

HI9813-51 · HI9813-61

# pH/EC/TDS/ Temperature Portable Meter

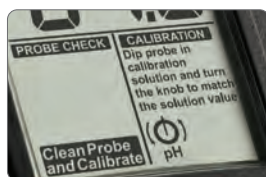
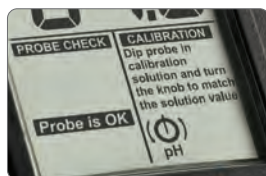
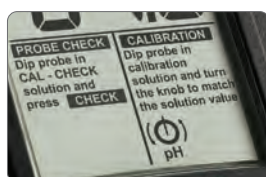
- Waterproof
- CAL Check™ (HI9813-61)
  - Allows the user to easily check the probe calibration status at any time.
- Variable EC to TDS conversion factor
  - Factor automatically adjusts from 0.56 to 0.78 based on actual EC readings
  - Factor based on 442 curve for natural water
- Automatic Temperature Compensation
  - All readings are compensated for variations in temperature
- Low Battery Indicator

The HI9813-61 and HI9813-51 portable meters feature a large LCD which displays either pH, EC, TDS or temperature readings along with tutorial instructions. The pH readings are displayed with a 0.1 resolution and an accuracy of  $\pm 0.1$  pH while the EC and TDS readings are displayed with a 0.01 mS/cm and 1 ppm (mg/L) resolution and 2% full scale accuracy. The EC range of both meters is from 0.00 to 4.00 mS/cm and TDS is from 0 to 1999 ppm. The temperature correction coefficient ( $\beta$ ) is fixed at 2 %/°C and allows for automatic temperature compensated measurements of EC and TDS. These meters are calibrated manually to a single point with the use of two trimmers. pH is calibrated to pH 7.01 while EC/TDS is calibrated to either 1.41 mS/cm (1413  $\mu$ S/cm) or 1500 ppm. The LCD screen has battery life indicator as well as on-screen tutorial messages.

No probe changes are required when switching your measured parameter between pH, conductivity and TDS. These multiparameter meters reduce the number of instruments required for daily water quality analysis.

The supplied probe on both models feature 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 pumps. The HI9813-61 and HI9813-51 are versatile meters for the agriculture, greenhouse and hydroponics industries.





## HI9813-61 CAL Check™

### Feature

The HI9813-61's CAL Check feature alerts users if there is a problem with the pH electrode. This feature is important for customers that calibrate only to pH 7.0; if there is a fracture on the pH glass of the electrode, the pH meter will always display pH 7.0 regardless of the solution being measured. This can be disastrous for the person that calibrates at pH 7.0 and takes readings of samples with an expected pH of 7.0. The user will never be aware that there is a problem. Placing the HI1285-61 pH/EC electrode in HI50021 CAL Check solution and pressing the "Check" button helps users determine if the probe needs to be calibrated, cleaned or replaced. The meter runs CAL Check diagnostics and will display either "Probe is OK" or "Clean Probe and Calibrate". If the reading is around pH 4.0 when the probe is placed in the solution then the probe is broken and needs to be replaced.



## HI1285 series probes

These meters are supplied with a polypropylene body pH/EC/TDS/temperature probe. The pH, EC, TDS, and temperature sensor are housed in a single body that connects to the meter with a DIN connector.

- **3 sensors in a single probe**
- **Amplified pH electrode**
  - The pH electrode circuit has a built-in amplifier that will reduce the effects of electrical noise on the high impedance pH measurement. Examples of sources of electrical noise include motors, ballasts, and pumps which are common in greenhouses.
- **Amperometric EC/TDS sensor**
  - The EC/TDS readings are performed by an amperometric sensor. An alternating voltage is applied to the sensor and the amount of current that passes between the two stainless steel pins is dependent upon the amount of salts (fertilizer) present. A greater amount of salt present results in an increase in conductance.
- **Polypropylene body**
  - The polypropylene body houses all the sensors in a single body design and is durable. The probe is gel filled for maintenance free operation. It does not have to be refilled periodically.

Specifications		HI9813-51	HI9813-61 (with CAL Check)
pH	Range	0.0 to 14.0 pH	0.0 to 14.0 pH
	Resolution	0.1 pH	0.1 pH
	Accuracy	±0.1 pH	±0.1 pH
EC	Range	0.00 to 4.00 mS/cm	0.00 to 4.00 mS/cm
	Resolution	0.01 mS/cm	0.01 mS/cm
	Accuracy	±2% F.S.	±2% F.S.
TDS	Range	0 to 1999 ppm (mg/L)	0 to 1999 ppm (mg/L)
	Resolution	1 ppm (mg/L)	1 ppm (mg/L)
	Accuracy	±2% F.S.	±2% F.S.
Temperature	Range	0.0 to 60.0°C	0.0 to 60.0°C
	Resolution	0.1°C	0.1°C
	Accuracy	±0.5°C	±0.5°C
Additional Specifications	TDS Conversion Factor	0.56 to 0.78 ppm = 1 µS/cm (according to TDS 442 curve)	0.56 to 0.78 ppm = 1 µS/cm (according to TDS 442 curve)
	pH & EC/TDS Calibration	manual, one point (all parameters except temperature)	manual, one point (all parameters except temperature)
	Temp. Compensation	automatic 0 to 70°C (32 to 158°F) with β=2%/°C (EC/TDS only)	automatic 0 to 70°C (32 to 158°F) with β=2%/°C (EC/TDS only)
	Probe	HI1285-51 polypropylene body, pre-amplified multiparameter probe with internal temperature sensor, 8-pin DIN connector and 1 m (3.3') cable (included)	HI1285-61 polypropylene body, pre-amplified multiparameter probe with CAL Check compatibility, internal temperature sensor, 8-pin DIN connector and 1 m (3.3') cable (included)
	Battery Type / Life	9V / approximately 450 hours of continuous use	
	Environment	0 to 50°C (32 to 122°F); RH max 100%	
	Dimensions	145 x 80 x 36 mm (5.7 x 3.1 x 1.4")	
	Weight	230 g (8.1 oz.)	
Ordering Information		<b>HI9813-51</b> is supplied with HI1285-51 multiparameter probe, HI70007 pH 7.01 calibration solution sachet, HI70442 1500 ppm (mg/L) calibration solution sachet, HI70031 1413 µS/cm calibration solution sachet, HI700661 electrode cleaning solution sachets (2), battery and instructions.	
		<b>HI9813-61</b> is supplied with HI1285-61 multiparameter probe, HI70007 pH 7.01 calibration solution sachet, HI70442 1500 ppm (mg/L) calibration solution sachet, HI70031 1413 µS/cm calibration solution sachet, HI50021 calibration check solution sachets (2), HI700661 electrode cleaning solution sachets (2), 9v battery (1), instructions and rugged carrying case.	
Accessories		<b>HI50021P</b> CAL Check solution sachets for HI9813-6, 20mL (25)	
		<b>HI710007</b> blue shockproof rubber boot	
		<b>HI710008</b> orange shockproof rubber boot	
		<b>HI7209811</b> spare carrying case for HI981X-X series	