

HI5421

Research Grade Bench Meter

Dissolved Oxygen and BOD



The HI5421 is an advanced research grade benchtop Dissolved Oxygen and BOD meter that is completely customizable with a large color LCD, capacitive touch keys, and USB port for computer connectivity. The HI5421 is rich in features including data logging, alarm limits, comprehensive GLP, and many more while retaining simplicity in use with both dedicated keys for routine operation and virtual keys that guide the user through setup options.

Customizable User Interface

The user interface of the HI5421 allows the user to show measurements in various modes: basic measurement with or without GLP information, real-time graphing, and logging data. Calibration stability criteria can be adjusted from fast, moderate, and accurate. Programmable alarm limits can be set to inside or outside allowable limits.

Color Graphic LCD

The HI5421 features a color graphic LCD with on-screen help, graphic, and custom color configurations. The display allows for real-time graphing and the use of virtual keys provide for an intuitive user interface.

Capacitive Touch

The HI5421 features sensitive capacitive touch buttons for accurate keystrokes when navigating menus and screens. There are four dedicated keys that are used for routine operations including calibration and switching measurement modes and four virtual keys that change based upon use. The capacitive touch technology ensures the buttons never get clogged with sample residue.

Built in Barometer

Readings are compensated for barometric pressure by a built in pressure transducer located in the meter. Calibration of the barometric pressure is single point with manual entry of current value obtained from local weather service or other device. Barometric pressure is displayed in a multiple choice of units including mmHg, mbar, kPa, mHg, psi, and atm.

Choice of Calibration

Automatic standard recognition is available for two points at 0% and 100% saturation or 0 mg/L and 8.26 mg/L. A user standard option is available for a user defined value.

BOD, OUR and Sour Measurement Modes

An additional three measurement modes are available to measure Biological Oxygen Demand (BOD), Oxygen Uptake Rate (OUR) and Specific Oxygen Uptake Rate (SOUR). Simply enter values and take readings at appropriate times and the meter will automatically calculate the values.

Automatic Salinity Compensation

The HI5421 allows for automatic salinity compensation with a selectable salinity range of 0 to 45 g/L.

GLP Data

View calibration data and calibration expiration information by selecting the Good Laboratory Practice (GLP) display option. Calibration data include date, time, and calibration points.

Data Transfer

Data can be transferred to a PC with USB cable and HI92000 software (both sold separately).

Data Logging

Three selectable logging modes are available on the HI5421: automatic, manual, and AutoHold logging. Automatic and manual logs up to 100 lots with 50,000 records max/lot, with up to 100,000 total data points. Automatic logging features the option to save data according to sampling period and interval.

Contextual Help

Contextual help is always available through a dedicated "HELP" key. Clear tutorial messages and directions are available on-screen to quickly and easily guide users through setup and calibration. The help information displayed is relative to the setting/option being viewed.



DO probe included

The HI5421 is supplied with the HI76483 Clark-Type Polarographic probe. This probe is only 12 mm in diameter and has a built in thermistor temperature sensor that compensates for temperature variations from 0 to 50°C.

Specifications

	HI5421	
Dissolved Oxygen	Range	0.00 to 90.00 ppm (mg/L); 0.0 to 600.0 % saturation
	Resolution	0.01 ppm; 0.1% saturation
	Accuracy	±1.5% of reading ±1 LSD
	Calibration	automatic using single or two-point calibration; user calibration single point
Barometric Pressure	Range	450 to 850 mmHg; 600 to 1133 mBar; 60 to 133 KPa; 17 to 33 inHg; 8.7 to 16.4 psi; 0.592 to 1.118 atm
	Resolution	1 mmHg; 1 mBar; 1 kPa; 1 inHg; 0.1 psi; 0.001 atm
	Accuracy	±3 mm Hg + 1 least significant digit
Temperature	Range	-20.0 to 120°C; -4.0 to 248.0°F; 253.15 to 393.15K
	Resolution	0.1°C; 0.1°F; 0.1K
	Accuracy	±0.2°C; ±0.4°F; ±0.2K (without probe)
Additional Specifications	Measurement Modes	direct DO; BOD (biochemical oxygen demand); OUR (oxygen uptake rate); SOUR (specific oxygen uptake rate)
	Temperature Compensation	0.0 to 50.0°C; 32.0 to 122.0°F; 237.1 to 323.1 K
	Salinity Compensation	0 to 45 ppt
	Barometric Pressure Calibration	single point calibration
	Probe	HI76483 thin body, polarographic dissolved oxygen probe with internal temperature sensor and 1 m (3.3') cable (included)
	Record Samples Logging	Up to 100 lots; 50,000 records max./lot, maximum 100,000 data points; 5000 samples/lot for Manual Logging
	Interval Logging	14 selectable between 1 second and 180 minutes
	Logging Type	manual AutoHOLD, automatic
	Alarm (DO, BOD, OUR, SOUR)	inside and outside limits
	PC Connection	opto-isolated USB
Display	graphic color LCD with 240x340 pixels	
Power Supply	12 VDC adapter (included)	
Dimensions	160 x 231 x 94 mm (6.3 x 9.1 x 3.7")	
Weight	1.2 kg (2.6 lbs.)	
Ordering Information	HI5421-01 (115V) and HI5421-02 (230V) is supplied with HI76483 DO probe, HI7041S electrolyte solution (30 mL), DO membrane caps (2), O-rings for DO membrane cap, HI76404W electrode holder, 12 VDC adapter, quality certificates, quick start guide and instruction manual.	

On-screen Features

02:53:41 PM
May 13, 2014

BOD Method

4.27 mg/L Stable
748 mmHg (A) ATC 24.4 °C

Ms. Samples or Seeds

Add Sample

Bottle ID: Bottle 1

Description: Sample 2

Bottle Volume: 300.0 mL

Seed Volume: 1.0 mL

Sample Volume: 1.0 mL

Press <Add Seed> to store new seed.

Escape Edit Next Previous

BOD (Biological Oxygen Demand)

02:57:53 PM
May 13, 2014

Measure

OUR Stable

0.351 mg/L/hr

00:08 (Min:Sec)
Running...

12.86 mg/L
748 mmHg (A) ATC 22.6 °C

Display Start Log Stop OUR

OUR (Oxygen Uptake Rate)

03:00:04 PM
May 13, 2014

Measure

SOUR Stable

0.645 mg/hr/g

00:22 (Min:Sec)
Running...

16.34 mg/L
748 mmHg (A) ATC 23.9 °C

Display Start Log Stop SOUR

SOUR (Specific Oxygen Uptake Rate)