



Multiparameter Bluetooth® Portable pH/EC/OPDO® Meter





Stainless steel, weighted protective guard

HI98494 Multiparameter Bluetooth® portable pH/EC/OPDO® meter

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

- **Bluetooth connectivity**
 - Retrieve data logs with Hanna Lab app for either sending by e-mail or download to a smart device for review
- **Waterproof**
 - IP67 rated waterproof, rugged enclosure for meter, IP68 for probe
- **Digital probe**
 - Digital probe with built-in temperature sensor and three ports for pH (ORP), EC and optical DO sensors
 - Color coded, field replaceable sensors
 - Auto-sensor recognition
 - Stainless steel, weighted protective guard
- **Quick calibration feature**
- **Automatic barometric pressure compensation**
- **Automatic temperature compensation**
- **Logging**
 - Automatic interval logging of up to 45,000 samples
 - Log-on-demand to store measurement data
- **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**
 - Dedicated and virtual soft keys
- **USB type-C**
 - Computer connectivity for transferring logged data as .CSV file
 - Port used for recharging built-in lithium-ion battery
- **Dual power source**
 - Meter operates on built-in lithium-ion battery
 - Meter automatically switches to common alkaline batteries as backup power source

Feature Overview

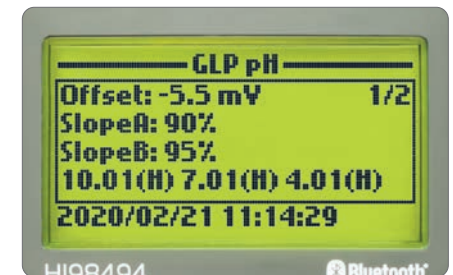
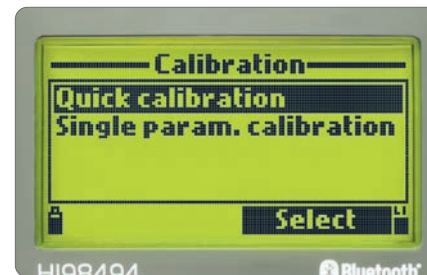
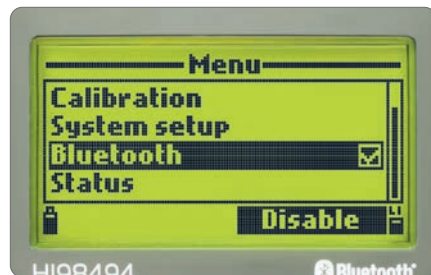
Measurements

HI98494 can display from 1 to 12 parameters on the high contrast backlit LCD. The pH, EC and DO measurements are automatically compensated for temperature variations. Dissolved oxygen measurements are automatically compensated for barometric pressure and salinity.



Data Logging

HI98494 can be used to log one data point or do interval logging for continuous logging at a specified interval. All logs have the option to store data into a named lot and the ability to add remarks. Both help to provide for meaningful data including notes on local environmental conditions.



Bluetooth® 5.0 Connectivity

HI98494 offers the ability to connect wirelessly to a smart device running the Hanna Lap App. Using the app, log lots can be e-mailed or downloaded for review.

Dual Power Source

The meter operates on a built-in lithium-ion battery. When the rechargeable battery is low the meter will automatically switch to the 1.5 AA alkaline batteries.

Quick-Calibration

Quick Calibration provides a speedy, single point calibration for pH, conductivity, and dissolved oxygen. Standard calibration options are available including pH up to three points, conductivity at one point and dissolved oxygen up to two points.

GLP Data

Calibration information is captured along with time and date stamp. Information includes standard calibration values along with other values that have an impact on the measurement. GLP data is stored with logged data.



Hanna Lab

Log Detail > TE

| #Rec | Date | Temp(K) | pH |
|------|---------------------|---------|------|
| 1 | 02/19/2020 19:01:28 | 298.08 | 7.43 |
| 2 | 02/19/2020 19:01:29 | 298.08 | 7.43 |
| 3 | 02/19/2020 19:01:30 | 298.07 | 7.32 |
| 4 | 02/19/2020 19:01:31 | 298.07 | 7.32 |
| 5 | 02/19/2020 19:01:32 | 298.07 | 7.32 |
| 6 | 02/19/2020 19:01:33 | 298.07 | 6.63 |
| 7 | 02/19/2020 19:01:34 | 298.07 | 6.68 |
| 8 | 02/19/2020 19:01:35 | 298.06 | 6.91 |
| 9 | 02/19/2020 19:01:36 | 298.06 | 6.93 |
| 10 | 02/19/2020 19:01:37 | 298.06 | 7.04 |
| 11 | 02/19/2020 19:01:38 | 298.06 | 7.07 |
| 12 | 02/19/2020 19:01:39 | 298.06 | 7.10 |
| 13 | 02/19/2020 19:01:40 | 298.06 | 7.12 |
| 14 | 02/19/2020 19:01:41 | 298.06 | 7.17 |
| 15 | 02/19/2020 19:01:42 | 298.06 | 7.17 |
| 16 | 02/19/2020 19:01:43 | 298.06 | 7.20 |
| 17 | 02/19/2020 19:01:44 | 298.05 | 7.21 |
| 18 | 02/19/2020 19:01:45 | 298.05 | 7.23 |
| 19 | 02/19/2020 19:01:46 | 298.05 | 7.26 |
| 20 | 02/19/2020 19:01:47 | 298.05 | 7.28 |
| 21 | 02/19/2020 19:01:48 | 298.04 | 7.28 |
| 22 | 02/19/2020 19:01:49 | 298.04 | 7.29 |
| 23 | 02/19/2020 19:01:50 | 298.04 | 7.30 |
| 24 | 02/19/2020 19:01:51 | 298.04 | 7.30 |
| 25 | 02/19/2020 19:01:52 | 298.04 | 7.30 |
| 26 | 02/19/2020 19:01:53 | 298.04 | 7.30 |
| 27 | 02/19/2020 19:01:54 | 298.04 | 7.30 |
| 28 | 02/19/2020 19:01:55 | 298.04 | 7.30 |
| 29 | 02/19/2020 19:01:56 | 298.04 | 7.30 |
| 30 | 02/19/2020 19:01:57 | 298.04 | 7.30 |

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TimeT s2

Export log

Delete log

Select

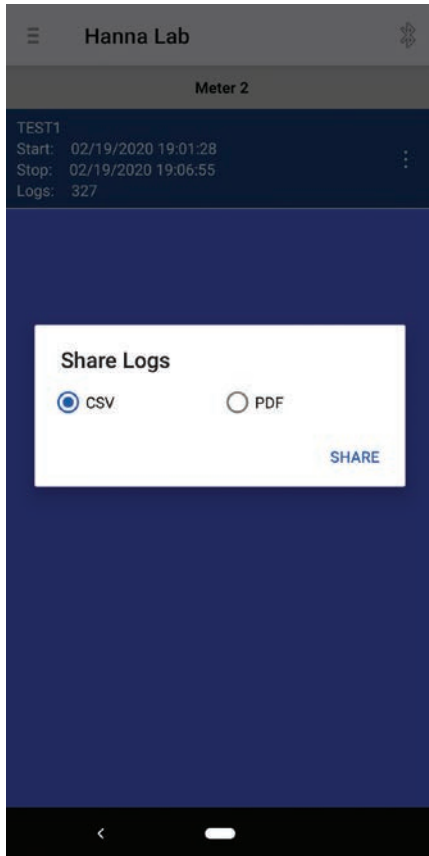
Bluetooth

HI98494
pH/EC/DO Multiparameter

Bluetooth®

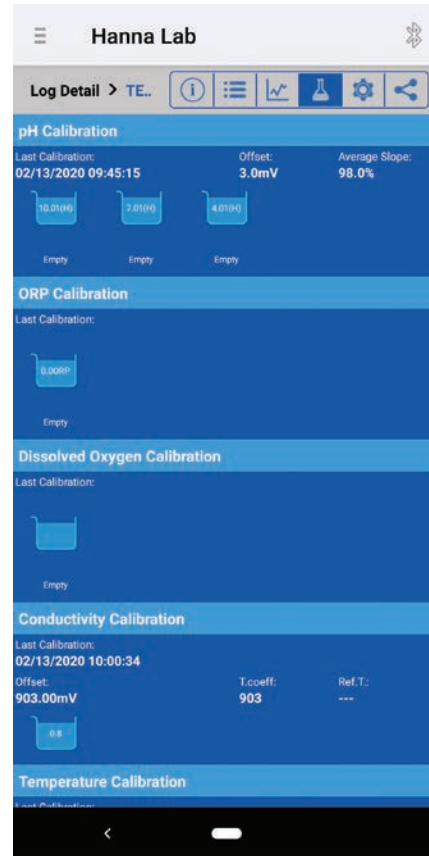
Using the Bluetooth connection the data can be transferred to a smart device for review or shared as an e-mail.

Bluetooth® and Hanna Lab App Compatibility



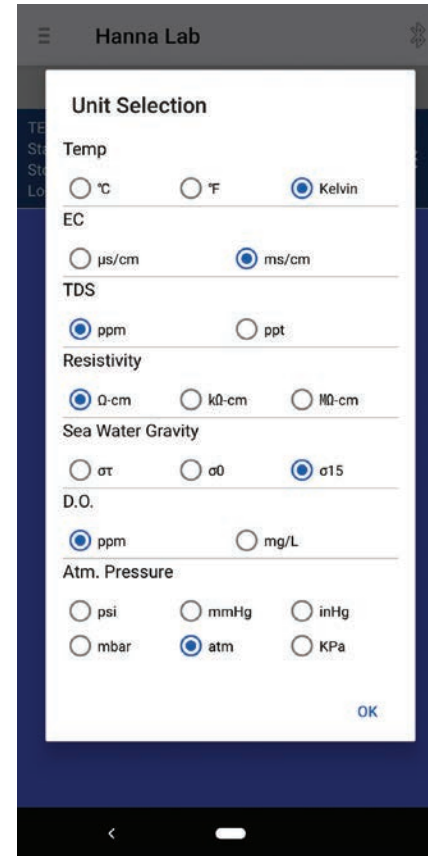
Share

Logs can be shared as a .CSV or .PDF file when being e-mailed.



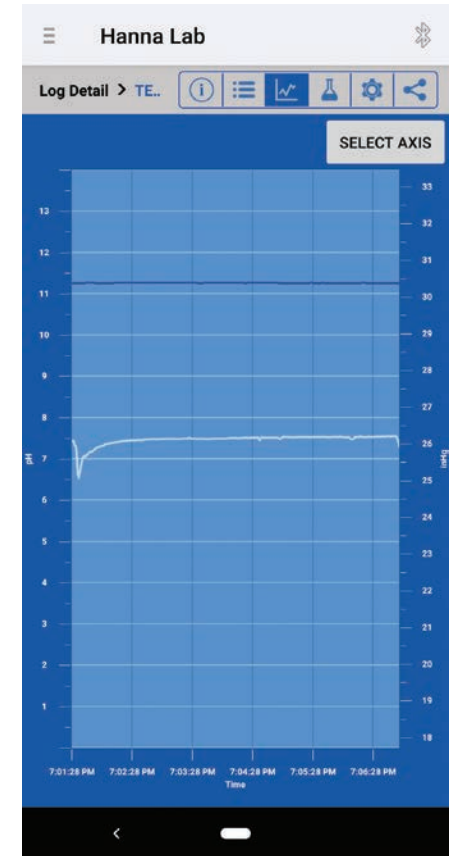
GLP

Comprehensive GLP data can be reviewed for all parameters when the logged data is downloaded to a smart device.



Unit Selection

When reviewing data on a smart device there is an option to select the measurement units to be displayed independently of the meter settings.



Data Graphing

For trend analysis the Hanna Lab App offers the option to graph logged data.



Waterproof Probe Connection and USB Type-C

Data Transfer & Charging

The USB Type-C port provides for easy data transfer to memory stick, PC, or other compatible devices and is used to charge internal lithium-ion battery.

Waterproof Quick Connect DIN Connector

The meter connects to the multiparameter probe through a single waterproof connector and makes attaching and removing the probe quick and easy. The meter automatically detects the probe when connected.



Easy sensor removal with hex key

Multiparameter Probe and Sensors

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. These meters automatically recognize sensors.

Optical Dissolved Oxygen Smart Caps

The optical dissolved oxygen sensor uses a smart cap that has an RFID tag that stores calibration coefficients unique to each cap. The RFID keeps track of the age of the cap and alerts the user when it should be replaced.



| | | |
|----------------------------|--|--------------|
| Probe Specifications | HI7698494 | |
| Sensor Inputs | three (pH or pH/ORP, 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 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 |

| Sensor Specifications | HI7698194-0 | HI7698194-1 | HI7698194-3 | HI7698494-5 | |
|-----------------------|-----------------------------|---|---|---|---------------|
| Description | pH sensor | pH/ORP sensor | EC sensor | optical; luminescence quenching 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 | green | |
| Materials | Tip | glass (pH) | glass (pH); Pt (ORP) | stainless steel electrodes AISI 316 | polypropylene |
| | Glass Type | LT (low temperature) | LT (low temperature) | - | - |
| | Junction | ceramic | ceramic | - | - |
| | Body | PEI | PEI | ABS/epoxy | ABS |
| | Electrolyte | gel | gel | - | - |
| Reference | double | double | - | - | |
| Maintenance Solution | HI70300 (storage solution) | HI70300 (storage solution) | none | none | |
| 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 | | HI98494 |
|----------------|--------------|---|
| 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-point Quick Calibration using HI9828-25 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 | manual at one custom point (relative mV) |
| EC | Range | 0 to 200 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 |
| | Calibration | automatic one-point Quick Calibration using HI9828-25 automatic single point, with six standard solutions (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 |
| TDS | Range | 0.0 to 400.0 ppt (g/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 | ±1% of reading or ±1 ppm (mg/L) whichever is greater |
| | Calibration | based on conductivity calibration |
| Resistivity | Range | 0 to 999999 Ω•cm; 0 to 1000.0 kΩ•cm; 0 to 1.0000 MΩ•cm |
| | Resolution | dependent on resistivity reading |
| | Calibration | based on conductivity calibration |
| Salinity | Range | 0.00 to 70.00 PSU |
| | Resolution | 0.01 PSU |
| | Accuracy | ±2% of reading or ±0.01 PSU whichever is greater |
| | Calibration | based on conductivity calibration |
| | Compensation | used for DO salinity compensation |
| 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 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 | ±1.5% of reading ± 0.01mg/L for 0.00-20.00mg/L ±5% of reading for 20.00-50.00mg/L ±1.5% of reading ±0.1% for 0.0-200.0% ±5% of reading for 200.0-500.0% |
| | Calibration | automatic Quick Calibration in water saturated air one or two-point automatic calibration at 100% and 0% manual single point using a value entered by the user in % saturation or mg/L |
| 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 ±15°C from calibration temperature |
| | 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°C; 0.01°F; 0.01K |
| | Accuracy | ±0.15°C; ±0.27°F; ±0.15K |
| | 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 interval logging or 25,000 records log-on-demand of all parameters |
| | Logging Interval | one second to three hours |
| | Connectivity | Bluetooth® using Hanna Lab App USB-C: Host - save logs to USB stick device - appears as .MSD on computer |
| | Environment | 0 to 50°C (32 to 122°F); RH 100% IP67 |
| | Battery Type / Life | 1.5V AA batteries (4); built-in Li-ion battery (1) / minimum 200 hours (AA, without backlighting and BLE) minimum 50 hours (Li-ion battery, without backlighting and BLE) |
| Dimensions / Weight | 185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4") / 400 g (14.2 oz.) | |
| Ordering Information | all models are supplied with: HI7698194-1 pH/ORP sensor, HI7698194-3 EC sensor, HI7698295 short protective probe shield, HI7698494-5 optical DO sensor, HI9828-20 quick calibration solution, zero oxygen solution, HI76984942 probe maintenance kit, HI920016 USB type-C cable, HI7698290 calibration beaker, batteries (4), quality certificate, and instruction manual in a rugged carrying case with custom insert. HI98494 is supplied with HI7698494/4 multiparameter probe with 4m (13') cable HI98494/10 is supplied with HI7698494/10 multiparameter probe with 10m (33') cable HI98494/20 is supplied with HI7698494/20 multiparameter probe with 20m (66') cable HI98494/40 is supplied with HI7698494/40 multiparameter probe with 40m (131') cable | |
| Accessories | HI710034 orange protective rubber boot | |

