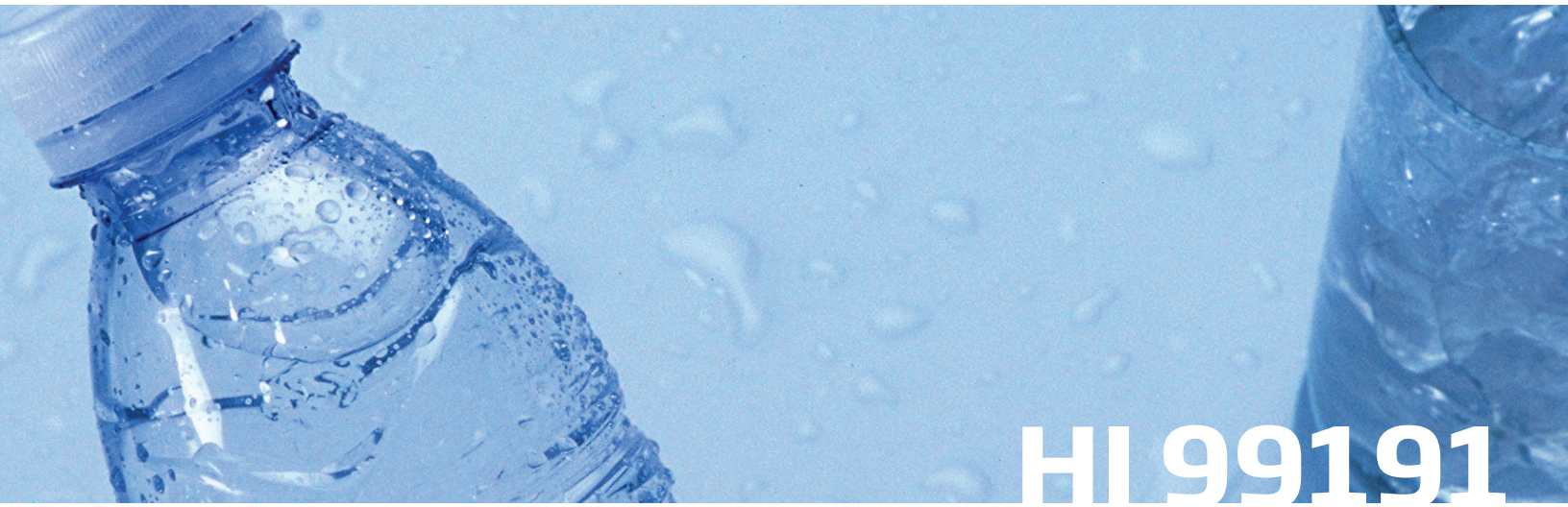


HI 99191

pH Meter For Low Ionic Strength Water

HANNA® instruments

Features

- Easy to clean and keep clean
- Specialized electrode
- Mulit-level LCD display
- On-screen tutorial messages for calibration and set up
- Automatic Temperature Compensation
- Automatic one or two point calibration
- BEPS, Alerts the user in the even that low battery power could adversley affect the readings
- Battery % displayed on startup
- Compact, heavy duty, and waterproof

HI 99191

The Hanna Instruments HI 99191 is a waterproof portable pH/temperature meter designed specifically for measuring the pH of drinking water.

The pH of drinking water is a vital measurement. If the pH is on the acidic side then the water will be corrosive to the distribution system and water pipes in homes. The pH of water also influences other properties including taste, odor, clarity, and disinfection. In the United States the pH of water is determined by a pH meter according to EPA method 150.1 and Standard Methods 4500-H.

Most drinking water plants use either surface water (lakes, rivers, and streams) or groundwater as their point source. Surface water is typically lower in mineral content resulting in lower Conductivity/TDS readings. Groundwater that has percolated through limestone, dolomite or gypsum will have a higher mineral content than surface water. There are sources of groundwater that are also very low in mineral content.

Measuring pH of water low in minerals is difficult. The lower the mineral content the less conductive the water will be. Low conductivity water presents a challenge since the pH meter is an electrochemical system that relies on the solution being measured to be conductive. The HI 99191 uses the FC 215D amplified pH electrode. The FC 215D has three ceramic junction s in the outer reference cell that allows for pH measurement in low conductivity solutions.

The HI 99191 measures pH from -2.00 to 16.00 pH and temperature from -5.0 to 105.0 °C (23.0 to 221.0 °F). Automatic calibration is done at 1 or 2 points and all readings are automatically compensated for temperature variations. Indicators for stability, battery percentage, and calibration instructions are viewed on the primary display. The HI 99191 uses three 1.5V AAA batteries for an exceptional battery life of 1200 hours of continuous use.

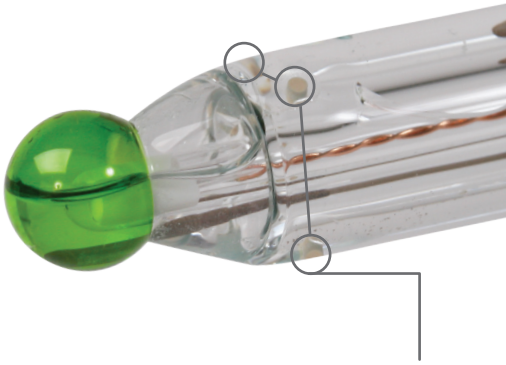
*Product shown actual size

FC 215D

- Built in temperature sensor for automatic compensation of temperature variations
- Refillable pH electrode. Turn cap to create positive head pressure allowing for more reference electrolyte to flow .
- Amplified electrode for fast, stable response that is immune to electrical noise due to humidity.
- Triple ceramic junction design

The HI 99191 drinking water pH meter uses the glass body FC 215D amplified pH electrode with built in temperature sensor. The amplified electrode provides a fast stable response that is immune to electrical noise due to humidity. The electrode contains an internal temperature probe to allow for automatic compensation for any variances in temperature. The electrolyte solution in the electrode is refillable.

An integral part of any pH electrode is the reference junction. The reference junction is a part of the electrode that allows for the flow of ions located in the reference cell into the sample being measured. The ions provide for an electrical connection between the reference electrode and the indicating electrode. A standard pH electrode will use a single ceramic junction that allows for 15 - 20 µL/hour of electrolyte to flow. The FC 215D has three ceramic junctions providing for 40 - 50 µL/hour of electrolyte to flow. This increased flow provides a greater continuity between the reference electrode and the indicating electrode making it suitable for water of low ionic strength. To optimize the flow from the electrode the refill cap should be unscrewed so that it is open. This allows for positive head pressure to be created allowing for the electrolyte to drain more easily from the reference electrode.



Triple Ceramic Junction

HI 99191 Specifications

pH

Range	-2.00 to 16.00 pH
Resolution	0.01 pH
Accuracy @ 20°C	±0.02 pH
Electrode	FC 215D pre-amplified pH electrode with internal temperature sensor, DIN connector, 1 m (3.3') cable

Temperature

Range	-5.0 to 105.0°C/23.0 to 221.0°F
Resolution	0.1°C/0.1°F
Accuracy @ 20°C	±0.5°C (up to 60°C), ±1.0°C (outside) / ±1.0°F (up to 140°F); ±2.0°F (outside)

Additional Specifications

Temperature Compensation	Automatic, -5.0 to 105.0°C (23 to 221°F)
Battery Type / Life	1.5V (3) AAA / approximately 1200 hours of continuous use, auto-off after 8 minutes of non-use
Environment	0 to 50°C (32 to 122°F); RH max. 100%
Dimensions	152 x 58 x 30 mm (6.0 x 2.3 x 1.2")
Weight	205 g (7.2 oz.)

Ordering Information

HI 99191 is supplied with FC 215D pH/temperature probe, HI 70004 pH 4.01 buffer solution sachet, HI 70007 pH 7.01 buffer solution sachet, HI 700642 electrode cleaning solution sachets (2) HI 7082 3.5M KCl filling solution , batteries, instructions and hard carrying case.

Accessories

HI 7004L	4.01 pH Buffer Solution 500 mL bottle	**HI 7082**	Electrolyte Solution, 3.5M KCl (4) 30 mL bottle
HI 7007L	7.01 pH Buffer Solution 500 mL bottle	**HI 7082L**	Electrolyte Solution, 3.5M KCl (4) 460 mL bottle
HI 7010L	10.01 pH Buffer Solution 500 mL bottle	**HI 7061L**	General Purpose Cleaning Solution 500 mL bottle
HI 70004P	4.01 pH Buffer Solution (25) 20 mL sachets	**HI 70300L**	Electrode Storage Solution 500 mL
HI 70007P	7.01 pH Buffer Solution (25) 20 mL sachets	**HI 710023**	Shockproof Rubber Boot, Orange
HI 70010P	10.01 pH Buffer Solution (25) 20 mL sachets	**HI 710024**	Shockproof Rubber Boot, Blue

HI 710024 Shockproof Rubber Boot, Blue

P/L HI99191 8/13 PRINTED IN THE USA