

- CAL Check<sup>™</sup> for pH
  - · Alerts users of calibration status
- Calibration points
  - Up to five-point pH calibration and up to two-point EC calibration
- Logging
  - Automatic logging up to 600 records and log on demand up to 400 samples
- Connectivity
  - PC connectivity via opto-isolated USB
- GLP features
- · Meets Good Laboratory Practices

# Two Channels, Eight Parameters

The HI3512 is a dual channel benchtop meter with a graphic LCD designed to provide accurate laboratory results. Channel one features pH/ORP/ISE and temperature measurement capability while channel two features conductivity, TDS, salinity or resistivity measurements and temperature capability.

#### CAL Check™

Hanna's exclusive CAL Check™ diagnostics system ensures accurate pH readings every time by alerting users of potential problems during the calibration process. The CAL Check™ system eliminates erroneous readings due to dirty or faulty pH electrodes or contaminated pH buffer solutions during calibration. After the guided calibration process, the probe condition is evaluated and an indicator is displayed informing the user of the overall pH electrode status.

## Calibration

The pH channel offers up to five-point pH calibration with seven standard buffers and up to two custom buffers.

A five point ISE calibration selected from up to six calibration standards make this instrument very useful for a large range of ion concentrations.

The EC channel permits a two-point calibration selected from seven Hanna standards. The EC channel supports autoranging, manual ranging and lock of the user selected range as well as temperature compensation selection, temperature reference selection and temperature coefficient selection.

Total dissolved solids (TDS) factor is user-adjustable and can be set between 0.40 and 1.00.

pH and EC channels also provide "Out of Calibration Range" warnings and a "Calibration Timeout" message to remind the user when a new calibration is necessary.

Messages on the graphic LCD offer directions for easy and accurate calibration for both channels, as well as diagnostics to alert the user when calibration or measurement issues are detected.

#### Additional Features

Other features of the HI3512 include log-on-demand of up to 400 samples, automatic logging interval with log-on-stability of up to 600 records, AutoHold to freeze the first stable reading on the LCD display, GLP to view the last calibration data for pH, rel mV, ISE, EC or salinity and a PC interface via USB.

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Specifications		HI3512
рН	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	±0.01 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 two custom buffers
	Temperature Compensation	automatic or manual from -20.0 to 120.0 °C (-4.0 to 248.0 °F)
mV	Range	±2000.0 mV
	Resolution	0.1 mV
	Accuracy	±0.2 mV
ISE	Range	1.00 E <sup>-7</sup> to 9.99 E <sup>10</sup> concentration (user selectable units)
	Resolution	3 digits
	Accuracy	$\pm 0.5\%$ of reading (monovalent ions); $\pm 1\%$ of reading (divalent ions)
	Calibration	$up\ to\ five-point\ calibration\ points\ six\ standard\ solutions\ available\ (0.1,1,10,100,1000,10000\ ppm)$
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)
EC	Range	0 μS/cm to 400 mS/cm (shows values up to 1000 mS/cm absolute conductivity); 0.001 to 9.999 μS/cm; 10.00 to 99.99 μS/cm; 10.00 to 9.999 mS/cm; 10.00 to 99.99 mS/cm; 100.0 to 999.9 mS/cm; 1000 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; 1 mS/cm
	Accuracy	±1% of reading (±0.01 μS/cm or 1 digit whichever is greater) excluding probe error
	Calibration	automatic up to two points with seven Hanna 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)
	Cell constant	0.010 to 10.000
	Temperature Compensation	NoTC, MTC, ATC
	Reference Temperature	15, 20, 25°C
	Temperature Coefficient	0.00 to 10.00 %/°C (for EC and TDS only; default value is 1.90%/°C)
TDS	Range	0.000 to 9.999 ppm; 10.00 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	0.001 ppm; 0.01 ppm; 0.1 ppm; 0.001 g/L; 0.01 g/L
	Accuracy	$\pm 1\%$ of reading ( $\pm 0.05$ ppm or $1$ digit whichever greater) excluding probe error
	Factor	0.40 to 1.00
Resistivity	Range	1.0 to 99.9 Ω•cm; 100 to 999 KΩ•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 Ω•cm; 1 Ω•cm; 0.01 MΩ•cm; 0.1 Ω•cm
	Accuracy	±1% of reading (±10 Ω•cm or 1 digit whichever greater) excluding probe error
Salinity	Range	0.0 to 400.0% NaCl
	Resolution	0.1% NaCl
	Accuracy	±1% of reading excluding probe error
	NaCl Calibration	one-point with HI7037 standard (optional)
Additional Specifications	pH Electrode	HI1131B glass body pH electrode with BNC connector and 1 m (3.3') cable (included)
	Temperature probe	HI7662-T temperature probe with 1 m (3.3′) cable (included)
	EC Probe	HI76310 platinum four-ring EC/TDS probe with 1 m (3.3′) cable (included)
	Relative mV Offset Range	±2000 mV
	Slope Calibration	from 80 to 110%
	Temperature Source	automatic from sensor inside the probe; manual entry
	Log-on-demand	400 samples
	Interval Logging	5, 10, 30 seconds; 1, 2, 5, 10, 15, 30, 60, 120, 180 minutes, AutoEnd (max 600 samples)
	PC connection	opto-isolated USB
	Input Impedance	10 <sup>12</sup> ohms
	Power Supply	12 VDC adapter (included)
	Environment	0 to 50 °C (32 to 122 °F) RH max 55% non-condensing
	Dimensions / Weight	235 x 207 x 110 mm (9.2 x 8.14 x 4.33") / 1.8 kg (4 lbs.)
Ordering Information	<b>HI3512-01</b> (115V) and <b>HI3512-</b> HI70004 pH 4.01 buffer solutio	••••••••••••••••••••••••••••••••••••••

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