

HI83303

Multiparameter Photometer

with Digital pH Electrode Input for Aquaculture

The HI83303 benchtop photometer measures 12 different key water quality parameters using 20 different methods. This photometer features an innovative optical system that uses LEDs, narrow band interference filters, focusing lens and both a silicon photodetector for absorbance measurement and a reference detector to maintain a consistent light source ensures accurate and repeatable photometric readings every time.

Made with the aquaculture industry in mind, the HI83303 is a comprehensive solution to maintaining optimal chemical and environmental conditions, preventing disease and increasing production. The HI83303 measures vital parameters such as alkalinity, calcium, nitrite, and phosphate. Alkalinity plays a part in a dynamic relationship with pH and CO₂ concentrations, high alkalinity water lowers fluctuations in pH. The buffering capacity acts to store extra CO₂ essential for photosynthesis in the ponds to produce oxygen. Maintaining calcium at certain levels is vital to proper fish growth and development. Excessive nitrite can be toxic to fish. When nitrite interacts with hemoglobin the iron becomes oxidized and the blood cell can no longer carry oxygen. Phosphate is essential to plant growth; too much phosphate in an aquaculture system can contribute to algal blooms decreasing dissolved oxygen vital for a successful ecosystem.

• Advanced 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.

• Backlit 128 x 64 Pixel Graphic LCD Display

- Backlit graphic display allows for easy viewing in low light conditions
- The 128 x 64 Pixel LCD allows for a simplified user interface with virtual keys and on-screen help to guide the user through use of the meter

• Built-in Reaction Timer for Photometric Measurements

- The measurement is taken after the countdown timer expires.
- Countdown timer ensures that all readings are taken at the appropriate reaction intervals regardless of user for better consistency in measurements



• Absorbance mode

- Hanna's exclusive CAL Check cuvettes for validation of light source and detector
- Allows for the user to plot concentration versus absorbance for a specific wavelength for use with user supplied chemistry or for teaching principles of photometry

• Units of Measure

- Appropriate unit of measure along with chemical form is displayed along with reading

• Result Conversion

- Automatically convert readings to other chemical forms with the touch of a button

• Cuvette Cover

- Aids in preventing stray light from affecting measurements

• Data Logging

- Up to 1000 photometric and pH readings can be stored by simply pressing the dedicated LOG button. Logged readings are just as easily recalled by pressing the RCL button
- Sample ID and User ID information can be added to a logged reading using alphanumeric keypad

• Connectivity

- Logged readings can be quickly and easily transferred to a flash drive using the USB-A host port or to a computer using the micro USB-B port
- Data is exported as a .CSV file for use with common spreadsheet programs

• Rechargeable Battery

- Li-polymer rechargeable battery lasts for 500 measurements or 50 hours of pH measurement

• Battery Status Indicator

- Indicates the amount of battery life left

• Error Messages

- Photometric error messages
- pH calibration messages include clean electrode, check buffer and check probe



HI83303-11

- Digital pH Electrode Input

- Measure pH and temperature with a single probe
- Good Laboratory Practice (GLP) to track calibration information including date, time, buffers used, offset and slope for traceability
- pH CAL Check alerts user to potential problems during the calibration process
- Space saving having a pH meter and photometer built into one meter



Parameter	Range	Resolution	Accuracy	LED (λ nm) with Narrow Band Interference Filter	Method
Alkalinity	0 to 500 mg/L (as CaCO ₃)	1 mg/L	±5 mg/L ±5% of reading at 25 °C	@ 610 nm	Bromocresol green
Alkalinity, Marine	0 to 300 mg/L (as CaCO ₃)	1 mg/L	±5 mg/L ±5% of reading at 25 °C	@ 610 nm	Bromocresol green
Ammonia Low Range	0.00 to 3.00 mg/L (as NH ₃ -N)	0.01 mg/L	±0.04 mg/L ±4% of reading at 25 °C	@ 420 nm	Nessler
Ammonia Medium Range	0.00 to 10.00 mg/L (as NH ₃ -N)	0.01 mg/L	±0.05 mg/L ±5% of reading at 25 °C	@ 420 nm	Nessler
Ammonia High Range	0.0 to 100.0 mg/L (as NH ₃ -N)	0.1 mg/L	±0.5 mg/L ±5% of reading at 25 °C	@ 420 nm	Nessler
Calcium	0 to 400 mg/L (as Ca ²⁺)	1 mg/L	±10 mg/L ±5% of reading at 25 °C	@ 466 nm	oxalate
Calcium, Marine	200 to 600 mg/L (as Ca ²⁺)	1 mg/L	±6% of reading at 25 °C	@ 610 nm	zincon
Chlorine, Free	0.00 to 5.00 mg/L (as Cl ₂)	0.01 mg/L	±0.03 mg/L ±3% of reading at 25 °C	@ 525 nm	DPD
Chlorine, Total	0.00 to 5.00 mg/L (as Cl ⁻)	0.01 mg/L	±0.03 mg/L ±3% of reading at 25 °C	@ 525 nm	DPD
Copper Low Range	0.000 to 1.500 mg/L (as Cu ²⁺)	0.001 mg/L	±0.01 mg/L ±5% of reading at 25 °C	@ 575 nm	bicinchoninate
Copper High Range	0.00 to 5.00 mg/L (as Cu ²⁺)	0.01 mg/L	±0.02 mg/L ±4% of reading at 25 °C	@ 575 nm	bicinchoninate
Nitrate	0.0 to 30.0 mg/L (as NO ₃ ⁻ -N)	0.1 mg/L	±0.5 mg/L ±10% of reading at 25 °C	@ 525 nm	cadmium reduction
Nitrite Ultra Low Range, Marine	0 to 200 µg/L (as NO ₂ ⁻ -N)	1 µg/L	±10 µg/L ±4% of reading at 25 °C	@ 466 nm	diazotization
Nitrite Low Range	0 to 600 µg/L (as NO ₂ ⁻ -N)	1 µg/L	±20 µg/L ±4% of reading at 25 °C	@ 466 nm	diazotization
Nitrite High Range	0 to 150 mg/L (as NO ₂ ⁻ -N)	1 mg/L	±4 mg/L ±4% of reading at 25 °C	@ 575 nm	ferrous sulfate
Oxygen, Dissolved	0.0 to 10.0 mg/L (as O ₂)	0.1 mg/L	±0.4 mg/L ±3% of reading at 25 °C	@ 420 nm	Winkler
pH	6.5 to 8.5 pH	0.1 pH	±0.1 pH at 25 °C	@ 525 nm	phenol red
Phosphate Ultra Low Range, Marine	0 to 200 µg/L (as P)	1 µg/L	±5 µg/L ±5% of reading at 25 °C	@ 610 nm	ascorbic acid
Phosphate Low Range	0.00 to 2.50 mg/L (ppm)	0.01 mg/L	±0.04 mg/L ±4% of reading at 25 °C	@ 610 nm	ascorbic acid
Phosphate High Range	0.0 to 30.0 mg/L (as PO ₄ ³⁻)	0.1 mg/L	±1 mg/L ±4% of reading at 25 °C	@ 525 nm	amino acid
Ordering Information	HI83303-01 (115V) and HI83303-02 (230V) is supplied with sample cuvettes and caps (4 ea.), cloth for wiping cuvettes, USB to micro USB cable connector, power adapter and instruction manual.				
Standards	HI83303-11 CAL Check Cuvette Kit for HI83303				