

HI 9828

Multiparameter Meter

with Intelligent Probe and Fast Tracker™ Tag Identification System

Backlit LCD can display up to
12 Measurements at a time



Probe cable available in 4, 10, 20 meter lengths. Need a different length? Give us a call!



**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 Fast Tracker™ – Tag Identification System: iButton®s with unique ID numbers can be installed at any number of sampling sites and are used to record specific location information when logging. The meter incorporates comprehensive GLP features and the downloading of data via USB connection.

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

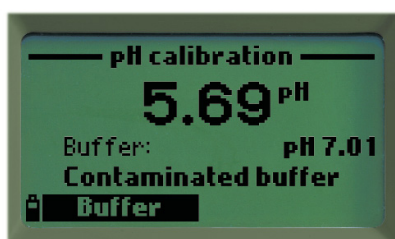
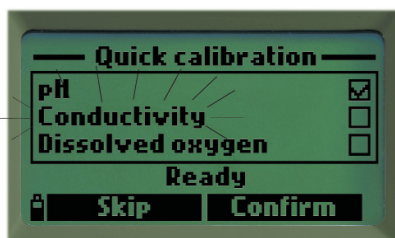
For field calibration, HANNA's Quick Calibration allows users to standardize pH, and conductivity with one solution.

FastTracker™
A new revolution in organized data management

Feature Highlights

- Display up to 12 parameters
- Graphic LCD with backlight
- Meter features IP67 and probe features IP68 waterproof protection
- Exclusive Fast Tracker™—Tag I.D. System simplifies test logging
- Quick Calibration feature
- Built-in barometer
- Measurement check eliminates any erroneous readings
- Auto recognition of pH and 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 last 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

Fully Configurable Measurement Screen



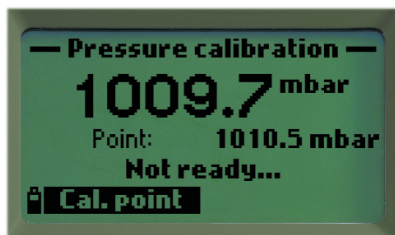
Calibration

In the field, the Quick Calibration feature verifies probe functionality and calibration with a single calibration solution (HI 9828-25). Simply screw the calibration beaker filled with solution onto the probe, select "Quick calibration" from the menu and press OK. Individual calibration may also be performed using multiple calibration points.

"Instead of walking around with several different meters, I only need to carry one!"

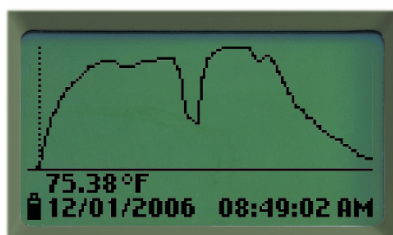
MR. F. BRABANDER

Kwekerij de Singel
the Netherlands



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 also be displayed.



Help

The context sensitive help screen is always accessible.

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HI 769828 Multiparameter, Intelligent Probe

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 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 PVC/stainless steel sleeve and cap which is suitable for use in 2" wells. The probe housing is rated 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.

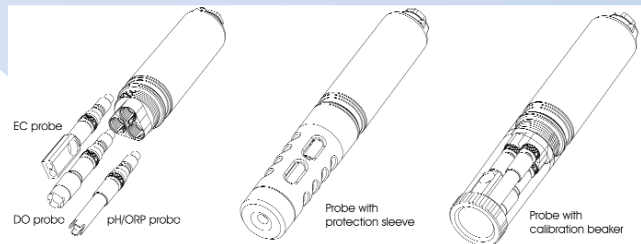
The HI 9828 **automatically recognizes** the presence of either the pH or pH/ORP sensor.

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 trouble shooting.

HI 9828 is supplied complete with a probe maintenance kit.

This kit includes HI 7042S (electrolyte solution for DO sensor), (5) O-rings for DO sensor, a small brush, (5) O-rings for multiparameter probe and a syringe with grease to lubricate the O-rings.



Fast Tracker™ 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. Location, date, time and measurements are logged into the meter which can be transferred to a PC.

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ORDERING INFORMATION

HI 9828-01 (115V) and **HI 9828-02** (230V) is 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 92000 Windows® compatible software and instruction manual in a rugged carrying case.

X=4, 4 m probe cable
X=10, 10 m probe cable
X=20, 20 m probe cable
 Up to 100m

HI 9828/

PROBES

- HI 769828-0** pH sensor, single junction, non refillable
- HI 769828-1** pH/ORP sensor
- HI 769828-2** DO sensor
- HI 769828-3** EC sensor

QUICK CALIBRATION SOLUTIONS

- HI 9828-25** Quick calibration solution, 500 mL
- HI 9828-27** Quick calibration solution, 1 G

pH CALIBRATION 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

ORP CALIBRATION SOLUTIONS

- HI 7021L** ORP test solution @240 mV, 500 mL
- HI 7022L** ORP test solution @470 mV, 500 mL

DISSOLVED OXYGEN SOLUTIONS

- HI 7040L** Zero oxygen solution, 500 mL
- HI 7042S** Electrolyte solution, 30 mL

CONDUCTIVITY CALIBRATION SOLUTIONS

- HI 7030L** 12880 µS/cm solution, 500 mL
- HI 7031L** 1413 µS/cm solution, 500 mL
- HI 7033L** 84 µS/cm solution, 500 mL
- HI 7034L** 80000 µS/cm solution, 500 mL
- HI 7035L** 111800 µS/cm solution, 500 mL
- HI 7039L** 5000 µS/cm solution, 500 mL

TDS CALIBRATION SOLUTIONS

- HI 7032L** 1382 ppm (mg/L) solution, 500 mL
- HI 7036L** 12.41 ppt (g/L) solution, 500 mL

CLEANING AND MAINTENANCE SOLUTIONS

- HI 70300L** Electrode storage solution, 500 mL
- HI 7061L** Electrode cleaning solution, 500 mL

ACCESSORIES

- HI 7698281** USB interface cable
- HI 7698282** Probe maintenance kit
- HI 7698283** Calibration beaker
- HI 7698284** Flow cell
- HI 710045** Power supply cable
- HI 710046** Lighter cigarette cable
- HI 710005** 115 Vac/12 Vdc pwr adapter (US)
- HI 710006** 230 Vac/12 Vdc pwr adapter (EU)
- HI 710012** 230 Vac/12 Vdc, pwr adapter (UK)
- HI 710013** 230 Vac/12 Vdc, pwr adapter (S.A.)
- HI 710014** 230 Vac/12 Vdc, pwr adapter (AUS.)
- HI 92000** Software application
- HI 920005** iButton® with holder (5 pcs)

SPECIFICATION

		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); 0.01 g/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 (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
	DO	Automatic 1 or 2 points at 0, 100% or 1 custom point
	Resistivity, TDS, σ	Based on conductivity or salinity calibration
	Atm. 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.)	