MultiLab

MULTIPARAMETER LABORATORY INSTRUMENTS

Avensys

YSI

a xylem brand

BROCHURE

W61-02

MultiLab

YSI.com/MultiLab

Customize your **MultiLab system** to meet the demands of your laboratory application.

With the ability to measure up to **25 different parameters** and simultaneously connect up to three sensors, the **MultiLab** is a line of flexible, bench top meters that can be configured to meet a variety of laboratory applications.

MultiLab **Overview**

Smart, Multiparameter Meter

Measure up to 25 different parameters with a single instrument. The MultiLab easily replaces existing instruments and streamlines your laboratory.

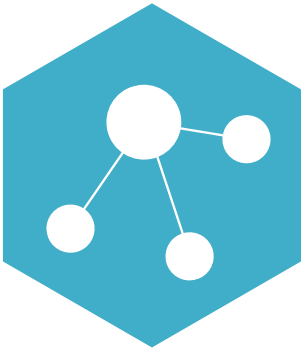
Wireless Sensors

Free yourself from cables! The MultiLab offers wireless sensors for pH, FDO, Conductivity, and ORP, giving you freedom to move around your laboratory.

The Ideal BOD Instrument

MultiLab can be used with a traditional membrane-covered sensor or an optical based probe. The choice is yours! Additionally, the 2 and 3 channel increase sample throughput with the ability to take more than one BOD measurement at a time.

MultiLab **Benefits**



Data Management

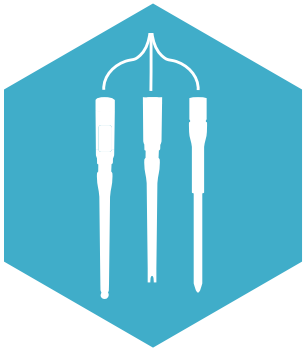
- Internal memory logs both discrete and continuous measurements
- Data exports seamlessly into Excel® or LIMS, using mini USB
- Instruments export directly to USB flash drives (4010-2W / 3W only)

Quality Control

- Be confident in the accuracy of your data with AutoStable indicator
- Instruments are GLP compliant and automatically save calibration records for review/download

Easy to Calibrate

- Built-in barometer for Dissolved Oxygen (BOD) results in more accurate calibrations
- Auto-buffer recognition for pH speeds up the calibration process
- Digital smart sensors maintain their calibration and require no setup
- Optical BOD probes reduce maintenance requirements



Sensor Compatibility

- Connect up to three sensors at once, including pH, ORP, Dissolved Oxygen (BOD), or Conductivity sensors.
- Versatile instruments accept analog sensors like Ion-Selective Electrodes (ISEs) & specialty pH probes (4010-2W/3W only, with adapter)
- New wireless sensors allow for cable-free operation

Get the Most Out of Your Investment

- Replace multiple instruments with a single MultiLab
- Protect your investment with three year instrument warranty
- Run multiple BOD measurements simultaneously with stirrer adapter (4010-2W / 3W only)

MultiLab
4010-1W

4010-1W
Parameters
pH
ORP
DO/BOD
Conductivity
Resistivity
Salinity
Total Dissolved Solids (TDS)
Temperature
Barometric Pressure

4010-1W

- One-channel input for pH, ORP, DO/BOD, or conductivity sensors
- Intelligent digital sensors (IDS) – calibration data is saved in the sensor and sensors are automatically recognized by instrument making it easy to setup
- Direct replacement for YSI 5000 and 5100 instruments
- Data storage - 500 data sets in manual mode and 5,000 data sets in automatic logging mode
- Easy-to-read graphic display
- GLP traceability (saves calibration data for later review or export)
- USB connectivity to export data
- MultiLab Importer (Excel® add-in) included
- 3-year warranty

YSI.com/4010-1W

MultiLab **4010-2W** and **4010-3W**

4010-2W and 4010-3W Parameters

pH
ORP
DO/BOD
Conductivity
Resistivity
Salinity
TDS
Temperature
Barometric Pressure
ISEs:*
Ammonia
Ammonium
Bromide
Cadmium
Calcium
Carbon Dioxide
Chloride
Copper
Cyanide
Fluoride
Iodide
Lead
Nitrate
Potassium
Silver/Sulfide
Sodium
*Only with BNC adapter

4010-2W and 4010-3W

- Two (4010-2W) or three (4010-3W) channel input for pH, ORP, DO/BOD, ISEs, or conductivity
- Intelligent digital sensors (IDS) - calibration data is saved in the sensor and sensors are automatically recognized by instrument making it easy to setup
- Built-in OUR/SOUR functionality (Oxygen Uptake Rate and Specific Oxygen Uptake Rate)
- Replaces your YSI 5100 with more features
- Data storage – 500 data sets in manual mode and 10,000 data sets in automatic logging mode
- Large, easy-to-read graphic color displays
- GLP traceability (saves calibration data for later review or export)
- Antibacterial keypad
- USB connectivity to export data to a PC
- MultiLab Importer (Excel® add-in) included
- Easily send data to flash drive or external printers with the built-in USB port
- 3-year warranty

YSI.com/4010-2W **YSI.com/4010-3W**

Sensor **Selection**

Intelligent Digital Sensors

- Install any Intelligent Digital Sensor (IDS) sensor in any channel
- Smart pH, ORP, conductivity, DO, and self-stirring BOD sensors available
- Auto-recognized upon connection
- Traceable calibrations stored in sensor – recalibration not required if moved to another port or another instrument

Intelligent Digital Wireless Sensors

- Wireless pH, ORP, conductivity, and FDO sensors available
- Range of 10 meters; measure anywhere in your lab
- No need to hassle with cables
- Quickly save data by pressing a button on the sensor
- Bluetooth LE radio technology

BNC Adapter

- Connect BNC electrodes to the 4010-2W or 4010-3W with an adapter that covers one of the digital inputs
- pH, ORP, and ISEs with BNC connection can be used, including specialty pH electrodes

YSI sensors approved for wastewater and/or drinking water compliance reporting.

EPA Approved Methodology

pH	Chloride
DO/BOD	Cyanide
Conductivity	Fluoride
Temperature	Nitrate
Ammonia	Potassium
Bromide	Sulfide

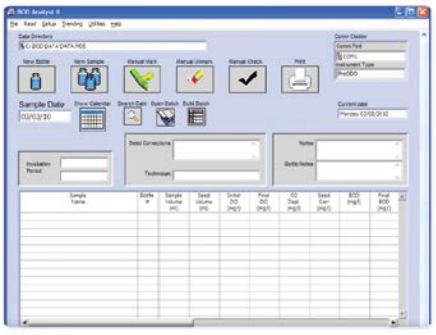
Visit the link bit.ly/EPAMethods for a complete list of parameters and the EPA approved methodology used.

WE KNOW D.O.

Convenient, Accurate Dissolved Oxygen Measurements

- Optical dissolved oxygen sensors are more stable, more accurate, and require less maintenance than membrane-covered sensors
- Traditional polarographic (membrane-covered) dissolved oxygen sensors with PE membranes have a faster response time
- Connect YSI 5010 BOD probes via an adapter
- Self-stirring motor on all BOD probes
- Fluorescent dissolved oxygen (FDO) sensor available without a self-stirring motor; available for 4010-2W and 4010-3W only
- Built-in **OUR** (Oxygen Uptake Rate) and **SOUR** (Specific Oxygen Uptake Rate) software in the 4010-2W and 4010-3W
- Save time and analyze more samples - connect multiple BOD probes at once with the stirrer adapter (2 and 3 channel only)

BOD Analyst Pro Desktop Software



- Automatically calculates BODs/CBODs conveniently and easily
- Eliminates human error in calculations
- Quickly create daily bench sheets from established samples and groups
- All batches are saved for simple retrieval at any time
- User-configurable set up regardless of seeding method, number of dilutions, or other test criteria
- Bar code compatibility ensures efficiency and improves accuracy

MultiLab Line Benchtop General Specifications

Instrument Model	Model 4010-1W	Model 4010-2W and Model 4010-3W
Measurement Channels	1	2 (4010-2) or 3 (4010-3)
Data Storage	500 data sets manual; 5,000 automatic	500 data sets manual; 10,000 automatic
Interface	Mini USB	Mini USB; USB-A
Display	Graphic, Backlit	Color, Graphic, Backlit
Power Supply	Universal power supply, 4 AA 1.5 V batteries	Universal power supply
	All Models (4010-1W, 4010-2W, 4010-3W)	
Parameters	pH, ORP (mV), Dissolved Oxygen % and mg/L with Electrochemical BOD, Optical-based BOD or FDO probe, Barometric Pressure, Conductivity, Resistivity, Salinity, Total Dissolved Solids, Temperature , extensive offering of ISEs and specialy pH electrodes*	
Temperature Compensation	Yes	
Calibration Points	DO = 2; pH = 1 to 5; 4310 conductivity probe = 1 point; ISEs: 2 to 7	
Calibration Storage	Max. 10	
Calibration Timer	1 to 999 days	
GLP/AQA Compliant	Yes	
LIMS Connection	Yes	
Certifications	CE, cETLus	
Warranty	3 years	

*ISEs and speciality electrodes compatible with 2 and 3 channel instruments with BNC adapter

MultiLab Line Benchtop Sensor Specifications

Instrument Model	4110 pH Electrode	4120 pH Electrode	4130 pH Electrode (refillable)	4210W & 4211 ORP (refillable)
pH Range	0.000 to 14.000 (±0.004**)	---	---	-1200 to +1200 mV (±0.2 mV)
Temperature Range	0 to 80°C (32 to 176°F)	0 to 80°C (32 to 176°F)	0 to 100°C (32 to 212°F)	0 to 100°C (32 to 212°F)
Temperature Accuracy	±0.2°C	±0.2°C	±0.2°C	±0.2°C
Reference Electrode	Gel	3 mol/l KCl	3 mol/l KCl	3 mol/l KCl
Membrane Shape	Cylinder	Cylinder	Cone	---
Diaphragm	Fiber	Ceramic	Platminum Wire	Ceramic
Material	Plastic	Plastic	Glass	Glass
Dimensions	Length 120 mm (4.7 in); diameter 12 mm (0.47 in)	Length 120 mm (4.7 in); diameter 12 mm (0.47 in)	Length 120 mm (4.7 in); diameter 12 mm (0.47 in)	Length 120 mm (4.7 in); diameter 12 mm (0.47 in)
Cable Length	Wireless, 1.5 m, or 3 m	Wireless or 1.5 m	Wireless or 1.5 m	Wireless or 1.5 m
Battery Life (Wireless)	60 hours	60 hours	60 hours	60 hours
Warranty	1 year	1 year	1 year	1 year

**Accuracy of sensor electronics

Instrument Model	4310 Conductivity Probe	4320 Conductivity Probe
Type	4-electrode, graphite	2-electrode, stainless steel
Conductivity Range	10 µS/cm to 2,000 mS/cm (±0.5% of value)	0.01 µS/cm to 200 µS/cm (±0.5% of value)
Resistivity	0.5 Ohm cm to 100 kOhm cm (±0.5% of value)	5 kOhm cm to 100 MOhm cm (±0.5% of value)
Salinity	0.0 to 70.0 ppt (±0.5% of value)	---
Total Dissolved Solids	0 to 1,999 mg/L; 0.0 to 199l9 g/L (±0.5% of value)	---
Temperature Range	0 to 100°C (32 to 212°F)	0 to 100°C (32 to 212°F)
Temperature Accuracy	±0.2°C	±0.2°C
Cell Constant	0.475 cm ±1.5%	0.1 cm ±2%
Material	Epoxy	Stainless Steel
Dimensions	Length 120 mm (4.7 in); diameter 15.3 mm (0.6 in)	Length 120 mm (4.7 in); diameter 12 mm (0.47 in)
Cable Length	Wireless, 1.5 m, or 3 m	1.5 m
Battery Life (Wireless)	30 hours	--
Warranty	2 years	2 years

MultiLab Line Benchtop Sensor Specifications (Continued)

Instrument Model	ProOBOD IDS 626500
Type	Optical; lifetime luminescence detection with self-stirring mechanism
Dissolved Oxygen Range	0 to 50 mgL; 0 to 500% air saturation
Dissolved Oxygen Accuracy ***	0 to 20 mg/L, ±0.1 mg/L or ±1% of reading, whichever greater; 20 to 50 mg/L, ±10% reading (system)
Dissolved Oxygen Resolution	0.01 mg/L; 0.1%
Temperature Range	Ambient 10 to 40°C (50 to 104°F); Compensation mg/L -5 to 50°C (23 to 104°F) (extrapolates beyond 45°C)
Temperature Accuracy	±0.2°C
Temperature Resolution	0.1°C
Typical Response Time	95% in 22 seconds with stirring; 95% in 40 seconds without stirring
Warranty	2 years, 1 year DO sensor cap

Instrument Model	4100 ProBOD IDS
Type	Polarographic, membrane-covered BOD probe with self stirring mechnism
Dissolved Oxygen Range	0 to 50 mgL; 0 to 500% saturation
Dissolved Oxygen Accuracy ***	0 to 20 mg/L: ±0.2 mg/L or 2% of reading whichever is greater; 20 to 50 mg/L: ±6% of reading; 0 to 200%: ±2% or 2% of reading whichever is greater; 200 to 500%: ±6% of reading
Dissolved Oxygen Resolution	0.01 mg/L; 0.1%
Temperature Range	-5 to 50°C
Operating Temperature Range (Meter)	0 to 40°C
Temperature Accuracy	±0.2°C
Temperature Resolution	0.1°C
Typical Response Time	95% in 8 seconds with Yellow PE membrane; 95% in 18 seconds with Teflon® membrane
Cable Length	1.5 m
Warranty	1 year

Instrument Model	4410 FDO IDS
Type	Optical, lifetime luminescence detection, green light, not designed for BOD bottles.
Dimensions	Cabled version: Sensor Length: 206 mm (8.1 in); Maximum: Diameter: 21.7 mm (0.85 in) Wireless version: Sensor Length: 252 mm (9.9 in) ; Maximum: Diameter: 21.7 (0.85 in)
Dissolved Oxygen Range	0 to 20 mg/L; 0 to 200% saturation
Dissolved Oxygen Accuracy ***	±01.5% of reading
Dissolved Oxygen Resolution	0.01 mg/L; 0.1%
Temperature Range	0 to 50°C
Operating Temperature Range (Meter)	0 to 40°C
Temperature Accuracy	±0.2°C
Temperature Resolution	0.1°C
Typical Response Time	95% in 45 seconds
Cable Length	Wireless, 1.5 m or 3 m
Battery Life (Wireless)	9 hours
Warranty	1 year

***Accuracy of system including probe, cable & instrument

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1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

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