

Water Quality Meter

Horiba U-50 Series Multi-parameter Meters

Measure and display 11 parameters simultaneously with newly designed control unit and sensor technology. Intuitive software assures ease of use and operation efficiency. Experience the durability and performance of an instrument that exceeds your expectations in the field testing of ground water and surface water applications.

FEATURES

Control Unit:

- Easy to read LCD display
- One-hand operation
- On-screen icon displays battery power and GPS, USB and probe unit connectivity
- Quick-connect connector (cable to control unit)
- Shock resistant cover
- Backlight display

Sensor Probe Unit:

- Ultra-sensitive turbidity sensor
- Minimum dissolved oxygen sensor maintenance with screw-on type membrane cap
- Chemical resistant materials of construction
- Optional ToupH pH electrode* that is difficult to break
- Field replaceable sensors

* Prevents damage during maintenance.

GPS Compatible (U-52G153G)

The system can be used in conjunction with the Global Positioning System (GPS) to record latitude, longitude, and other location data for individual measurements. This is particularly useful for environmental surveys.



U-50 SERIES FEATURE COMPARISON

	U-51	U-52	U-52G	U-53	U-53G
pH	✓	✓	✓	✓	✓
ORP (Oxidation Reduction Potential)	✓	✓	✓	✓	✓
Dissolved Oxygen	✓	✓	✓	✓	✓
Conductivity	✓	✓	✓	✓	✓
Salinity	✓	✓	✓	✓	✓
TDS (Total Dissolved Solids)	✓	✓	✓	✓	✓
Seawater Specific Gravity	✓	✓	✓	✓	✓
Temperature	✓	✓	✓	✓	✓
Turbidity (LED)	—	✓	✓	—	—
Turbidity (Tungsten Lamp)	—	—	—	✓	✓
Water Depth	—	—	✓	✓	✓
GPS	—	—	✓	—	✓

CALL GEOTECH TODAY (800) 833-7958

Geotech Environmental Equipment, Inc.

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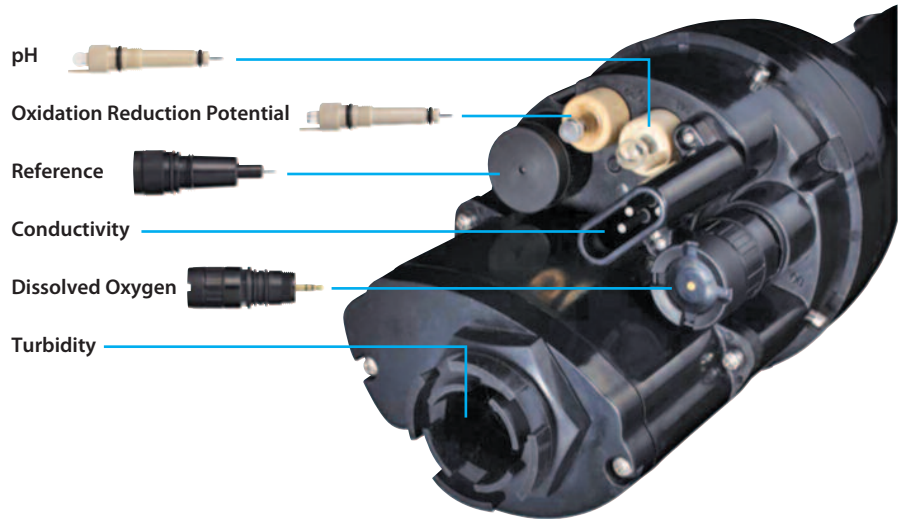
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SENSOR PROBE UNIT

Multiple Sensors Housed in Each Probe

- Multiple sensors allow for the measurement of 11 parameters simultaneously: pH, pH (mv), ORP, DO, COND, Salinity, TDS, Seawater Specific Gravity, Temperature, Turbidity, Water Depth.
- Ultra-sensitive Turbidity Sensors (Models U-52, U-53). Precision has been improved over conventional instruments. The Model U-53 high precision field replaceable turbidity sensor with wiper has a resolution of 0.01 NTU.
- Improved stability of the dissolved oxygen sensor has been achieved with a new 3 electrode design for fast response and polarographic sensor for ease of maintenance.
- pH and ORP electrodes can be replaced individually to reduce replacement costs.



CONTROL UNIT

Easy to Read LCD Display and Easy Operation

- All 11 parameters measurement data is listed on screen.
- Text size can be changed to large font.
- Small control unit design for operation with one hand.
- Icon display information.
- Operation instructions on-screen.
- Variable display contrast compensates for extreme ambient lighting conditions.

Control Unit Design for Field Operations

- Patented auto-calibration feature provides hassle-free calibration of pH, dissolved oxygen, conductivity, turbidity and depth.

- Shock resistant cover designed for rough treatment in the field and is easily cleaned.
- Cable can be easily connected and disconnected with quick-connect fitting.

Data Management

- Auto hold function freezes average data values on the screen to offer more time to verify or transcribe data.
- Diagnostic functions notify the user of errors.
- Integral USB connection for data transfer to a PC. USB cable is sold separately and includes software.
- Selectable measurement units allow the operator to report data without the need to convert data to desired units of measure.



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SPECIFICATIONS

	U-51	U-52	U-52G	U-53	U-53G	
	Simultaneous Display of 10 Parameters Max.	Simultaneous Display of 11 Parameters Maximum				
Sensor Probe	Measurement Temperature	-5° to 55°C				
	Max. Sensor Diameter	Approx. 96mm				
	Probe Length	Approx. 340mm				
	Cable Length	Standard: 2m, Option: 10 and 30m				
	Weight	Approx. 1800g (Approx. 3.97 lbs.)				
	Automatic Calibration (uses pH4)	Applying to all models				
	Turbidity Wiper	-	-	-	✓	✓
	Measurement Depth	Maximum 30m				
	Material Contact with Liquid	PPS, Glass, SUS316L, SUS304, FKM, PEEK, Titanium, FEP membrane, POM				
Water Resistance	JIS protection level 8					
Control Unit (Monitor)	Outer Dimensions	115(W) x 65(D) x 280(H) mm				
	Weight	Approx. 800g (Approx. 1.76 lbs.)				
	LCD	320 x 240 Graphic liquid crystal with backlight (black and white)				
	Data Memory	10,000				
	Communication	USB				
	Battery	C batteries x 4				
	Water Resistance	JIS protection level 7 (when sensor cable is fitted)				
	Battery Life*	Approx. 70 hours (without backlight)		Approx. 500 measurements		
	Storage Temperature	-10° to 60°C				
	Ambient Temperature	-5° to 45°C				
pH (All Models) • Two-Point Calibration • Automatic Temperature	Measurement Principle	Glass electrode method				
	Range	pH 0 to 14				
	Resolution	0.01pH				
	Repeatability**	±0.05pH				
	Accuracy***	±0.1pH				
Oxidation Reduction Potential (ORP) (All Models)	Measurement Principle	Platinum electrode method				
	Range	-2000 mV to +2000 mV				
	Resolution	1 mV				
	Repeatability**	±5 mV				
	Accuracy***	±15 mV				
Dissolved Oxygen (DO) (All Models) • Salinity Conversion (0 to 70 PPT/Automatic) • Automatic Temperature Compensation	Measurement Principle	Polarograph method				
	Range	0 to 50.0 mg/L				
	Resolution	0.01 mg/L				
	Repeatability**	±0.1 mg/L				
	Accuracy***	0 to 20 mg/L: ±0.2 mg/L, 20 to 50 mg/L: ±0.5 mg/L				
Conductivity (COND) (All Models) • Auto Range • Automatic Temperature Conversion (25°C)	Measurement Principle	4 AC electrode method				
	Range	0 to 10 S/m (0 to 100 mS/cm)				
	Resolution	0.000 to 0.999 mS/cm: 0.001 1.00 to 9.99 mD/cm: 0.01 10.0 to 99.9 mS/cm: 0.1				
	Repeatability**	±0.05% F.S.				
	Accuracy***	±1% F.S. (Median of two-point calibration)				
Salinity (All Models)	Measurement Principle	Conductivity conversion				
	Range	0 to 70 PPT (permillage)				
	Resolution	0.1 PPT				
	Repeatability**	±1 PPT				
	Accuracy***	±3 PPT				
Total Dissolved Solid (TDS) (All Models) • Conversion Factor Setting	Measurement Principle	Conductivity conversion				
	Range	0 to 100 g/L				
	Resolution	0.1% F.S.				
	Repeatability**	±2 g/L				
	Accuracy***	±5 g/L				
Seawater Specific Gravity (All Models) • Display σ1, σ0, σ15	Measurement Principle	Conductivity conversion				
	Range	0 to 50 σt				
	Resolution	0.1 σt				
	Repeatability**	±2 σt				
	Accuracy***	±5 σt				
Temperature (All Models)	Measurement Principle	Thermistor method				
	Range	-5° to 55°C				
	Resolution	0.01°C				
	Repeatability**	±0.10°C (at calibration point)				
	Accuracy***	JIS class B platinum thermometer sensor (±0.3 + 0.005)				
Turbidity (TURB)	Measurement Principle	-	LED light source and 30° scattering method	Tungsten lamp source and 90° scattering method		
	Range	-	0 to 800 NTU	0 to 1000 NTU		
	Resolution	-	0.1 NTU	0.01 NTU		
	Repeatability**	-	±5% (reading) or ±0.5 NTU whichever is greater	±3% (reading) or ±0.1 NTU whichever is greater		
	Accuracy***	-	±5% (reading) or ±1 NTU whichever is greater	0 to 10 NTU: ±0.5 NTU 10 to 1000 NTU: 3% (reading) or ±1 NTU whichever is greater		
Water Depth	Measurement Principle	-	-	Pressure method		
	Range	-	-	0 to 30m		
	Resolution	-	-	0.5m		
	Repeatability**	-	-	±1% F.S.		
	Accuracy***	-	-	±0.3m		
GPS	12 Channel Parallel	-	-	✓	✓	

*Battery life based on continuous operation using alkaline C dry cell batteries when the monitor temperature is over 20°C and the backlight OFF.

**Repeatability is measured by the ability to reproduce the results against the standard solution (at 25°C normal pressure condition).

***Accuracy is measured by calibrating 4 points for turbidity and electrical conductivity and 2 points for all other measurements against standard solution.