828 and 80 m (262') probe cable, no GPS, 115VAC  
HI 9828/80-02 HI 9828 and 80 m (262') probe cable, no GPS, 230VAC  
HI 9828/90-01 HI 9828 and 90 m (295') probe cable, no GPS, 115VAC  
HI 9828/90-02 HI 9828 and 90 m (295') probe cable, no GPS, 230VAC

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HI 9828/100-01 HI 9828 and 100 m (328') probe cable, no GPS, 115VAC  
 HI 9828/100-02 HI 9828 and 100 m (328') probe cable, no GPS, 230VAC

**Order Information:**

HI 9828 configurations are supplied with HI 769828 multisensor probe (pH/ORP, EC, DO, temperature), 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.

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 (absolute 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 k Ω·cm; 0 to 1.0000 M Ω·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); autorange 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); autorange 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 (ppm) whichever is greater
Salinity	Range	0.00 to 70.00 PSU (Extended Practical Salinity Scale)

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	Resolution	0.01 PSU
	Accuracy	±2% of reading or 0.01 PSU whichever is greater
Seawater Specific Gravity	Range	0.0 to 50.0 <sub>t, 0, 15</sub>
	Resolution	0.1 <sub>S<sub>t</sub>, S<sub>0</sub>, S<sub>15</sub></sub>
	Accuracy	±1 <sub>t, 0, 15</sub>
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 calibration temperature
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 one, two, or three points with five memorized standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or one custom buffer
	ORP	automatic at one custom point
	Conductivity	automatic one point with six 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
	DO	automatic one or two points at 0, 100% or one custom point
	Resistivity, TDS,	based on conductivity or salinity calibration
	Salinity	one custom point
	Atm. Pressure, Temperature	automatic at one custom point
Temperature Compensation		automatic from -5 to 55°C (23 to 131°F)
Logging Memory		up to 60,000 samples with 13 measurements each
Logging Interval		1 second to 3 hours
Computer Interface		USB (with HI 929829 software)
Waterproof Protection		meter IP67, probe IP68
Environment		0 to 50°C (32 to 122°F); RH 100%
Power Supply		1.5V alkaline C cells (approximately 150 hours of continuous use without backlight) (4) / 1.2V rechargeable C cells (approximately 70 hours of continuous use without backlight) (4)
Dimensions Meter/Probe		221 x 115 x 55 mm (8.7 x 4.5 x 2.2") / 270 x 46 mm DIA (10.6 x 1.8" DIA)
Weight		meter: 750 g (26.5 oz.); probe: 750 g (26.5 oz.)

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