

HI9814

GroPro™ pH / EC / TDS / Temperature Meter

with Multiparameter Probe

- **Waterproof**
 - Designed to withstand the humidity of a growing environment
- **Wide pH range**
 - pH range is from 0.00 to 14.00 pH
- **One-point quick calibration solution**
- **Selectable EC to TDS conversion factor**
 - Choice of either a 0.5 or 0.7 conversion factor
 - 0.5 (500 CF) conversion factor is for an EC reading of 1000 $\mu\text{S}/\text{cm}$ = 500 ppm
 - 0.7 (700 CF) conversion factor is for an EC reading of 1000 $\mu\text{S}/\text{cm}$ = 700 ppm
- **Automatic Temperature Compensation**
 - All readings are compensated for variations in temperature
 - Temperature displayed in $^{\circ}\text{C}$ or $^{\circ}\text{F}$ 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**
 - Selectable time before meter will automatically shuts off to conserve battery life. Options are after 8 minutes, 60 minutes, or disabled.
- **Help feature and tutorial messages**

The HI9814 is a versatile pH, conductivity (EC), total dissolved solids (TDS), and temperature meter designed for hydroponics, greenhouse and agriculture applications. All operations and settings, including calibration buffers and temperature scale selections, are made through only two buttons. The housing is waterproof and rated for IP67 conditions.

GroPro™



Measure nutrient solutions with one probe

pH and EC/TDS are two of the most common parameters measured in hydroponic nutrient solutions. With the HI9814 there is no need to switch between meters or change probes. The HI9814 uses a single specialized probe design to accurately measure both key parameters at the same time.

Other user-selectable features include selectable TDS factors of 0.5 and 0.7 as well as auto-off after 8 minutes, 60 minutes, or disabled.

Calibrate pH and EC with one solution

The HI9814 offers a quick calibration feature that allows for calibration of both parameters with a single solution. Simply enter calibration mode and the meter will automatically detect and calibrate pH and EC sensors. EC calibration is automatically applied to TDS readings.

HI1285-7 Multiparameter Probe

- 3 sensors in a single probe
- Gel filled maintenance free pH electrode
- Amplified pH electrode
- 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.

The specially engineered HI1285-7 pH/EC/TDS/temperature probe utilizes a fiber junction and gel electrolyte which provides a fast response and reduced potential for contamination. These features make this probe ideal for use in fertilizer solutions.

A solid-state preamplifier is integrated into the probe to protect the pH measurement from transient electrical noise. Sources of electrical noise include ballasts used in lighting and pumps to circulate water and nutrient solutions.



Significance of Use

Hydroponics is a method of growing plants in the absence of soil, fulfilling the notion that mineral nutrients can be delivered to plants more effectively through the use of a nutrient solution. Hydroponic solutions must be carefully monitored for both pH and EC, as the amount of nutrients delivered to the plant will dictate its fertility and longevity.

EC readings can be expressed TDS; in terms of hydroponics, TDS specifies the salt concentration and strength of a nutrient solution. Since TDS is not a direct measurement, the conversion factor used is based on the type of solution being measured. Offering the conversion factors of 0.5 and 0.7 allows hydroponics growers to more accurately measure their unique nutrient solutions.

Specifications		HI9814
pH	Range*	0.00 to 14.00 pH
	Resolution	0.01 pH
	Accuracy	±0.01 pH
	Calibration	automatic, one or two-point calibration (using pH 4.01, 7.01, 10.01 buffers); one-point calibration using quick calibration solution
	Temperature Compensation	automatic
EC	Range	0.00 to 6.00 mS/cm
	Resolution	0.01 mS/cm
	Accuracy	±2% F.S.
	Calibration	automatic, one-point at 1.41 mS/cm or 5.00 mS/cm; one-point calibration using quick calibration solution
	Temperature Compensation	automatic, with $\beta = 1.9\%/^{\circ}\text{C}$
TDS	Range	0 to 3000 ppm (500 CF); 0 to 3999 ppm (700 CF)
	Resolution	10 ppm (mg/L)
	Accuracy	±2% F.S.
	Conversion Factor (CF)**	0.5 (500 ppm) or 0.7 (700 ppm)
Temperature	Range*	0.0 to 60.0°C/32.0 to 140.0°F
	Resolution	0.1°C/0.1°F
	Accuracy	±0.5°C/±1°F
Additional Specifications	Typical EMC Deviation	±0.02 pH; ±0.2°C or ±0.4°F
	Probe (included)	HI1285-7 pH/EC/TDS/temperature with DIN connector and 1 m (3.3') cable
	Battery Type/Life	1.5V AAA (3) /approximately 500 hours of continuous use
	Auto-off	after 8 minutes, 60 minutes, or disabled
	Environment	0 to 50°C (32 to 122°F); RH max. 100%
	Dimensions / Weight	152 x 58 x 30 mm (6.0 x 2.3 x 1.2") / 205 g (7.2 oz)
	Ordering Information	HI9814 is supplied with HI1285-7 multiparameter probe, HI9814P quick calibration solution sachets, electrode cleaning solution sachets, batteries, visual quick start guide, and instructions.

* The sensor is rated 0 to 12 pH and -5 to 30°C
 **1000 µS/cm = 500 ppm with 0.5 CF

pH solutions begin on page 2.110; EC and TDS solutions begin on page 5.31;
 See page 7.56 for probe specifications



- Our optional HI710025 green shockproof rubber boot offers maximum impact protection.