



HI98190 • HI98191 Professional Waterproof Meters

pH/ORP and pH/ORP/ISE

- ISE measurement units (HI98191 only)
 - Extensive choice of units to display readings (ppm, ppt, g/L, µg/L, mg/L, M, mol/L, mmol/L, %, w/v, user)
- CAL Check™
 - Alerts users to problems during calibration including dirty/broken electrode, contaminated buffer and overall probe condition
- Automatic or manual temperature compensation
 - pH sensors incorporate a built-in temperature sensor
- Calibration
 - Up to a five-point calibration with seven standard buffers and five custom buffers available
- Approximately 200 hour battery life
 - Powered by (4) 1.5V AA batteries

For Universal Applications

HI98190 and HI98191 are IP67 rated waterproof meters designed for universal applications. HI98190 measures pH/ORP and temperature while HI98191 also includes ISE measurements.

Exchange out the pH probe for an ORP probe to obtain mV readings in the ±2000 mV range. HI98191 adds direct ion concentration readings for ISEs with a choice of units for calibration and display.

Quick Connect Probe

The HI98190 features the HI12963 titanium bodied pH/temperature electrode with a quick connect DIN connector to make attaching and

removing the probe simple and easy. The HI98191 is supplied with the HI72911B titanium bodied pH/temperature electrode with BNC and RCA connectors.

ISE Sensors and Calibration

HI98191 has 17 different standard ISE sensors pre-programmed in the meter. Selecting the appropriate sensor will automatically update the ion charge for slope calibration and can be calibrated up to five points with the choice of seven standards and five custom standards (choice of units). This meter allows an extensive choice of measurement units (ppm, ppt, g/L, ppb, µg/L, mg/mL, M, mol/L, mmol/L, % w/v, user) and has an expanded measuring range of 1.00×10^{-7} to 9.99×10^{10} .

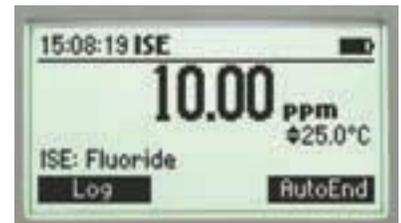
Specifications

Specifications	HI98190/HI98191	
pH	Range	-2.0 to 20.0 pH; -2.00 to 20.00 pH; -2.000 to 20.000 pH
	Resolution	0.1 pH; 0.01 pH; 0.001 pH
	Accuracy	±0.1 pH; ±0.01 pH; ±0.002 pH
	Calibration	up to five-point calibration, seven standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) and five custom buffers
	Temperature Compensation	automatic or manual from -20.0 to 120.0°C (-4.0 to 248.0°F)
mV	Range	±2000 mV
	Resolution	0.1 mV
	Accuracy	±0.2 mV
	Relative mV Offset Range	±2000 mV
ISE (HI98191 only)	Range	from 1.00 E ⁻⁷ to 9.99 E ¹⁰ concentration
	Resolution	3 digits 0.01; 0.1; 1; 10 concentration
	Accuracy	±0.5% of reading (monovalent ions), ±1% of reading (divalent ions)
	Calibration	up to five point calibration, seven standard solutions available
Temperature	Range	-20.0 to 120.0 °C (-4.0 to 248.0°F)
	Resolution	0.1°C (0.1°F)
	Accuracy	±0.4°C (±0.8°F) (excluding probe error)
Additional Specifications	pH Probe	HI98190: HI12963 titanium body, pH electrode with internal temperature sensor, quick DIN connector and 1 m (3.3' cable) HI98191: HI72911B titanium body, pH electrode with internal temperature sensor, BNC connector and 1 m (3.3' cable)
	Slope Calibration	from 80 to 110%
	Log-on-demand	HI98190: 200 samples (100 each pH/mV range) HI98191: 300 samples (100 each pH/mV/ISE range)
	PC Connection	opto-isolated USB with HI92000 software and micro USB cable
	Input Impedance	10 ¹² Ω
	Battery Type / Life	1.5V AA batteries (4) / approximately 200 hours of continuous use without backlight (50 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.)	

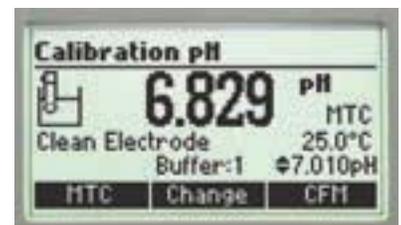


- Log-on-demand
- Store measurement data at the press of a button

On-screen Features



- ISE measurements
- The HI98191 includes ISE measurements when used with our wide selection of ISE electrodes or a custom version



- Calibration
- pH calibration features detailed CAL Check™ messages. Users are guided through the calibration procedure with step-by-step on-screen instructions.

pH Calibration

Choose from seven standard pH buffers and five custom pH buffers to obtain up to five point calibration and achieve high precision readings with a pH accuracy of ±0.002 and up to ±0.001 pH resolution.

CAL Check™

Hanna's CAL Check™ maintains a history of past calibrations and monitors the pH electrode and buffers during subsequent calibrations for any signs of wide variances due to a dirty or broken electrode or contaminated pH buffers. During calibration, users are alerted to problems should they occur. After calibration, the electrode's overall condition is displayed as a percentage.

Data Logging

The log-on-demand feature allows users to store up to 200 samples (HI98190) or 300 samples (HI98191) that can be later transferred to a PC with the 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.



170 Shields Court Unit 2
Markham, ON L3R 9T5
TEL: (905) 475-5880 ext. 226
FAX: (905) 475-1231