



HI98191 Professional Waterproof Meter

pH/ORP/ISE

- **Waterproof**
 - IP67 rated waterproof, rugged enclosure
- **ISE measurement units**
 - 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
- **Log-on-demand**
 - Store measurement data at the press of a button
- **GLP**
 - GLP data provides data from previous calibration to ensure Good Laboratory Practices are met
- **AutoHold**
 - Automatically holds the first stable reading on the display
- **Calibration timeout**
 - Alerts when calibration is due at a specified interval
- **Help menu**
 - On-screen context specific help is readily available at the press of a button
- **Clear display**
 - Dot matrix display with multifunction virtual keys
- **Intuitive keypad**
 - Most of the available options such as GLP information, help, range, calibration and backlight have a dedicated button
- **Connectivity**
 - PC connectivity via opto-isolated micro-USB with HI92000 software
- **Approximately 200 hour battery life**
 - Powered by (4) 1.5V AA batteries

For Universal Applications

The HI98191 is an IP67 rated waterproof meter designed for universal applications. HI98191 measures pH/ORP/ISE and temperature.

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.

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} .

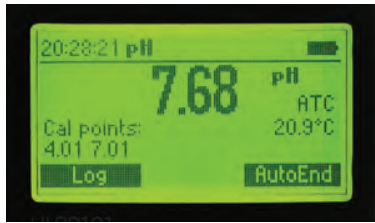
pH Calibration

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™

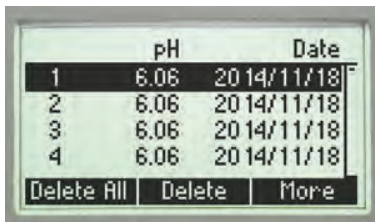
Hanna's CAL Check® maintains a history of past calibrations and monitors the pH electrode and buffers during subsequent calibrations for any signs of wide variances due to a dirty or broken electrode or contaminated pH buffers. During calibration, users are alerted to problems should they occur. After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

On-screen Features



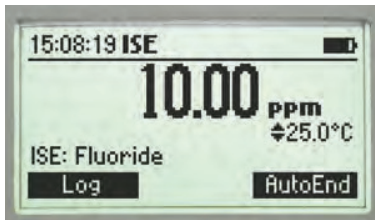
- Backlit LCD

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



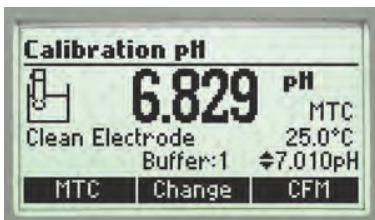
- Log-on-demand

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



- 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



HI98191 shown in HI720191 rugged carrying case with custom thermoformed insert (included)

Specifications

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
mV	Temperature Compensation	automatic or manual from -20.0 to 120.0°C (-4.0 to 248.0°F)
	Range	±2000 mV
	Resolution	0.1 mV
	Accuracy	±0.2 mV
ISE	Relative mV Offset Range	±2000 mV
	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)
Temperature	Calibration	up to five point calibration, seven standard solutions available
	Range	-20.0 to 120.0 °C (-4.0 to 248.0°F)
	Resolution	0.1°C (0.1°F)
Additional Specifications	Accuracy	±0.4°C (±0.8°F) (excluding probe error)
	pH Probe	HI72911B Titanium body, pH electrode with internal temperature sensor, BNC connector and 1 m (3.3' cable)
	Calibration Slope	from 80 to 110%
	Log-on-demand	log-on-demand 300 samples (100 each pH/mV/ISE range)
Ordering Information	PC Connectivity	opto-isolated USB with HI92000 software and micro USB cable
	Input Impedance	10 ¹² ohms
	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 or can be 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.)

pH and ORP electrodes begin on page 3.77; pH and ORP solutions begin on page 3.100; ISE electrodes and solutions begin on page 4.22