

HI84532

# Titratable Acidity Mini Titrator and pH Meter

for Fruit Juice

- **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 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 600 RPM regardless of viscosity of solution
- **GLP features**
  - Date, time, offset, slope and buffers used
- **Easy-to-use interface**
  - 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 HI84532 digital automatic mini titrator and pH meter is designed for measuring the concentration of titratable hydrogen ions contained in fruit juice samples by neutralization with a strong base solution to a fixed pH endpoint as according to the Official Methods of Analysis of AOAC International. This new generation of mini automatic titrator improves upon the titrant delivery system and measuring ranges for increased accuracy compared to previous models. This meter reflects Hanna's years of experience as a manufacturer of analytical instruments.

A clear and intuitive user interface allows users to easily navigate the HI84532's menus and functions. The HELP key located on the keypad aids in on-screen set-up, status and troubleshooting.

The HI84532 incorporates a precise piston dosing system, which allows for a highly accurate determination of the amount of titrant used. It is capable of dynamic dosing, making testing both faster and more accurate. Pump calibrations, performed with the provided Hanna standards, help assure the measurement accuracy.

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 HI84532 is used as a pH meter but also an accurate titration since the endpoint is determined by a set pH value.

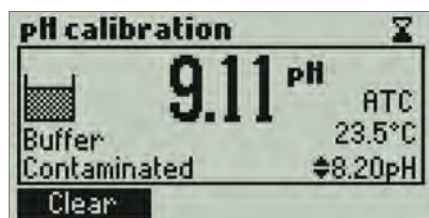
## The Importance of Titratable Acidity

Titratable acidity is an important parameter in determining fruit maturity and sour taste in citrus fruits. The maturity of fruit is one of

the most important factors to determine how well fruit will store and how it will taste. For some fruits, governmental quality standards (based on titratable acidity or the ratio of total soluble solids (°Brix) to titratable acidity) are in place to protect consumers. Immature fruit will normally have a low sugar to acid ratio as compared to mature fruit that will have a high sugar to acid ratio.

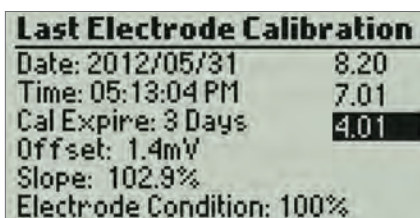
The HI84532 measures the concentration of titratable acids contained in fruit juice samples by neutralization with a strong base solution to a fixed pH. This value includes all the substances of an acidic nature in the fruit juice including: free hydrogen ions, organic acids and acid salts. Titratable acidity is expressed as g/100 mL of the predominant acid. The predominant acids in fruit depend on the type of fruit being tested and include citric acid, tartaric acid, and malic acid.

## On-screen Features



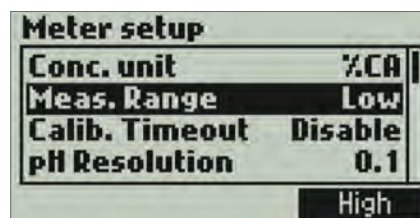
### CAL Check™

CAL Check is a Hanna exclusive process for checking the condition of pH electrodes for accurate measurements



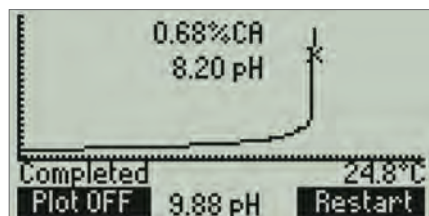
### GLP

The GLP feature records electrode and pump calibration data to help keep measurements accurate and reliable.



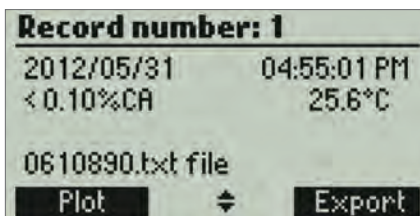
### Setup screens

The LCD features an easy to use setup screen.



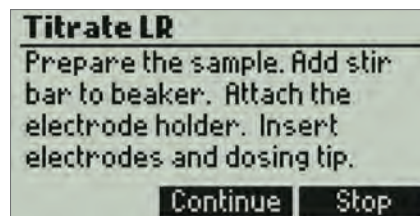
### Titration curve displayed on screen

The HI84532 offers real time graphing of the titration curve on the LCD.



### Log and recall data

The HI84532 can log up to 400 samples (200 for titration; 200 for pH/mV) and recall or export data to a USB drive or PC.



### Tutorial and help screens

Accessing the tutorial menu provides helpful information during calibration and titration.

### Specifications

### HI84532

Titrator	Titrateable Acidity Range	Low Range (5 mL sample): g/100 mL as citric acid: 0.10 to 2.00% CA; g/100 mL as tartaric acid: 0.11 to 2.35% TA; g/100 mL as malic acid: 0.10 to 2.09% MA High Range (5 mL sample): g/100 mL as citric acid: 1.00 to 10.00% CA; g/100 mL as tartaric acid: 1.17 to 11.72% TA; g/100 mL as malic acid: 1.05 to 10.47% MA
	Titrateable Acidity Resolution	0.01%
	Accuracy (@25°C/77°F)	± 0.02% CA or 3% of reading whichever is greater
	Titration Method	acid-base titration
	Principle	endpoint titration: 8.1 pH
	Pump Speed	10 mL/min
pH Meter	Stirring Speed	600 rpm
	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, 8.20, 10.01)
mV Meter	Temperature Compensation	manual or automatic
	Range	-2000.0 to 2000.0 mV
	Resolution	0.1 mV
Temperature	Accuracy	± 1.0 mV
	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
Additional Specifications	Accuracy (@25°C/77°F)	±0.4°C; ±0.8°F; ±0.4 K
	Logging Data	up to 400 samples (200 pH/mV, 200 titration)
	Electrode	HI1131B glass body pH electrode with BNC connector and 1 m (3.3') cable
	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); RH max 95% non-condensing
	Power Supply	12 VDC power adapter (included)
	Dimensions	235 x 200 x 150 mm (9.2 x 7.9 x 5.9")
	Weight	1.9 kg (67.0 oz.)
	Ordering Information	HI84532-01 (115V) and HI84532-02 (230V) are supplied with HI84532-70 reagent Kit for titrateable acidity in fruit juice, HI1131B pH electrode, HI7662-T temperature probe, HI7082 electrode fill solution (30 mL), 100 mL beakers (2), 20 mL beaker, tube set (aspiration tube with titrant bottle cap and dispensing tube with tip), dosing pump valve, 5 mL syringe, 1 mL plastic pipette, stir bar, power adapter, instruction manual and quality certificate.



HI84531 Titratable Alkalinity Mini Titrator and pH Meter Reagents and Accessories

Reagent Code	Description
HI84531-50	titrant solution for low range, 120 mL
HI84531-51	titrant solution for high range, 120 mL
HI84531-55	pump calibration standard, 230 mL
HI7004M	pH 4.01 buffer, 230 mL
HI7007M	pH 7.01 buffer, 230 mL
HI70083M	pH 8.30 buffer, 230 mL
HI7010M	pH 10.01 buffer, 230 mL
HI70300M	storage solution, 230 mL
HI7082	pH electrode filling solution, 3.5M KCl, 30 mL (4)
HI7061M	general purpose electrode cleaning solution, 230 mL

Accessory Code	Description
HI740236	5 mL syringe for mini titrator
HI70500	tube set with cap for titrant bottle, tip and valve
HI731319	stir bar, 25 x 7 mm (10)
HI740036P	100 mL beaker (10)
HI920013	PC connection cable
HI1131B	replacement pH electrode
HI7662-T	replacement temperature probe

HI84529 Titratable Acidity Mini Titrator and pH Meter Reagents and Accessories

Reagent Code	Description
HI84529-50	titrant solution for low range 20, 120 mL
HI84529-51	titrant solution for high range 20, 120 mL
HI84529-52	titrant solution for low range 50, 120 mL
HI84529-55	pump calibration standard, 230 mL
HI7004M	pH 4.01 buffer, 230 mL
HI70060M	pH 6.00 buffer, 230 mL
HI70083M	pH 8.30 buffer, 230 mL
HI7010M	pH 10.01 buffer, 230 mL
HI70300M	storage solution, 230 mL
HI70640M	cleaning solution for milk deposits, 230 mL
HI70641M	cleaning and disinfection solution for dairy products, 230 mL
HI7072	reference half-cell filling solution, 1M KNO <sub>3</sub> , 30 mL (4)

Accessory Code	Description
HI70500	tube set with cap for titrant bottle, tip and valve
HI731319	stir bar, 25 x 7 mm (10)
HI740036P	100 mL beaker (10)
HI740037P	20 mL beaker (10)
HI740236	5 mL syringe for mini titrator
HI920013	PC connection cable
FC260B	replacement pH half-cell electrode for dairy
HI5315	replacement reference half-cell electrode
HI7662-T	replacement temperature probe

HI84532 Titratable Acidity Mini Titrator and pH Meter Reagents and Accessories

Reagent Code	Description
HI84532-50	titrant solution for low range, 120 mL
HI84532-51	titrant solution for high range, 120 mL
HI84532-55	pump calibration standard, 230 mL
HI7004M	pH 4.01 buffer, 230 mL
HI7007M	pH 7.01 buffer, 230 mL
HI70082M	pH 8.20 buffer, 230 mL
HI7010M	pH 10.01 buffer, 230 mL
HI70300M	storage solution, 230 mL
HI7061M	general purpose cleaning solution, 230 mL
HI7082	pH electrode filling solution, 3.5M KCl, 30 mL (4)

Accessory Code	Description
HI731342	automatic pipette (2000 µL)
HI731352	tips for 2000 µL automatic pipette (4)
HI70500	tube set with cap for titrant bottle, tip and valve
HI731319	stir bar, 25 x 7 mm (10)
HI740036P	100 mL beaker (10)
HI740037P	20 mL beaker (10)
HI740236	5 mL syringe for mini titrator
HI920013	PC connection cable
HI1131B	replacement pH electrode
HI7662-T	replacement temperature probe