

HI93414

# Turbidity and Free/ Total Chlorine Portable Meter

*Fast Tracker™ Technology,  
EPA Compliant*

The HI93414 is a multiparameter instrument that measures the most important parameters in drinking water: turbidity and chlorine. The instrument is based on a state-of-the-art optical system which provides accurate results by minimizing stray light and color interferences. Periodic calibration with the supplied standards compensates for any variations in intensity of the tungsten lamp. The colorimeter portion of the meter uses a 525 nm narrow band interference filter for maintaining the proper wavelength in the measurement of free and total chlorine. All measurements are performed with 25 mm round cuvettes composed of special optical glass to ensure maximum repeatability of turbidity and chlorine measurements.

## EPA Compliant

The HI93414 meets and exceeds the requirements of EPA and Standard Methods both for turbidity and colorimetric chlorine measurements. When the meter is in EPA mode all turbidity readings are rounded accordingly to meet reporting requirements.



## Backlit Display

A backlit LCD display provides an easy to understand, user-friendly interface. Displayed codes guide the user step-by-step through routine operation and calibration.

## Three Measurement Modes

The HI93414 features three options for measurement including ratio mode for turbidity, free chlorine, and total chlorine. Turbidity measurements can be made in the 0.00 to 1000 NTU (Nephelometric Turbidity Units) range, while free or total chlorine measurements can be made in the 0.00 to 5.00 mg/L (ppm) range.



## Multiple reading modes

Normal measurement, continuous measurement, or signal averaging measurement are reading modes available.

## CAL Check™

With the CAL Check function, reliable performance of the chlorine colorimeter can be validated at any moment by using the exclusive HANNA ready-made, NIST traceable standards. All standards are supplied with a Certificate of Analysis (COA) for traceability.

## Calibration

A two, three, or four-point turbidity calibration can be performed by using the supplied (<0.1, 15, 100, and 750 NTU) standards. Calibration points can be modified if user-prepared standards are used. For free and total chlorine, the 1.00 mg/L (ppm) CAL Check standard can be used for calibration and performance verification.

## AMCO AEPA-1 Primary Turbidity Standard

The AMCO AEPA-1 supplied standards are recognized as a primary standard by the USEPA. These non-toxic standards are made of styrene divinylbenzene polymer spheres

that are uniform in size and density. The standards are reusable and stable with a long shelf life.

## GLP Data

The HI93414 features complete GLP (Good Laboratory Practice) functions that allow traceability of the calibration conditions. Data includes calibration points, date, and time.



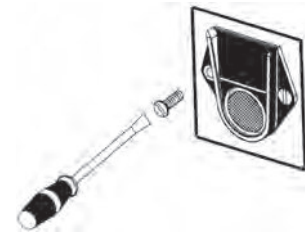
## Data Logging

Up to 200 measurements can be stored in the internal memory and recalled at any time.

## Data Transfer

For further storage or analysis options, logged data can be downloaded to a Windows compatible PC using the RS232 or USB ports and the HI92000 software.

**FastTracker™**  
location traceability



### iButton® Tags are Easy to Install

Install tags near your sampling points for quick and easy iButton® readings. Each tag contains a computer chip with a unique identification code encased in stainless steel. You can install a practically unlimited amount of tags.



HI920005 Tag holders with tags (5)

### Fast Tracker™

For advanced, field applications, the HI93414 is equipped with Fast Tracker™ Tag Identification System (T.I.S.) that makes data collecting and management simpler than ever. Fast Tracker™ allows users to record the time and location of a specific measurement or series of measurements using iButton® tags near sampling points for quick and easy readings. Each iButton® tag contains a computer chip with a unique identification code encased in stainless steel.



Power connector

USB

RS232

Fast Tracker™



#### HI93414 Turbidity

Range	0.00 to 9.99 NTU; 10.0 to 99.9 NTU; 100 to 1000 NTU
Range Selection	automatic
Resolution	0.01; 0.1; 1
Accuracy	±2% of reading plus 0.02 NTU
Repeatability	±1% of reading or 0.02 NTU, whichever is greater
Stray Light	< 0.02 NTU
Light Detector	silicon photocell
Method	ratio nephelometric method (90° and 180°), ratio of scattered and transmitted light; adaptation of the USEPA method 180.1 and standard method 2130 B
Measuring Mode	normal, average, continuous
Turbidity Standards	<0.1, 15, 100 and 750 NTU
Calibration	two, three or four-point calibration

#### HI93414 Free and Total Chlorine

Range	0.00 to 5.00 mg/L
Resolution	0.01 mg/L (0.00 to 3.50 mg/L); 0.10 mg/L (above 3.50 mg/L)
Accuracy @25°C /77°F	±0.02 mg/L @ 1.00 mg/L
Detector	silicon photocell with 525 nm narrow band interference filter
Method	adaptation of the USEPA method 330.5 and standard method 4500-Cl <sub>G</sub> .
Standards	1 mg/L free chlorine, 1 mg/L total chlorine
Calibration	one-point calibration

#### HI93414 General Specifications

Light Source	tungsten filament lamp
Lamp Life	greater than 100,000 readings
Log Memory	200 records
Serial Interface	USB or RS 232
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing
Power Supply	1.5V AA alkaline batteries (4) or AC adapter; auto-off after 15 minutes of non-use
Dimensions / Weight	224 x 87 x 77 mm (8.8 x 3.4 x 3.0") / 512 g (18 oz.)

#### Ordering Information

**HI93414-01** (115V) and **HI93414-02** (230V) is supplied with iButton® tags with tag holders (5), sample cuvettes and caps (5), calibration cuvettes for turbidity (HI98703-11), calibration cuvettes for chlorine (HI93414-11), silicone oil (HI98703-5B), cuvette wiping cloth, scissors, batteries, AC adapter, instrument quality certificate, instruction manual and rugged carrying case.