

HI98194

Multiparameter Waterproof Meter

pH / mV, ORP, EC, TDS, Resistivity, Salinity, Seawater σ , Dissolved Oxygen, Atmospheric Pressure and Temperature

- **Waterproof**
 - IP67 rated waterproof, rugged enclosure for meter, IP68 for probe
- **Digital probe**
 - Digital probe with three connections for pH (ORP), EC and DO sensors and integral temperature sensor
- **Color coded, field replaceable sensors**
- **Auto-sensor recognition**
- **Quick calibration feature**
- **Automatic temperature compensation**
- **Automatic logging**
 - Store up to 45,000 samples
- **Log-on-demand**
 - Store measurement data at the press of a button
- **GLP**
 - GLP data provides data from previous five calibrations to ensure Good Laboratory Practices are met
- **Dedicated help key**
 - On-screen context specific help is readily available at the press of a button
- **Backlit LCD display with multifunction virtual keys**
- **Intuitive keypad**
 - Hard and virtual soft keys
- **Connectivity**
 - PC connectivity via opto-isolated micro-USB with Hanna software
- **Up to 360 hours of battery life**
 - Powered by (4) 1.5V AA batteries



- **Quick Connect Probe**
 - Built in barometer for DO concentration in meter



For Universal Applications

HI98184 provides multiparameter measurement in a compact and rugged, IP67 waterproof enclosure. Ideal for demanding applications, each meter features our rugged, quick connect multi-function probe with field replaceable sensors.

A backlit, graphic LCD provides easy to read resolution even in low-lit areas. A combination of dedicated and soft keys allows easy, intuitive operation in a choice of languages.

Data Logging

The HI98194 allows users to store up to 45,000 continuous or log-on-demand samples with logging intervals from one second to three hours. Logged data can be later transferred to a PC with the HI920015 micro USB cable and Hanna software.

Dedicated help button

The contextual Help Menu can be accessed to obtain on-screen information and assistance about each feature at the touch of a button.

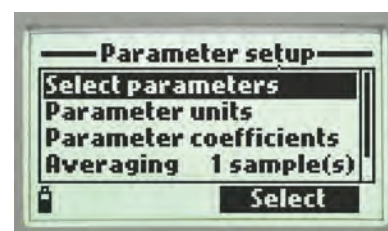
Quick connect probe

The HI7698194 probe features a quick connect DIN connector to make attaching and removing the probe simple and easy.

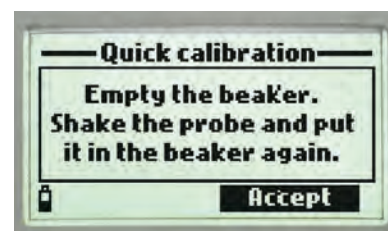


HI9828-25 "Quick Calibration" solution

- **Field Ready with quick calibration solution**
 - Standardize pH and conductivity with one calibration solution
 - Simply screw the calibration beaker filled with HI 9828-25 (500 mL) or HI9828-27 (1 gallon) solution onto the probe, select "Quick calibration" from the menu and press OK. Individual calibration may also be performed using multiple calibration points



- **Setup**
 - Extensive setup screen features



- **Guides**
 - On screen guides are displayed to help you while performing procedures such as calibration



- **rugged carrying case with custom thermoformed insert included**

pH Specific Features

- **Calibration**
 - Up to a three point calibration with five standard buffers and one custom buffer available

EC/TDS/Resistivity Specific Features

- **Calibration**
 - Single point calibration from six standards (84 $\mu\text{S}/\text{cm}$, 1.413 $\mu\text{S}/\text{cm}$, 5.00 mS/cm , 12.88 mS/cm , 80 mS/cm , 111.8 mS/cm or custom point)
- **Temperature compensation**
 - Automatic Temperature Compensation
 - Configurable temperature coefficient range from 0.00 to 6.00%/°C
 - Choice of reference temperatures at 20 or 25°C
 - Absolute conductivity can be displayed along with the temperature compensated value
- **Autoranging**
- **Salinity readings**
 - Practical Salinity Scale (PSU) based on conductivity calibration

Dissolved Oxygen Specific Features

- **Choice of units**
 - Display units in % saturation or mg/L (ppm)
- **Salinity compensation for concentration**
- **Pressure compensation for concentration**
 - Built-in barometer with user-selectable units (mmHg, inHg, atm, psi, kPa, mbar)
- **Temperature compensation**
- **Polarization**
 - Automatic polarization of probe at startup
- **Membrane caps**
 - Ready-to-use HDPE pre-tensioned membrane caps are easy to replace



Probe Specifications

Sensor inputs	3 (pH, DO, EC)	
Sample Environment	Fresh, brackish, seawater	
waterproof Protection	IP68	
Operating Temperature	-5 to 55°C	
Storage Temperature	-20 to 70°C	
Maximum Depth	20 m (66')	
Dimensions (without cable)	342 mm (13.5"); 46 mm (1.8") dia	
Weight (without batteries and sensors)	570 g (20.1 oz.)	
Cable specification	Multistrand-multiconductor shielded cable with internal strength member rated for 68 kg (150 lb.) intermittent use.	
Wetted Materials	Body	ABS
	Threads	Nylon
	Shield	ABS / 316 SS
	Temperature Probe	316 SS
	O-rings	EPDM



Multi-function Sensor

- **Quick sensor replacement**
 - Sensor replacement is quick and easy with field replaceable, screw type connectors and are color coded for easy identification. The these meters automatically recognize sensors



Sensor Specifications		HI7698194-0	HI7698194-1	HI7698194-3	HI7698194-2
Description		pH sensor	pH/ORP sensor	EC sensor	DO sensor
Measurement Type		pH, mV (pH)	pH, mV (pH/ORP)	EC	DO (% saturation and concentration)
Measurement Range		0.00 to 13.00 pH; ± 600.0 mV	0.00 to 13.00 pH; ± 600.0 mV; ± 2000.0 mV	0.0 to 200.0 mS/cm; 0.0 to 400 mS/cm (absolute)	0.0 to 500.0 %; 0.00 to 50.00 mg/L
Temperature Range		-5 to 55°C	-5 to 55°C	-5 to 55°C	-5 to 55°C
Color Code		red	red	blue	white
Materials	Tip	glass (pH)	glass (pH); Pt (ORP)	Stainless steel electrodes AISI 316	Cat/An: Ag/Zn
	Junction	ceramic	ceramic		Membrane: HDPE
	Body	PEI	PEI	ABS/epoxy	white top ABS
	Electrolyte	gel	gel		
	Reference	double	double		
Maintenance solution		HI70300 (storage solution)	HI70300 (storage solution)	none	HI7042S (DO electrolyte)
Dimensions		118 x 15 mm	118 x 15 mm	111 x 17 mm	99 x 17 mm
Depth		20 m (65')	20 m (65')	20 m (65')	20 m (65')

Specifications		HI98194
pH / mV	Range	0.00 to 14.00 pH / ± 600.0 mV
	Resolution	0.01 pH / 0.1 mV
	Accuracy	± 0.02 pH / ± 0.5 mV
	Calibration	automatic one, two, or three points with automatic recognition of five standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or one custom buffer
ORP	Range	± 2000.0 mV
	Resolution	0.1 mV
	Accuracy	± 1.0 mV
	Calibration	automatic at one custom point (relative mV)
EC	Range	0 to 200 mS/cm (absolute EC up to 400 mS/cm)
	Resolution	manual: 1 μ S/cm; 0.001 mS/cm; 0.01 mS/cm; 0.1 mS/cm; 1 mS/cm; automatic: 1 μ S/cm from 0 to 9999 μ S/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	$\pm 1\%$ of reading or ± 1 μ S/cm whichever is greater
	Calibration	automatic single point, with six standard solutions (84 μ S/cm, 1413 μ S/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm) or custom point
TDS	Range	0 to 400000 ppm (mg/L) (the maximum value depends on the TDS factor)
	Resolution	manual: 1 ppm (mg/L); 0.001 ppt (g/L); 0.01 ppt (g/L); 0.1 ppt (g/L); 1 ppt (g/L); automatic: 1 ppm (mg/L) from 0 to 9999 ppm (mg/L); 0.01 ppt (g/L) from 10.00 to 99.99 ppt (g/L); 0.1 ppt (g/L) from 100.0 to 400.0 ppt (g/L); automatic ppt (g/L): 0.001 ppt (g/L) from 0.000 to 9.999 ppt (g/L); 0.01 ppt (g/L) from 10.00 to 99.99 ppt (g/L); 0.1 ppt (g/L) from 100.0 to 400.0 ppt (g/L)
	Accuracy	$\pm 1\%$ of reading or ± 1 ppm (mg/L) whichever is greater
	Calibration	based on conductivity or salinity calibration
Resistivity	Range	0 to 999999 $\Omega \cdot \text{cm}$; 0 to 1000.0 k $\Omega \cdot \text{cm}$; 0 to 1.0000 M $\Omega \cdot \text{cm}$
	Resolution	dependent on resistivity reading
	Calibration	Based on conductivity or salinity calibration
Salinity	Range	0.00 to 70.00 PSU
	Resolution	0.01 PSU
	Accuracy	$\pm 2\%$ of reading or ± 0.01 PSU whichever is greater
	Calibration	based on conductivity calibration
Seawater σ	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}
	Calibration	based on conductivity or salinity calibration
Dissolved Oxygen	Range	0.0 to 500.0%; 0.00 to 50.00 ppm (mg/L)
	Resolution	0.1%; 0.01 ppm (mg/L)
	Accuracy	0.0 to 300.0%; $\pm 1.5\%$ of reading or $\pm 1.0\%$ whichever is greater; 300.0 to 500.0%; $\pm 3\%$ of reading; 0.00 to 30.00 ppm (mg/L); $\pm 1.5\%$ of reading or ± 0.10 ppm (mg/L), whichever is greater; 30.00 ppm (mg/L) to 50.00 ppm (mg/L); $\pm 3\%$ of reading
	Calibration	automatic one or two points at 0, 100% or one custom point
Atmospheric Pressure	Range	450 to 850 mm Hg; 17.72 to 33.46 in Hg; 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 mm Hg; 0.01 in Hg; 0.1 mbar; 0.001 psi; 0.0001 atm; 0.01 kPa
	Accuracy	± 3 mm Hg within $\pm 15^\circ\text{C}$ from the temperature during calibration
	Calibration	automatic at one custom point
Temperature	Range	-5.00 to 55.00°C ; 23.00 to 131.00°F ; 268.15 to 328.15K
	Resolution	0.01 $^\circ\text{C}$; 0.01 $^\circ\text{F}$; 0.01K
	Accuracy	$\pm 0.15^\circ\text{C}$; $\pm 0.27^\circ\text{F}$; $\pm 0.15\text{K}$
	Calibration	Automatic at one custom point
Additional Specifications	Temperature Compensation	automatic from -5 to 55°C (23 to 131°F)
	Logging Memory	45,000 records (continuous logging or log-on-demand of all parameters)
	Logging Interval	one second to three hours
	PC Connectivity	via USB (with Hanna PC software)
	Environment	0 to 50°C (32 to 122°F); RH 100% IP67
	Battery Type / Life	1.5V AA batteries (4) / approximately 360 hours of continuous use without backlight (50 hours with backlight)
Ordering Information	Dimensions / Weight	185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4") / 400 g (14.2 oz.)
	HI98194 is supplied with HI7698194 probe, HI7698194-0 pH sensor, HI7698194-3 EC sensor and HI7698194-2 DO sensor, Hanna PC software, HI920015 micro USB cable, 1.5V AA batteries (4), instruction manual, quick start guide, quality certificate and rugged carrying case with custom thermoformed insert.	