HI9819X Series

Professional Waterproof Meters

New Quick Connect Probes

(HI98190, HI98192 and HI98193 only)

Benchtop Performance in a Portable Meter

The HI9819X series of meters combine all of the features of a benchtop into a portable IP67 rated waterproof enclosure making them one of the most versatile meters on the market.

All meters in the series are supplied with a rugged, custom carrying case that securely holds the meter and all accessories.

A backlit, graphic LCD provides easy to read resolution even in low-lit areas. A combination of dedicated and soft keys allows for intuitive operation in a choice of languages while the extended battery life assures long operation.

GLP and On-Screen Help

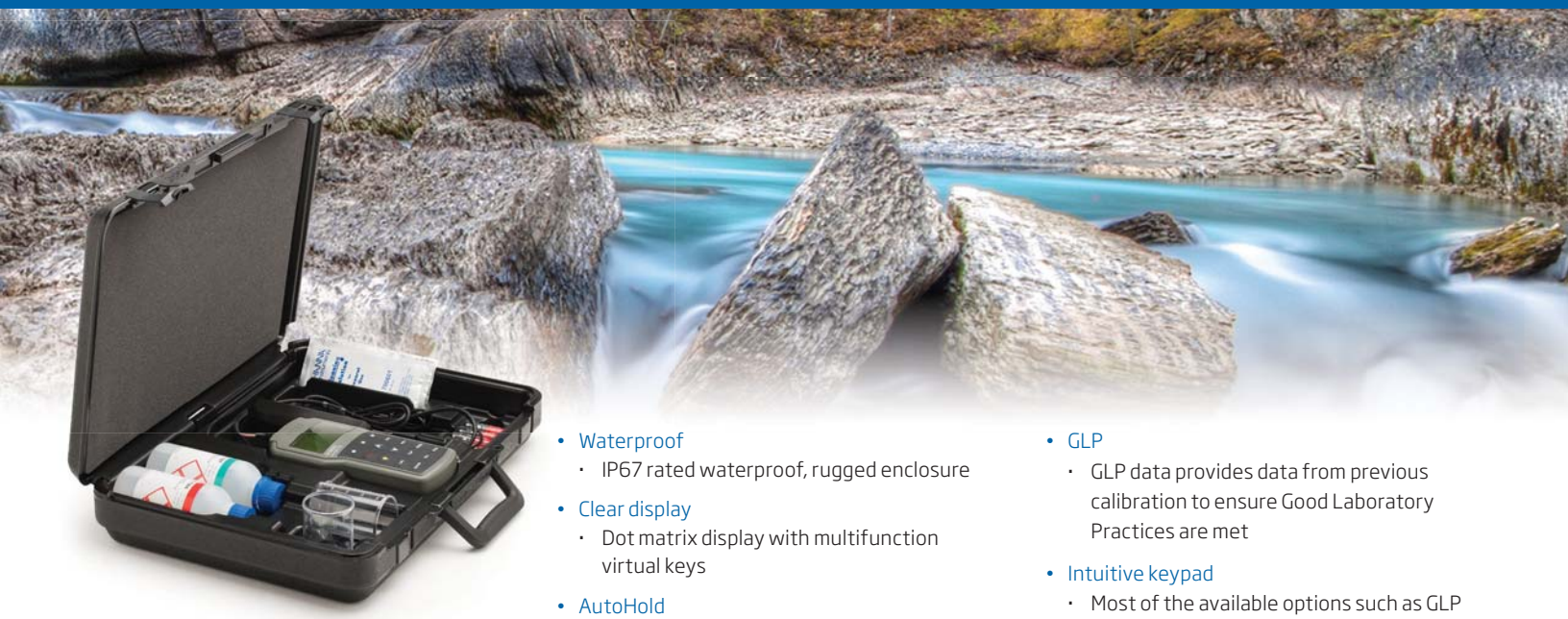
Comprehensive GLP data is directly accessible by pressing the GLP key; the contextual help menu can be accessed to obtain on-screen information and assistance at the touch of a button.

AutoHold

Pressing AutoHold during measurement will automatically hold the first stable reading on the display.

Enhanced Calibration

An "out of calibration range" warning can be engaged to keep the user informed of the current calibration and help to avoid performing measurements that are out of range.

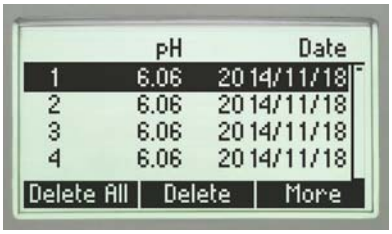


Series Features

- Designed for professionals
  - These instruments can be easily operated with one hand and is housed in an IP67 rated waterproof, rugged enclosure. The meter and accessories all fit in our rugged carrying case with custom insert.
- Waterproof
  - IP67 rated waterproof, rugged enclosure
- Clear display
  - Dot matrix display with multifunction virtual keys
- AutoHold
  - Automatically holds the first stable reading on the display
- Calibration timeout
  - Alerts when calibration is due at a specified interval
- Connectivity
  - PC connectivity via opto-isolated micro-USB with HI92000 software
- GLP
  - GLP data provides data from previous calibration to ensure Good Laboratory Practices are met
- Intuitive keypad
  - Most of the available options such as GLP information, help, range, calibration and backlight have a dedicated button
- Supplied complete
  - Each meter is supplied complete with sensor, calibration solution, beakers, PC software and connection cable, instruction manual, quick start guide and batteries in a rugged, custom carrying case.

On-screen Features

- Backlit LCD
  - Press the backlight button to view the display in low-light conditions



- Log-on-demand
  - Store measurement data at the press of a button. Data can be viewed on-screen or transferred to a PC

- GLP data
  - Comprehensive GLP functions are directly accessible by pressing the GLP key. Calibration data, including date, time and calibration values are stored for retrieval at a later time

- Setup screen
  - Our extensive setup screen features a host of configurable options such as time, date, temperature units and language for help screens and guides

- Calibrate right in the case with custom beaker holders
  - Our custom carrying case features beaker holders for calibration out in the field

HI98192

Professional Waterproof Meters

EC/TDS/Resistivity/Salinity Meter with USP <645>

- Salinity readings
  - Salinity can be displayed as % NaCl, seawater scale (ppt) or practical salinity scale (PSU)
- Calibration
  - Perform up to a five point calibration for enhanced accuracy
- Temperature compensation
  - Automatic Temperature Compensation
  - Configurable temperature coefficient range from 0.00 to 10.00%.°C
- Approximately 100 hour battery life
  - Powered by (4) 1.5V AA batteries
- Four-ring platinum probe
  - This probe can cover low EC samples to 1000 mS/cm (actual EC)

For Universal Applications

HI98192 is a waterproof, portable conductivity meter that has an expanded conductivity range from 0.000 µS/cm to 400 mS/cm, as well as TDS, resistivity and three salinity scales. This meter automatically recognizes the probe type (two or four ring) and allows the user to adjust the nominal cell constant. HI98192 is also ready to perform all three stages of USP <645> method required for EC measurement of ultrapure water.

Choose from seven memorized standards and obtain up to a five point conductivity calibration. For salinity (% range), HI7037 standard allows users to perform a one point calibration.

EC and TDS measurements are fully customizable and include: cell constant selection between 0.010 and 10.000, selection of linear or natural water (non-linear) or no temperature compensation (for actual conductivity reading), configurable temperature compensation coefficient range from 0.00 to 10.00%/°C, choice of reference

Specifications

		HI98192
EC	Range	0 to 400 mS/cm (shows values up to 1000 mS/cm actual conductivity)** 0.001 to 9.999 µS/cm*; 10.00 to 99.99 µS/cm; 100.0 to 999.9 µS/cm; 1.000 to 9.999 mS/cm; 10.00 to 99.99 mS/cm; 100.0 to 1000.0 mS/cm (autoranging)
	Resolution	0.001 µS/cm*; 0.01 µS/cm; 0.1 µS/cm; 0.001 mS/cm; 0.01 mS/cm; 0.1 mS/cm
	Accuracy	±1% of reading (±0.01 µS/cm or 1 digit, whichever is greater)
	Calibration	automatic up to five points with seven memorized standards (0.00 µS/cm, 84.0 µS/cm, 1.413 mS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm)
TDS	Range	0.00 to 99.99 ppm; 100.0 to 999.9 ppm; 1.000 to 9.999 g/L; 10.00 to 99.99 g/L; 100.0 to 400.0 g/L (autoranging)
	Resolution	0.01 ppm; 0.1 ppm; 0.001 g/L; 0.01 g/L; 0.1 g/L
	Accuracy	±1% of reading (±0.05 ppm or 1 digit, whichever is greater)
Resistivity	Range	1.0 to 99.9 Ω•cm; 100 to 999 Ω•cm; 1.00 to 9.99 KΩ•cm; 10.0 to 99.9 KΩ•cm; 100 to 999 KΩ•cm; 1.00 to 9.99 MΩ•cm; 10.0 to 100.0 MΩ•cm* (autoranging)
	Resolution	0.1 Ω•cm; 1 Ω•cm; 0.01 KΩ•cm; 0.1 KΩ•cm; 1 KΩ•cm; 0.01 MΩ•cm; 0.1 MΩ•cm*
	Accuracy	±1% of reading (±10 Ω or 1 digit, whichever is greater)
Salinity	Range	% NaCl : 0.0 to 400.0%; practical salinity: 0.00 to 42.00 (PSU); seawater scale: 0.00 to 80.00 (ppt)
	Resolution	0.1%; 0.01
	Accuracy	±1% of reading
	Calibration	max. one point only in % NaCl range with HI7037 standard; use conductivity calibration for all other ranges
Temperature	Range	-20.0 to 120.0°C; -4.0 to 248.0°F
	Resolution	0.1°C; 0.1°F
	Accuracy	±0.2°C; ±0.4°F (excluding probe error)
	Calibration	one or two points
Additional Specifications	Cell Constant Setup	0.010 to 10.000
	Temperature Compensation	NoTC, linear (-20.0 to 120.0°C (-4.0 to 248.0°F)), non linear (0 to 36°C (32 to 98.6°F)) ISO/DIS 7888 std
	Reference Temperature	15°C, 20°C and 25°C
	Temperature Coefficient	0.00 to 10.00 %/°C
	TDS Factor	0.40 to 1.00
	Probe	HI763133 platinum, four-ring conductivity/TDS probe with internal temperature sensor and 1 m (3.3') cable (included)
	Logging	log-on-demand: 400 samples; lot logging: 5, 10, 30 sec, 1, 2, 5, 10, 15, 30, 60, 120, 180 min (max 1000 samples)
	Memorized Profiles	up to 10
	Measurement Modes	autorange, autoend, lock and fixed range
	PC Connectivity	opto-isolated sealed USB (with HI92000 software and micro USB cable)
	Battery Type / Life	1.5V AA batteries (4) / approximately 100 hours of continuous use (without backlight), 25 hours with backlight;
	Auto-off	user selectable: 5, 10, 30, 60 min, disabled
	Environment	0 to 50°C (32 to 122°F); RH 100% IP67
	Dimensions/Weight	185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4") / 400 g (14.2 oz.)

temperatures of 15°C, 20°C and 25°C, and a selectable TDS factor between 0.40 and 1.00.

Ten sets of customized measurement parameters can be stored as a user profile and later recalled.

Quick connect probe

The HI763133 four-ring platinum conductivity probe features a quick connect DIN connector to make attaching and removing the probe simple and easy.

Data Logging

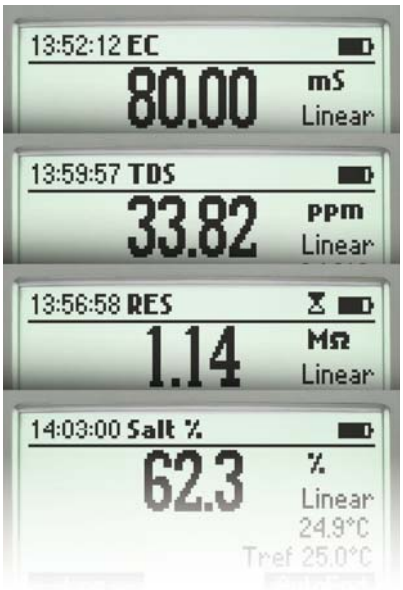
The HI98192's allows storage of up to 400 log-on-demand samples or 1000 lot logging samples that can be later transferred to a PC with the supplied HI920015 USB cable and HI92000 software.

GLP and On-Screen Help

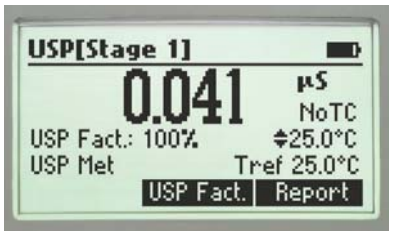
Comprehensive GLP data is directly accessible by pressing the GLP key; the contextual help menu can be accessed to obtain on-screen information and assistance at the touch of a button.

* The 0.000 µS/cm EC range and 0.1 MΩ•cm resistivity range are not available with the optional 4m cable probe
**Uncompensated temperature reading

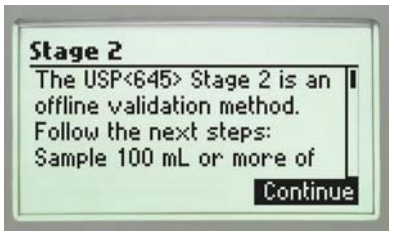
On-screen Features



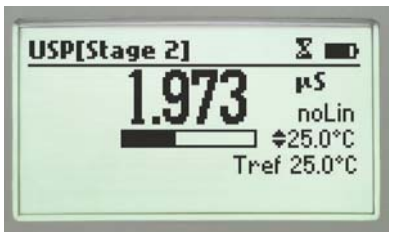
- EC, TDS, resistivity and salinity measurements in one meter



- Three stages of conformity
  - Performs all 3 stages of USP <645> water quality testing requirements



- On-screen guide
  - Users are provided with on-screen instructions for each USP stage



- Progress bar
  - Displays reading stability progress towards meeting stage 2 requirements

Ordering Information

Shown in HI720190 rugged carrying case with custom insert (included)

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HI98190 includes:

HI12963 titanium body, pH electrode with internal temperature sensor, quick DIN connector and 1 m (3.3' cable)

HI7004M pH 4.01 buffer solution (230 mL)

HI7007M pH 7.01 buffer solution (230 mL)

electrode general cleaning solution sachet (2)

HI98191 includes:

HI72911B titanium body, pH electrode with internal temperature sensor, BNC connector and 1 m (3.3' cable)

HI7662 temperature probe (for use with optional ISE's)

HI7004M pH 4.01 buffer solution (230 mL)

HI7007M pH 7.01 buffer solution (230 mL)

electrode general cleaning solution sachet (2)

All meters are also supplied with:

rugged carrying case with custom insert

100 mL plastic beaker (2)

HI92000 PC software

HI920015 micro USB cable

1.5V AA batteries (4)

quality certificate

instruction manual

quick start guide

Shown in HI720192 rugged carrying case with custom insert (included)

Shown in HI720193 rugged carrying case with custom insert (included)

HI98192 includes:

HI763133 platinum, four-ring conductivity/TDS probe with internal temperature sensor and 1 m (3.3') cable

HI7031M 1413 µS/cm calibration solution (230 mL)

HI7035M 111.8 mS/cm calibration solution (230 mL

HI98193 includes:

HI764073 polarographic DO probe with protective sleeve, internal temperature sensor, DIN connector and 4m (13') cable

HI7040 bi-component zero oxygen solution (230 mL + 30 mL)

HI7041S electrolyte solution (30 mL)

preformed PTFE membrane caps (2)

DO protective cap

O-rings (2)

Optional Electrodes for HI98190 pH/ORP Meter

pH Electrodes

HI11313

Single ceramic, double junction, glass body, refillable pH electrode with temperature sensor

Recommended for laboratory and general purpose

HI12303

Single ceramic, double junction, gel filled, PEI body, pH electrode with temperature sensor

Recommended for field applications

HI11103

Single ceramic, single junction, gel filled, glass body, pH electrode with temperature sensor

Recommended for laboratory and general purposee

FC2323

Open viscolene reference electrolyte, double junction, PVDF body pH electrode with conical tip and temperature sensor

Recommended for meat applications with use of optional FC098 20 mm (0.8") or FC099 35 mm (1.4") stainless steel blade

HI10533

Triple ceramic, double junction, glass body, refillable pH electrode with conical tip and temperature sensor

Recommended for fats, creams, soil and low conductivity samples

FC2023

Open viscolene reference electrolyte, double junction, PVDF body pH electrode with conical tip and temperature sensor

Recommended for dairy analysis including cheese, yogurt, and other semi-solids

ORP Probe

HI36183

Single ceramic, double junction, glass body, refillable ORP probe with temperature sensor

Recommended for laboratory and general purpose