



HI97105

## Marine Master Waterproof Multiparameter Photometer

Measure pH, Alkalinity, Ammonia, Calcium, Magnesium, Nitrate LR, Nitrate HR, Nitrite ULR, and Phosphate ULR

The HI97105 is a compact and versatile Marine multiparameter photometer designed to accurately determine pH, Alkalinity, Ammonia, Calcium, Magnesium, Nitrate, Nitrite, and Phosphate levels in aquariums and marine biology applications. The HI97105 consolidates testing needs into one unit using the same reagents.

### • Precise and advanced LED optical system

- Innovative optical design that utilizes a reference detector and focusing lens to eliminate errors from changes in the light source and from imperfections in the glass cuvette.
- LEDs have a much higher luminous efficiency, providing more light while using less power. They also produce little heat, which could otherwise affect electronic stability.

### • CAL Check™ validation and calibration

- Validate instrument performance at any time using CAL Check cuvettes made with NIST traceable standards. The CAL Check screen guides the user step-by-step through the validation process and user calibration.

### • On-screen tutorial mode with animations

- Guides users step-by-step through the measurement process

### • Waterproof and floating IP67 meter design

### • Unit of measure is displayed along with reading

### • Includes auto data logging features to easily record water testing results

- The instrument features a data autolog function to help users keep track of all measurements. Every time a measurement is made the data is automatically saved. The data log can hold 200 individual measurements. When the data log is full (200 data points), the meter will rewrite the oldest data point.

### • Battery status indicator and auto-shut off



### • Option to select measurement location for better tracking consistency

### • Built-in timer

- Built-in reaction timer that ensures consistency between tests.

### • Error messages on display

- Alerts to problems including no cap, high zero, and standard too low

### • GLP data

- Displays the last calibration date.

## Specifications

## HI97105 pH, Alkalinity, Ammonia, Calcium, Magnesium, Nitrate LR, Nitrate HR, Nitrite ULR, and Phosphate ULR

Marine pH	Range	6.3 to 8.6 pH	
	Resolution	0.1 pH	
	Accuracy	±0.2 pH of reading at 25 °C	
	Method	colorimetric adaptation of the Phenol Red Method	
	LED	525 nm	
Marine Alkalinity	Range	0.0 to 20.0 dKH	
	Resolution	0.1 dKH	
	Accuracy	±0.3 dKH ±5% of reading at 25 °C	
	Method	Colorimetric Method	
	LED	610 nm	
Marine Ammonia	Range	0.00 to 2.50 ppm (as NH <sub>3</sub> )	
	Resolution	0.01 ppm	
	Accuracy	±0.05 ppm ±5% of reading at 25 °C	
	Method	Adaptation of the Salicylate Method	
	LED	610 nm	
Marine Calcium	Range	200 to 600 ppm	
	Resolution	1 ppm	
	Accuracy	±6% of reading at 25 °C	
	Method	adaptation of the Zincon Method	
	LED	610 nm	
Marine Magnesium	Range	1000 to 1800 ppm (as Mg <sup>2+</sup> )	
	Resolution	5 ppm	
	Accuracy	±5% of reading at 25 °C	
	Method	adaptation of the Colorimetric EDTA Method using calmagite indicator	
	LED	610 nm	
Marine Nitrate LR	Range	0.00 to 5.00 ppm (as NO <sub>3</sub> <sup>-</sup> )	
	Resolution	0.01 ppm	
	Accuracy	±0.25 ppm ±2% of reading at 25 °C	
	Method	Zinc Reduction Method	
	LED	525 nm	
Marine Nitrate HR	Range	0.0 to 75.0 ppm (as NO <sub>3</sub> <sup>-</sup> )	
	Resolution	0.1 ppm	
	Accuracy	±2.0 ppm ±5% of reading at 25 °C	
	Method	Zinc Reduction Method	
	LED	525 nm	
Marine Nitrite ULR	Range	0 to 200 ppb (as NO <sub>2</sub> <sup>-</sup> -N)	
	Resolution	1 ppb	
	Accuracy	±10 ppb ±4% of reading at 25 °C	
	Method	adaptation of the EPA Diazotization Method 354.1	
	LED	525 nm	
Marine Phosphate ULR	Range	0.00 to 0.90 ppm	
	Resolution	0.01 ppm	
	Accuracy	±0.02 ppm ±5% of reading at 25 °C	
	Method	adaptation of Standard Methods for the Examination of Water and Wastewater, 20th Edition, Ascorbic Acid Method	
	LED	610 nm	
Measurement system	Light source	Light Emitting Diode (LED)	
	Bandpass filter	wavelength	525 nm & 610 nm
		bandwidth	8 nm
		wavelength accuracy	±1.0 nm
	Light detector	silicon photocell	
Cuvette Type	round 24.6 mm diameter (22 mm inside diameter)		
Auto logging	200 readings		
Additional Specifications	Display	128 x 64 pixel B/W LCD with backlight	
	Auto-off	after 15 minutes of inactivity (after 30 minutes of inactivity if a Zero has been done but not a Read)	
	Battery type / Life	alkaline 1.5 V AA (3) / > 800 measurements (without backlight)	
	Environment	0 to 50 °C (32 to 122 °F); 0 to 100% RH, non-serviceable	
	Dimensions	142.5 x 102.5 x 50.5 mm (5.6 x 4.0 x 2.0")	
	Weight	380 g (13.4 oz.); with batteries	
	Casing	IP67 rating, floating	

## Ordering Information

**HI97105** is supplied with sample cuvette (2 pcs.), sample cuvette cap (2 pcs.), 1.5V AA alkaline batteries (3 pcs.), instrument quality certificate, and quick reference guide with QR code for instruction manual download.

CAL Check standards and testing reagents sold separately

## Reagents, Standards, and Accessories

<b>HI97105-11</b> CAL Check standard cuvettes for HI97105	<b>HI783-25</b> marine magnesium reagent - 25 tests
<b>HI758-26</b> marine calcium reagent - 25 tests	<b>HI784-25</b> marine ammonia reagent - 25 tests
<b>HI758U-26</b> marine calcium reagent - 25 tests (ordering code for USA)	<b>HI740270</b> 10 mL syringe with Luer Lock (1 pc.)
<b>HI764-25</b> marine nitrite ULR - 25 tests	<b>HI740271</b> Filter holder with Luer Lock (1 pc.)
<b>HI772-26</b> marine alkalinity reagent - 25 tests	<b>HI740272</b> 16 gauge blunt needle (6 pcs.)
<b>HI774-25</b> marine phosphate ULR reagent - 25 tests	<b>HI740273</b> marine nitrate LR measurement kit (1 pc.)
<b>HI780-25</b> marine pH Reagent - approximately 100 tests	<b>HI740228</b> filter disc (25 pcs.)
<b>HI781-25</b> marine nitrate LR Reagent - 25 tests	<b>HI731360</b> glass cuvette with cap (2 pcs.)
<b>HI782-25</b> marine nitrate HR reagent - 25 tests	<b>HI7101419</b> blue carrying case for Marine Master photometer