

HI991300 · HI991301

pH/EC/TDS/ Temperature Meters

- **Waterproof**
 - Designed to float if accidentally dropped in a tank
- **Expanded pH range**
 - pH range is from -2.00 to 16.00 pH
- **Adjustable EC to TDS conversion factor**
 - Factor is adjustable from 0.45 to 1.00
- **Adjustable EC/TDS temperature correction factor**
 - Coefficient (β) is adjustable from 0.0 to 2.4%/°C
- **Automatic Temperature Compensation**
 - All readings are compensated for variations in temperature
 - Temperature displayed in °C or °F along with pH, EC or TDS reading
- **Stability indicator**
 - Meter displays a clock tag that will disappear when the reading has achieved stability
- **HOLD button**
 - Freezes reading on the display to allow recording of measurement
- **BEPS (Battery Error Prevention System)**
 - Meter will automatically shut off if there is not enough power to get an accurate measurement
- **Battery % level at startup**
- **Low battery indicator**
 - When the level is below 5%, the battery symbol on the LCD blinks to indicate a low battery condition.
- **Auto-off**
 - Meter automatically shuts off after 8 minutes of non-use to maximize battery life

These instruments have many advanced features that are found in more expensive portable instrumentation including automatic calibration, buffer/standard recognition and temperature compensation. The LCD screen has indicators for calibration status and stability, as well as on-screen tutorial messages. The battery percent level is displayed at start up alerting the user to the remaining battery power that is available. The supplied HI1288D is a polypropylene body, amplified pH electrode with a built-in EC/TDS and temperature sensors. The amplifier for the pH electrode prevents interference from humidity and electrical noise from common sources including from motors, ballasts or rectifiers. Both meters are versatile for many industries including plating, environmental, agriculture and hydroponics.



HI1288 amplified pH electrode

- 3 sensors in a single probe
- Pre-amplified pH electrode for resistance to electrical noise
- Extractable cloth junction to clear any clogging
- Graphite EC/TDS sensor

The HI991301 and HI991300 are supplied with an amplified polypropylene body pH/EC/TDS/temperature probe. The built in amplifier will reduce the effects of electrical noise on the high impedance pH measurement. Examples of sources of electrical noise include rectifiers, motors and ballasts.

The HI1288 pH electrode also features an extractable cloth junction. Every pH electrode has a junction. Many use a single ceramic frit which acts as a barrier between the inside reference cell to the outside sample. This barrier allows for a diffusion electrolyte that

is necessary for the pH measurement. Any clogging of the junction will result in a reduced diffusion and as a result the readings will become erratic. Most probes will have to have this junction cleaned and if not possible then the probe has to be replaced. The extractable cloth junction of the HI1288 allows for the renewing of the junction. Simply extract $\frac{1}{8}$ " of the junction by pulling on the junction will expose a new portion. Any clogging that was present will be cleared and the response time will be back to normal extending the life of the pH electrode.

The EC/TDS sensor is made of graphite. A common problem with amperometric sensors is a polarization effect. With amperometric sensors there are two poles in which a voltage is alternated. The positive and negative ions in the solution migrate to one of the negative or positive poles. When the charges build up on one of these poles a polarization effect occurs. Having a conductivity sensor made of graphite reduces the polarization effect.



Specifications		HI991300	HI991301
pH	Range	0 to 14.00 pH	0 to 14.00 pH
	Resolution	0.01 pH	0.01 pH
	Accuracy	±0.01 pH	±0.01 pH
EC	Range	0 to 3999 µS/cm	0.00 to 20.00 mS/cm
	Resolution	1 µS/cm	0.01 mS/cm
	Accuracy	±2% F.S.	±2% F.S.
TDS	Range	0 to 2000 ppm (mg/L)	0.00 to 10.00 ppt (g/L)
	Resolution	1 ppm (mg/L)	0.01 ppt (g/L)
	Accuracy	±2% F.S.	±2% F.S.
Temperature	Range	0.0 to 60.0°C/32.0 to 140.0°F	0.0 to 60.0°C/32.0 to 140.0°F
	Resolution	0.1°C/0.1°F	0.1°C/0.1°F
	Accuracy	±0.5°C/±1°F	±0.5°C/±1°F
Additional Specifications	pH Calibration	automatic, one or two point calibration with two sets of memorized buffers (Standard 4.01, 7.01, 10.01 or NIST 4.01, 6.86, 9.18)	
	EC/TDS Calibration	automatic one point at: 1382 ppm (CONV=0.5) or 1500 ppm (CONV=0.7) or 1413 µS/cm	automatic one point at: 6.44 ppt (CONV=0.5) or 9.02 ppt (CONV=0.7) or 12880 µS/cm
	pH Temp. Compensation	automatic	automatic
	EC/TDS Temperature Compensation	automatic with β selectable from 0.0-2.4%/°C with 0.1 increments	
	TDS Conversion Factor	selectable from 0.45 to 1.00 with 0.01 increments (default 0.50)	
	Probe (included)	HI1288 polypropylene body, pre-amplified multiparameter probe with internal temperature sensor, DIN connector and 1m cable	
	Battery Type/Life	1.5V AAA (3) /approximately 500 hours of continuous use, auto-off after 8 minutes of inactivity	
	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	205g (7.2 oz.)	
Ordering Information		HI991300 is supplied with HI1288 multiparameter probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer solution sachet, HI70031 1413 µS/cm calibration solution sachet, HI70032 1382 mg/L (ppm) calibration solution sachet, HI700601 electrode cleaning solution sachet, batteries, instructions and rugged carrying case.	
		HI991301 is supplied with HI1288 multiparameter probe, HI70004 pH 4.01 buffer solution sachet, HI70007 pH 7.01 buffer sachet, HI70030 12880 µS/cm calibration solution sachet, HI70038 6.44 g/L (ppt) calibration solution sachet, HI700601 electrode cleaning solution sachet, batteries, instructions and rugged carrying case.	



- Our optional HI710020 orange shockproof rubber boot offers maximum impact protection.