


Measure and
Display up to
11 Items
Simultaneously

**Rugged
Outdoor
Design**


Multi-parameter Water Quality Meters


U-50 Series


5 languages display

English 

Japanese 

Russian 

Spanish 

Portuguese 

Multi-parameter Water Quality Meters



CE marking compliant



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.

Measure and
Display up to
11 Items
Simultaneously

Control Unit Features:

- 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



Operating instructions

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Design

Sensor Probe Unit Features:

- Turbidity Sensor conforms to US EPA method 180.1 (U-53/U-53G)
- Turbidity Sensor conforms to EN ISO 7027 (U-54/U-54G)
- 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.



Innovative Features,

Design and Performance that Makes Measurement Easy in a Variety of Applications



●Measurement at a Drainage
Ditch or Wharf

Instantaneously monitor, collect and store data while moving the submersed sensor probe unit.



●Measurement in Marshes

The control unit's waterproof design allows the user to work without concern of splashing or accidentally dropping the control unit in the water. The backlight display allows the user to take measurements in the dark.



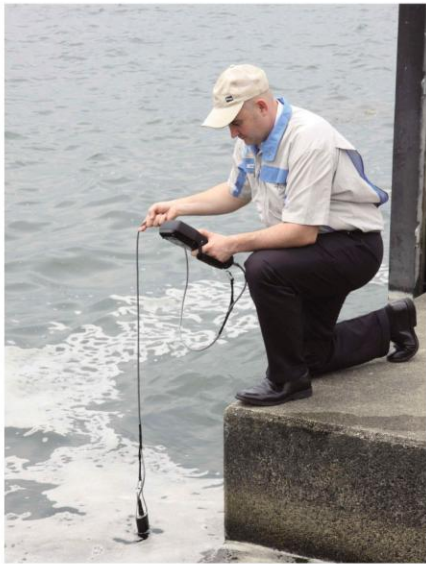
●Measurements in Surface Water

The long 30 meter cable option allows the user to deploy the sensor probe unit and collect measurement data at varying depths. The GPS models facilitate environmental surveys of oceans, lakes and rivers.



●Measuring Ground Water from an Intake

With the sensor probe lowered and submersed at an intake, 10,000 data sets can be stored in the control unit and transferred to a PC later.

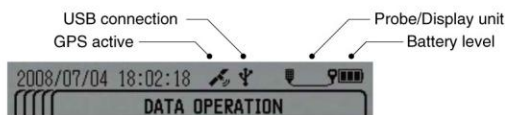


Exceptional Performance and Optimal Design for field ap

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

- 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.



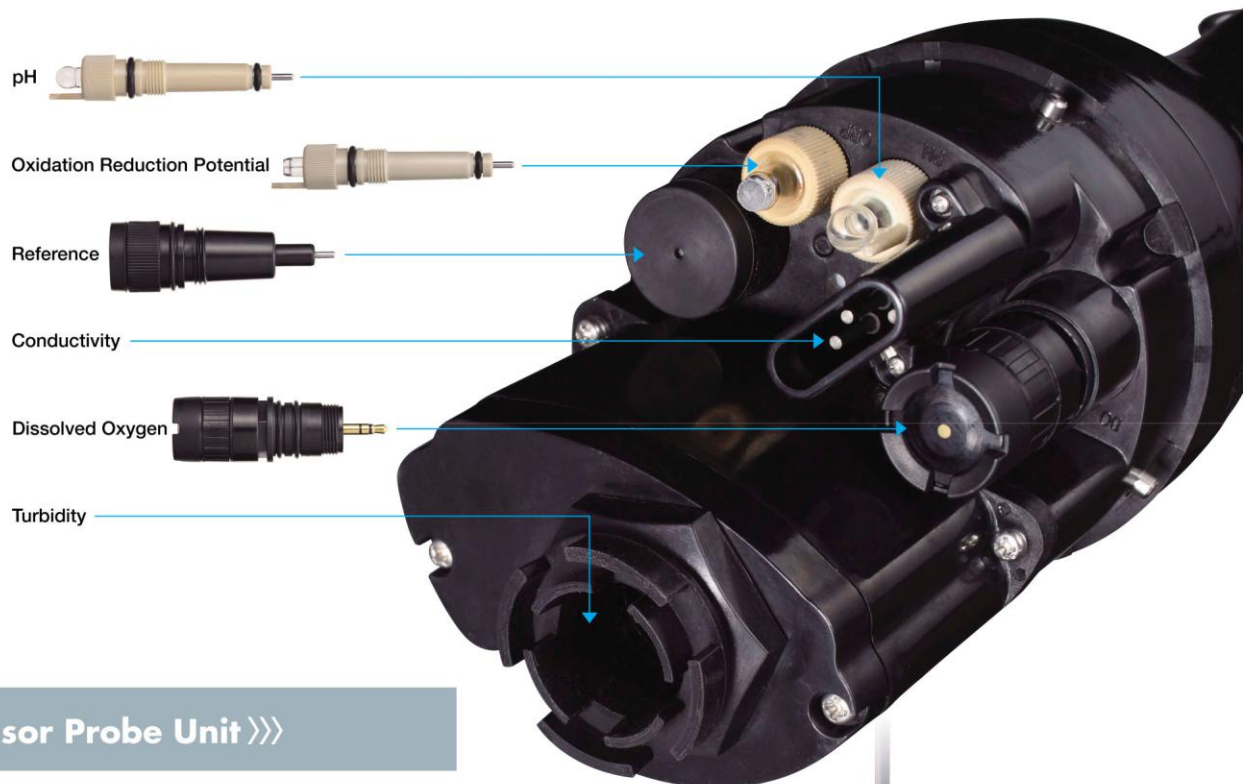
Data Management

- 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.



■ GPS Compatible (U-52G/53G/54G)

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.



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)
- Turbidity Sensor U-53 conforms to US EPA method 180.1. 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.
- Turbidity sensor of U-54 conforms to EN ISO 7027. The model U-54 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.

■ U-5X series specification comparison list

	U-51	U-52	U-52G	U-53	U-53G	U-54	U-54G
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	—	—	●	—	●	—	●

Note: *U-54/G(2m) don't have the feature of water depth.



U-50 Series Specifications



		U-51	U-52	U-52G	U-53	U-53G	
Sensor Probe	Measurement temperature	-10 to 55℃					
	Maximum sensor diameter	Approx. 96 mm					
	Probe length	Approx. 340 mm					
	Cable length	Standard: 2 m, option: 10, 30 m					
	Mass	Approx. 1,800 g (Approx. 3.97 lbs)					
	Automatic calibration (uses pH4)	●		●		●	
	Turbidity wiper	—	—	—	●		●
	Measurement depth	Max. 30 m					
	Liquid contact part material (liquid end material)	PPS, glass, SUS316L, SUS304, FKM, PEEK,Q, titanium, FEP membrane, POM					
Water resistance	JIS protection level 8						
Control Unit	Outer dimensions	115 (W) x 66 (D) x 283 (H) mm					
	Mass	Approx. 800 g (Approx. 1.76 lbs)					
	LCD	320 x 240 liquid crystal display 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℃					
Ambient temperature	-5 to 45℃						
pH ●Two-point calibration ●Automatic temperature	Measurement principle	Glass electrode method					
	Range	pH0 to 14					
	Resolution	0.01pH					
	Repeatability	±0.05pH					
	Accuracy	±0.1pH					
Oxidation Reduction Potential (ORP)	Measurement principle	Platinum electrode method					
	Range	-2000 mV to +2000 mV					
	Resolution	1 mV					
	Repeatability	±5 mV					
	Accuracy	±15 mV					
Dissolved Oxygen (DO) ●Salinity conversion (0 to 70 PPT/automatic) ●Automatic temperature compensation	Measurement principle	Polarographic 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) ●Auto range ●Automatic temperature conversion (25℃)	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 mS/cm	1.00 to 9.99 mS/cm: 0.01 mS/cm		10.0 to 99.9 mS/cm: 0.1 mS/cm		
	Repeatability	0.0 to 99.9 mS/m: 0.1 mS/m	0.100 to 0.999 S/m: 0.001 S/m		1.00 to 9.99 S/m : 0.01 S/m		
	Accuracy	±0.05% F.S.					
Salinity	Accuracy	*±1% F.S. (Median of two-point calibration)					
	Measurement principle	Conductivity conversion					
	Range	0 to 70 PPT (permillage)					
	Resolution	0.1 PPT					
	Repeatability	±1 PPT					
Total Dissolved Solid (TDS) ●Conversion factor setting	Accuracy	±3 PPT					
	Measurement principle	Conductivity conversion					
	Range	0 to 100 g/L					
	Resolution	0.1% F.S.					
	Repeatability	±2 g/L					
Seawater specific gravity ●Display σ _t , σ ₀ , σ ₁₅	Accuracy	±5 g/L					
	Measurement principle	Conductivity conversion					
	Range	0 to 50 σ _t					
	Resolution	0.1 σ _t					
	Repeatability	±2 σ _t					
Temperature	Accuracy	±5 σ _t					
	Measurement principle	Thermistor method					
	Range	-10 to 55℃					
	Resolution	0.01℃					
	Repeatability	*±0.10℃ (at calibration point)					
Turbidity (TURB)	Accuracy	JIS class B platinum thermometer sensor (±0.3+0.005 t)					
	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 to 99.9 NTU: 0.1 NTU 100 to 800 NTU: 1 NTU		0 to 9.99 NTU: 0.01 NTU 10 to 99.9 NTU: 0.1 NTU 100 to 1000 NTU: 1 NTU		
	Repeatability		*±5% (Reading) or ± 0.5 NTU whichever is greater		±3% (Reading) or ±0.1 NTU whichever is greater		
Water depth	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		
	Measurement principle			Pressure method			
	Range	—	—	0 to 30 m			
	Resolution			0.05 m			
	Repeatability			±1% F.S.			
GPS	Accuracy			±0.3 m			
	12 channel parallel	—	—	●	—	●	

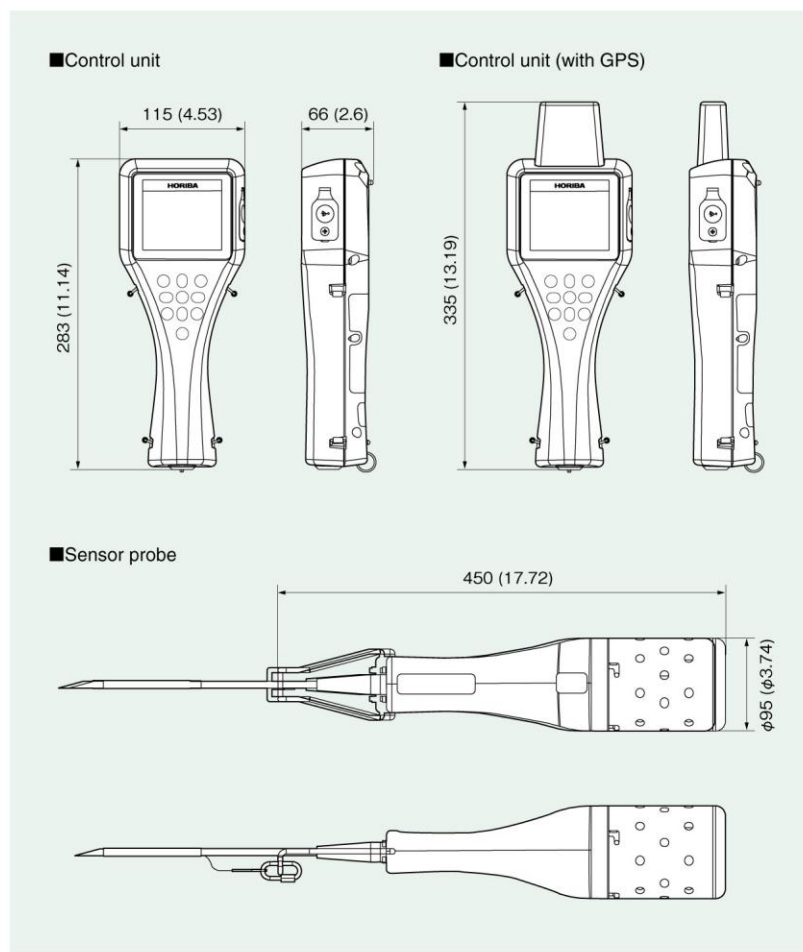
Note:

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

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

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

■ Dimensions unit: mm (in)



■ Option

Item	Model	Code
Carrying case	U-5030	3200174772
Flow chamber	—	3200156570
Probe guard	—	3200167002
Cable (with data-collection software)	—	3200174823

HORIBA continues contributing to the preservation of the global environment through analysis and measuring technology.



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