

HI84531

# Titratable Alkalinity Titrator and pH Meter

for Water Analysis

- **Piston driven pump with dynamic dosing**
  - For highly accurate, repeatable results
- **CAL Check™**
  - Alerts users to potential problems during calibration such as contaminated buffers or dirty/broken pH electrodes
- **Log-on-demand**
  - Log data up to 400 samples (200 for titration; 200 for pH/mV)
- **Graphic mode/exportable data**
  - Displays in-depth data on titration, which can then be stored and exported to either a USB drive or PC using the USB connection
- **Automatic stirrer speed control**
  - Maintains stirrer speed at approximately 600 rpm regardless of viscosity of solution
- **GLP features**
  - Date, time, offset, slope and buffers used
- **Easy-to-use interface**
  - User intuitive design with large keys and easy to navigate screens
- **HELP features**
  - Dedicated HELP key for content sensitive help
- **pH/mV meter**
  - Doubles as a benchtop pH meter



## An Easy-to-Use, Fast and Affordable All-in-one Solution

The HI84531 is a dedicated mini titrator and pH meter designed for low to high levels of alkalinity. It performs a potentiometric titration with a pH electrode to determine total titratable alkalinity or strong alkalinity in water. A titrant is slowly added to the sample while the pH and temperature are carefully monitored. The software analyzes the resulting titration curve and calculates the volume of titrant required to reach the endpoint. The user can choose either to measure strong alkalinity with a 8.30 pH endpoint (known as phenolphthalein alkalinity) or total alkalinity with a 4.50 pH endpoint (known as bromocresol green-methyl red alkalinity).

The dispensed titrant volume is used to automatically calculate the alkalinity, which can be displayed in mg/L or meq/L as CaCO<sub>3</sub>.

This mini titrator is also designed to be used as a benchtop pH/mV meter. The CAL Check function not only ensures an accurate pH reading when the HI84531 is used as a pH meter but also an accurate titration since the endpoint is determined by a set pH value.

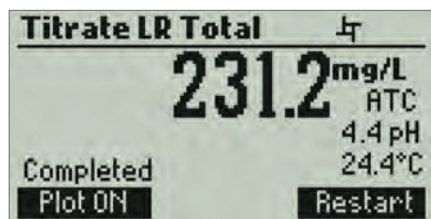
### Total Alkalinity

Total titratable alkalinity is a measure of primarily three types of alkalinities present in a water sample: hydroxide, carbonate and bicarbonate. Alkalinity in water can be the result of contributions from common

chemicals, including carbonate, bicarbonate, hydroxide, phosphates, borate and organic acid salts.

The alkalinity of a water sample indicates its ability to resist pH change. The amount of alkalinity in water is mostly due to the bicarbonate/carbonate present. A low alkalinity level indicates that the water is susceptible to pH changes, while a high alkalinity level indicates that the water will be able to resist pH changes. Alkalinity can also be used to determine the corrosive capacity of water and can provide an estimation of water hardness.

## On-screen Features



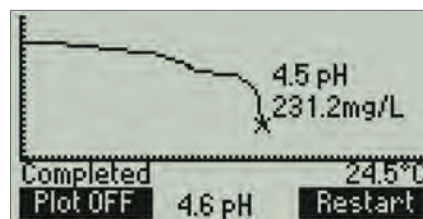
### Easy and clear measurement

These titrators are designed to measure in a few easy steps. The results are displayed directly on the screen.



### Electrode condition on display

These titrators feature a pH meter which also displays the electrode condition on the LCD.



### Titration Curve Displayed On Screen

The HI84531 offers real time graphing of the titration curve on the LCD.

## Specifications

### HI84531

Titrator	Range (as CaCO <sub>3</sub> )	Low Range: 30.0 to 400.0 mg/L; 0.6 to 8.0 meq/L High Range: 300 to 4000 mg/L; 6.0 to 80.0 meq/L
	Resolution	Low Range: 0.1 mg/L (ppm); 0.1 meq/L High Range: 1 mg/L (ppm); 1 meq/L
	Accuracy (@25°C/77°F)	Low Range: ±1 mg/L or 3% of reading, whichever is greater High Range: ±10 mg/L or 3% of reading, whichever is greater
	Titration Method	acid-base titration (strong alkalinity /total alkalinity)
	Titration Principle	endpoint titration : 8.30 pH (phenolphthalein) / 4.50 pH (bromcresol green-methyl red)
	Pump Volume	10 mL/min
	Stirring Speed	600 rpm
pH	Range	-2.0 to 16.0 pH / -2.00 to 16.00 pH
	Resolution	0.1 pH / 0.01 pH
	Accuracy (@25°C/77°F)	± 0.01 pH
	Calibration	one, two or three-point calibration; four available buffers (4.01, 7.01, 8.30, 10.01)
	Temperature Compensation	manual or automatic
mV	Range	-2000.0 to 2000.0 mV
	Resolution	0.1 mV
	Accuracy (@25°C/77°F)	± 1.0 mV
Temperature	Range	-20.0 to 120.0°C; -4.0 to 248.0°F; 253.2 to 393.2 K
	Resolution	0.1°C; 0.1°F; 0.1 K
	Accuracy	±0.4°C; ±0.8°F; ±0.4 K
Additional Specifications	Logging	up to 400 samples (200 pH/mV, 200 titration)
	pH Electrode	HI1131B glass body pH electrode with BNC connector and 1 m (3.3') cable (included)
	Temperature Probe	HI7662-T stainless steel temperature probe with 1 m (3.3') cable (included)
	Connectivity	(1) Type-B USB for PC interface, (1) Type-A USB for storage
	Environment	0 to 50 °C (32 to 122 °F); max 95% RH non-condensing
	Power Supply	12 VDC adapter
	Dimensions	235 x 200 x 150 mm (9.2 x 7.9 x 5.9")
	Weight	1.9 kg (67.0 oz.)
Ordering Information	<b>HI84531-01</b> (115V) and <b>HI84531-02</b> (230V) are supplied with HI1131B pH electrode, HI7662-T temperature probe, HI7082 electrode fill solution, HI84531-70 reagent kit for water analysis, 100 mL beakers (2), dosing pump valve, 5 mL syringe, 2000 µL automatic pipette (1) with plastic tips (2), 20 mL beakers (2), tube set (aspiration tube with titrant bottle cap and dispensing tube with tip), stir bar, power adapter, instruction manual and quality certificate.	