

HORIBA

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

CE marking compliant

Explore the future

HORIBA

Measure and Display 11 Parameters Simultaneously with Newly Designed Control Unit and Sensor Technology.

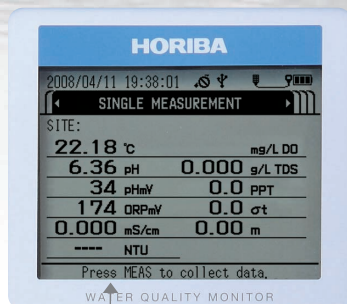
Intuitive software assures ease of use and operation efficiency.

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

Rugged
Outdoor
Design

Sensor Probe Unit Features:

- Turbidity Sensor conforms to US EPA method 180.1 (U-53/U-53G)
- 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,

Multi-parameter Water Quality Meters

U-50 Series

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.

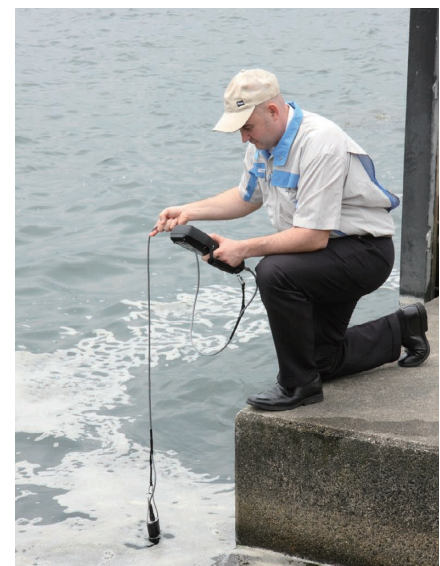
●Measurements in Surface Water

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.

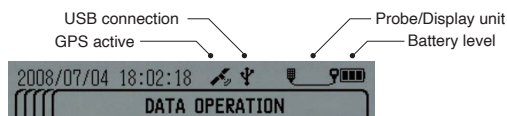


Exceptional Performance and Optimal Design for field app

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.

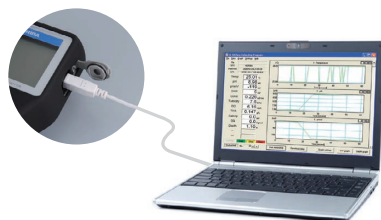
Control Unit Design for Field Operations

- 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.



pH

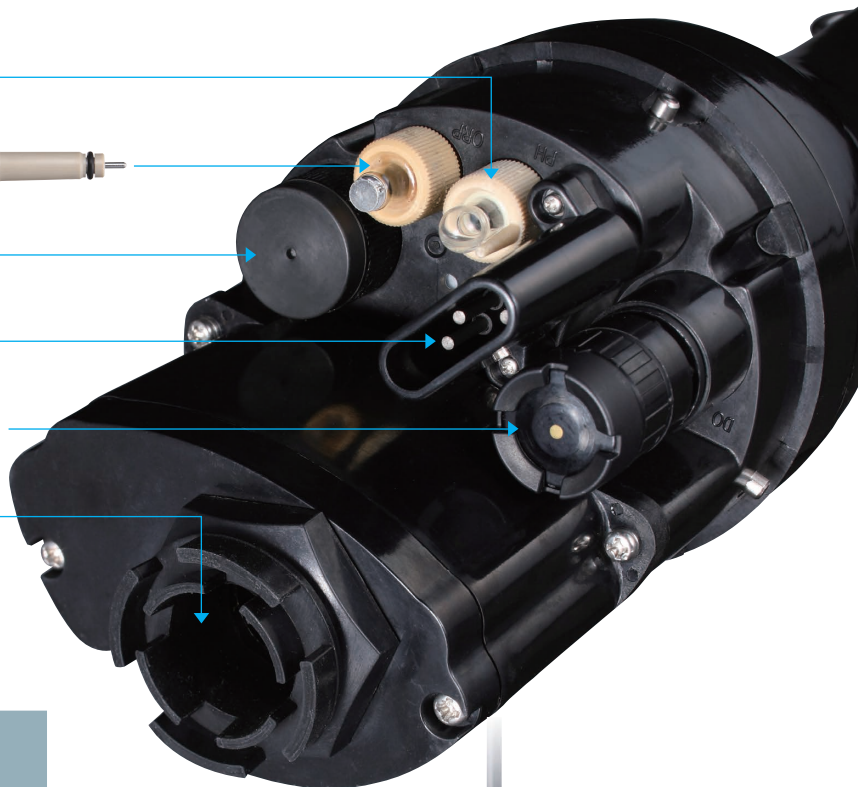
Oxidation Reduction Potential

Reference

Conductivity

Dissolved Oxygen

Turbidity



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.
- 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
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	—	—	●	—	●



U-50 Series Specifications



		U-51	U-52	U-52G	U-53	U-53G
Sensor Probe	Measurement temperature	-10 to 55°C				
	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°C				
Ambient temperature	-5 to 45°C					
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°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 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	±0.5% F.S.				
Salinity	Measurement principle	*±1% F.S. (Median of two-point calibration)				
	Range	Conductivity conversion				
	Resolution	0 to 70 PPT (permillage)				
	Repeatability	0.1 PPT				
	Accuracy	±1 PPT				
Total Dissolved Solid (TDS) ●Conversion factor setting	Measurement principle	±3 PPT				
	Range	Conductivity conversion				
	Resolution	0 to 100 g/L				
	Repeatability	0.1% F.S.				
	Accuracy	±2 g/L				
Seawater specific gravity ●Display σ _t , σ ₀ , σ ₁₅	Measurement principle	±5 g/L				
	Range	Conductivity conversion				
	Resolution	0 to 50 σ _t				
	Repeatability	0.1 σ _t				
	Accuracy	±2 σ _t				
Temperature	Measurement principle	±5 σ _t				
	Range	Thermistor method				
	Resolution	-10 to 55°C				
	Repeatability	0.01°C				
	Accuracy	*±0.10°C (at calibration point)				
Turbidity (TURB)	Measurement principle	JIS class B platinum thermometer sensor (±0.3+0.005 t)				
	Range	—	LED light source and 30° scattering method 0 to 800 NTU		Tungsten lamp source and 90° scattering method 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	
	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 30 m		
	Resolution			0.05 m		
	Repeatability			±1% F.S.		
	Accuracy			±0.3 m		
GPS	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).

■ U-50 Series

Cable length		Model
U-51	2 m	U-51 (2 m)
	10 m	U-51 (10 m)
U-52	2 m	U-52 (2 m)
	10 m	U-52 (10 m)
	30 m	U-52 (30 m)
U-52G	2 m	U-52G (2 m)
	10 m	U-52G (10 m)
	30 m	U-52G (30 m)
U-53	2 m	U-53 (2 m)
	10 m	U-53 (10 m)
	30 m	U-53 (30 m)
U-53G	2 m	U-53G (2 m)
	10 m	U-53G (10 m)
	30 m	U-53G (30 m)

■ Standard Accessories

Item	Quantity
pH4 standard solution (500mL)	1
pH reference internal solution (250 mL)	1
DO sensor internal solution set ●Internal solution (50mL) ●Sandpaper (#8000, #600) ●Syringe	1
DO Membrane space parts set	1
Spanner for DO sensor	1
Cleaning brush	1
Calibration cup	1
Back pack	1
Strap	1
Silicon grease	1
Instruction manual	1

■ Option

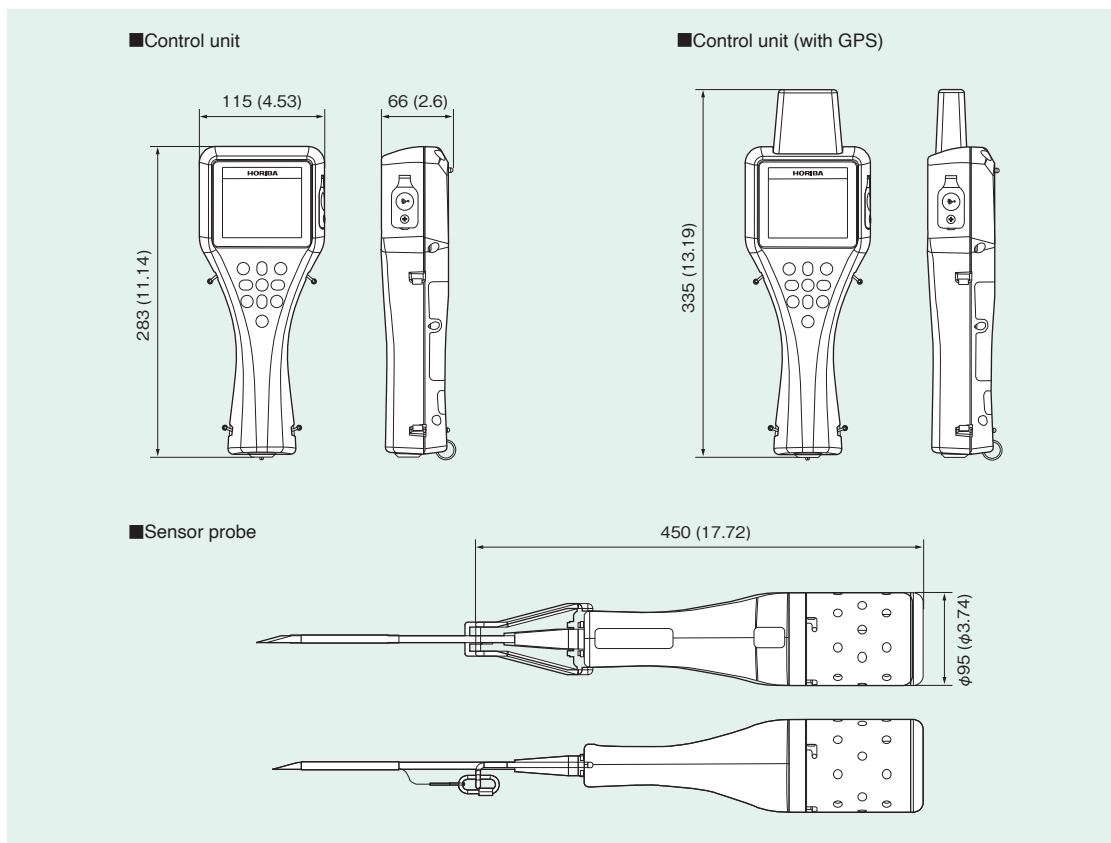
Item	Model
Carrying case 	U-5030
Flow chamber 	—
Probe guard	—
Cable (with data-collection software)	—

■ Consumables

Item	Model
pH sensor	7112
pH sensor ToupH	7125
ORP sensor	7313
DO sensor	7543
Reference sensor	7210
Reference tip	—
Turbidity sensor U-52/52G	7800
Turbidity sensor U-53/53G	7801
DO membrane cap	—
DO Inner fluid 50mL	306

■ Standard solution

Item	Model
Standard solution	pH4 (for automatic calibration), 500 mL
	100-4
	pH4 (for automatic calibration), 4 L
	140-4
	pH7 500 mL
	100-7
Standard solution	pH9 500 mL
	100-9
	ORP standard solution powder For 250 mL×10
	160-51
Internal solution	ORP standard solution powder For 250 mL×10
	160-22
Internal solution	Internal solution for pH reference 250 mL
	330



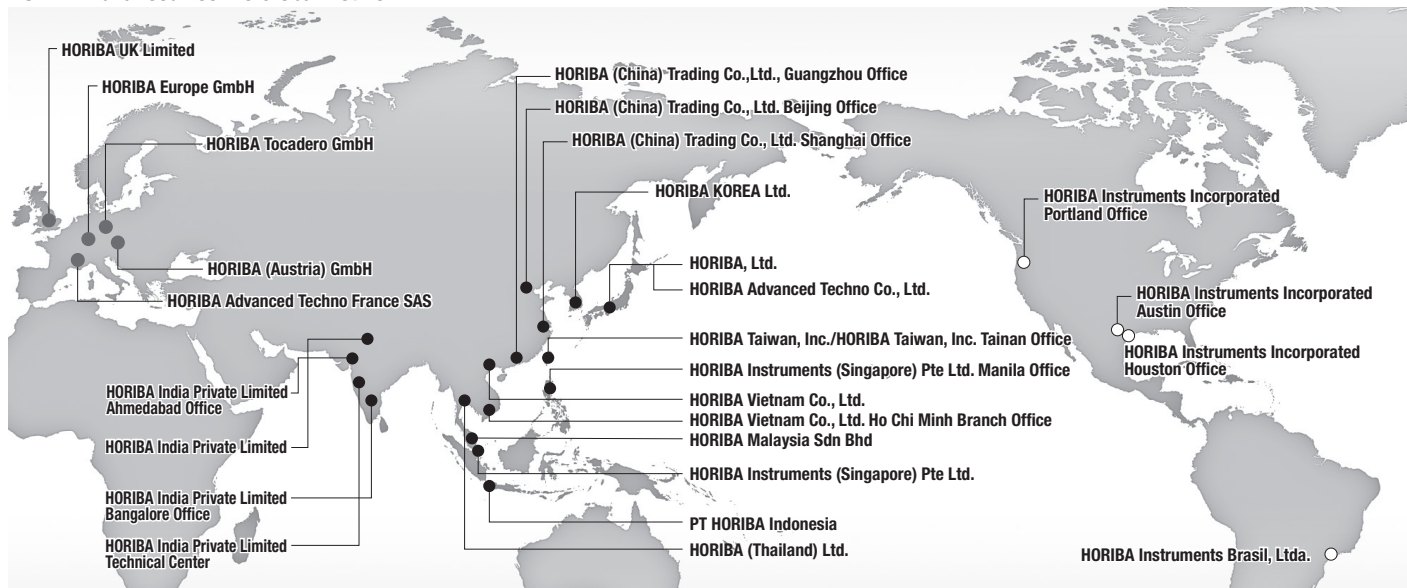
HORIBA Group is certified Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001 and operate as Integrated Management System (IMS).



Please read the operation manual before using this product to assure safe and proper handling of the product.

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HORIBA Advanced Techno Global Network



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