

WQC-40

Portable multi-item water quality meter



Sea Water
Specific
Gravity

TDS

Salt

Conductivity

pH

Water
depth

ORP

Ion

Dissolved
Oxygen

Temperature

Turbidity

A single unit can measure up to 9 items simultaneously
Water depths up to 100m



From environmental monitoring of rivers and lakes to water quality management in factories and fish farms

Integrated sensor supports multi-item water quality measurement



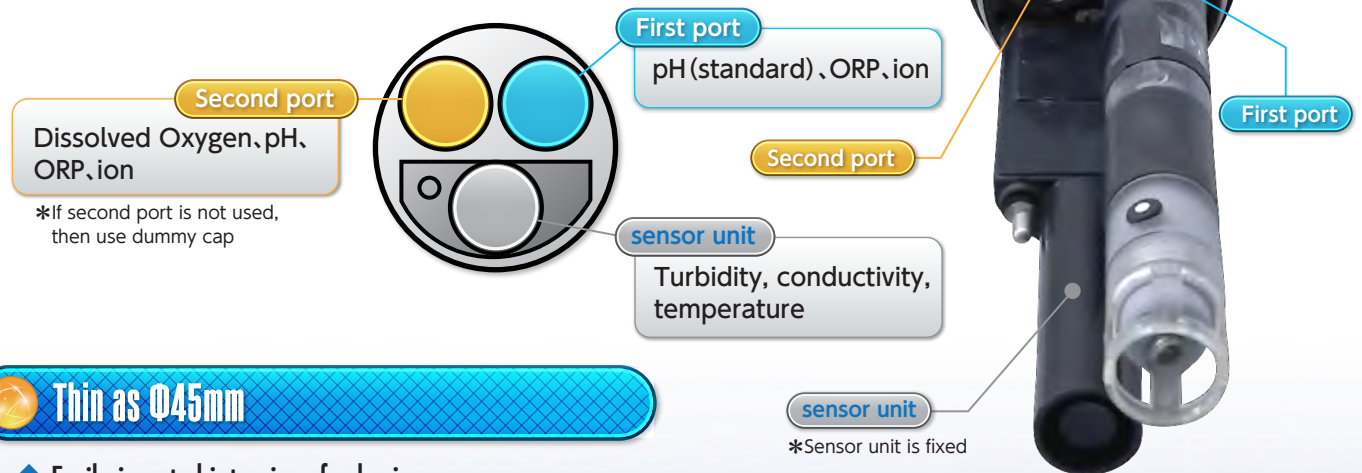
- Salinity, TDS (total dissolved solids), seawater specific gravity are converted from electrical conductivity
- Water depth is factory option



Multi-port electrode attachment port

- ◆ A pH electrode (standard), ORP, and ion electrode can be connected to the first port.
- ◆ Dissolved oxygen, pH, ORP, and ion electrodes can be connected to the second port.
- Ions can be selected from 6 types of ion electrodes (F^- , Cl^- , NO_3^- , Ca^{2+} , K^+ , NH_4^+)

Electrode attachment port



Thin as Ø45mm

- ◆ Easily inserted into pipes for boring surveys

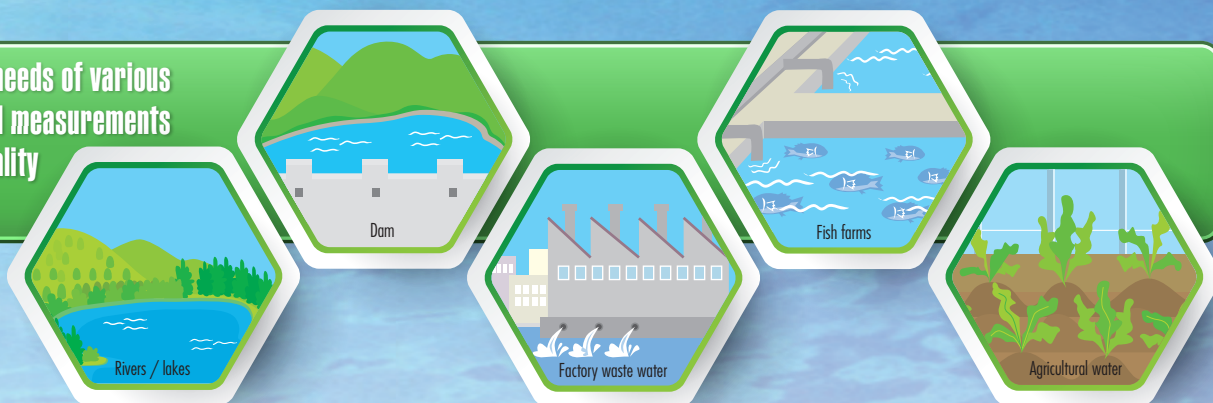
Modbus Compatible

- ◆ A Modbus power supply box is available as an option.
By connecting a general purpose gateway, etc., a water quality monitoring system can be constructed.

Data memory function

- ◆ 9999 data memory available
(Memory available by sensor module only)

We meet the needs of various environmental measurements and water quality surveys



Specification

◆ Instrument body

Water proof structure	IP67 (Immersion for 30 mins available for 1 m) * Disabled when the sensor module is not connected and when using external input/output and USB
USB (Peripheral, Micro)	Standard equipment (insulation)
RS-232C	Standard equipment (external printer, RS-232C, GPS unit, shared with analog output, non-isolated)
Analogue output	100 to 2400 mV DC, up to 6 items can be set (isolated)
Open collector output	Alarm output 2 points DC25V, 50mA or less (insulated)
Performance guarantee temperature	0 to 45°C
Power	2 AA alkaline batteries / rechargeable Ni-MH batteries or USB power supply (no charging function)
External dimensions (excluding protrusions)	Approx. 70 (W) × 39 (H) × 188 (D) mm
Weight (including batteries)	Approx. 300 g

◆ Sensor module

Water proof structure	Within 100m (1.0MPa) * The water depth when the ion electrode is attached is up to 5 to 15m depending on the type of electrode.
RS-485 (Modbus RTU)	Connectable with the optional Modbus power BOX
Performance guarantee temperature	0 to 45°C
Power	3 AA alkaline batteries / rechargeable Ni-MH batteries
External dimension (excluding protrusions)	Standard : Approx. $\phi 45 \times 425$ (length) mm
	With water depth sensor : Approx. $\phi 47 \times 500$ (length) mm
Weight (including batteries)	Standard : Approx. 1330 g
	With water depth sensor : Approx. 1470 g

Measurement items

items	Measurement range	Repeatability (Constant conditions)	Measurement method
pH	pH0.00 to pH14.00	Within ± 0.05 pH	Glass electrode method
Electric conductivity (EC)	0.00 to 10.00 S/m Display range: 0.0 to 202.0 mS/m, 0.000 to 2.020 S/m, 0.00 to 20.20 S/m (manual / automatic / switch range)	Within $\pm 1\%$ FS	AC 4-electrode method
SALT	0.00 to 4.00% (NaCl) 0.00 to 40.00 psu (PSS)	Within NaCl: 0.04% Within PSS: 0.40 psu	Conversion from electrical conductivity
Total dissolved solids (TDS)	0.0 to 999.9 g/L	Within $\pm 1\%$ FS	Conversion from electrical conductivity
Sea water specific gravity (σ_t)	0.0 to 50.0 σ_t	Within $\pm 0.5 \sigma_t$	Conversion from electrical conductivity
Temperature (TEMP)	-5.00 to 55.00°C	Within $\pm 0.3^\circ\text{C}$	Platinum resistor
Turbidity (TURB) ^{※1}	0.0 to 80.0 NTU (mg/L) 0 to 800 NTU (mg/L)	Within ± 1.6 NTU (0.0 to 80.0 NTU) Within ± 8 NTU (0 to 800 NTU)	90 degree scattered light method
Dissolved Oxygen (DO) (Optional)	0.00 to 20.00 mg/L 0 to 200%	Within ± 0.3 mg/L Within $\pm 4\%$	Membrane galvanic cell method
ORP (Optional)	-2000 to 2000 mV	—	Platinum electrode method
Ion (Optional) ^{※2} (6 types: F ⁻ , Cl ⁻ , NO ₃ ⁻ , Ca ²⁺ , K ⁺ , NH ₄ ⁺)	0.00 to 2.00 mg/L 0 to 62 g/L (6 range) (Depending on electrode used)	Within ± 5 mV	ion electrode method
Water depth (DEPT) (Factory option)	0.0 to 100.0 m	Within ± 0.1 m	Diaphragm pressure sensor method

※1 Turbidity when calibrated with formazin standard solution is displayed as NTU, and turbidity when calibrated with kaolin standard solution is displayed as mg/L.
(Suspended solids (SS) cannot be measured.)

※2 Regarding ion measurement, it is a batch measurement

Standard accessories

pH6.86 Standard solution 500mL	143F192	Special tool (spanner)	76357900
pH4.01 Standard solution 500mL	143F191	Calibration beaker (2 pcs.)	67659900
Reference electrode gel internal solution 50mL	143F235	Silicone grease	141D002
Reference electrode replacement liquid junction	6784580K	Protective cover (with shoulder belt)	7659870K
Connector cap (Attached to the sensor module)	7659850K	Connection cable 2m	6801640K
Dummy cap (built into the electrode mounting part)	7313440K	AA alkaline batteries (sample provided) (5 pieces) Instruction manual	



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Order codes

◆ Set sale and main unit only (with 2m connection cable)

Order codes	
WQC40-0-0	Main unit only
WQC40-0-1	Main unit + Standard sensor module
WQC40-0-2	Main unit + Standard sensor module + Water depth sensor module

◆ Sensor Module

Order codes	
WMS40-0-0	Standard sensor module
WMS40-0-1	Standard sensor module + Water depth sensor

Options

◆ pH/ORP

Product	Code No.
Reference electrode	ELR-001
Glass electrode tip	ELP-023
ORPelectrode tip	ELM-004
Wetted part	6784580K
Reference electrode gel internal solution 50mL	143F235
pH 6.86 standard solution 500mL	143F192
pH 4.01 standard solution 500mL	143F191
pH 9.18 standard solution 500mL	143F193
ORP check solution (pH4.01standard solution 500mL+quinhydrone solution)	143F196
ORP Abrasive for electrodes10mL	AO-001

◆ Electric Conductivity

Product	Code No.
EC cell check solution 0.1mol/kg 250mL (2 bottles) 1282mS/m at 25°C	143A143
EC cell check liquid 0.01mol/kg 100mL (4 bottles) 140.8mS/m at 25°C	143A144

◆ Turbidity

Product	Code No.
Formazin standard solution 4000NTU 100mL	HACH1140
Formazin standard solution 4000NTU 500mL	HACH1141

◆ Formazin standard solution

Product	Code No.
DO Electrode unit	ELD-001
DO Electrode diaphragm set (2 pieces)	6789790K
DO Electrode internal liquid (electrolyte) 50 mL (3 bottles)	0BG00007
Sodium sulfite50g	143A030



Connection cable

Protective cover

◆ Other options

Product	Code No.
Connection cable 2m(Standard accssories)	6801640K
Connection cable 10m	6821850K
Connection cable 30m	6821860K
Connection cable 100m	6821870K
Data acquisition software	GP-LOG
USB communication cable 2m	7473100K
RS-232C connection cable 2m	118N062
Analog output cable ASSY 1.8m	7585320K
External printer (with connection cable)	EPS-P30
External printer paper (20 rolls)	P000119
Ink ribbon for external printer (1 roll)	ORD00001
Connection cable for external printer	118N061
AC-USB adapter ASSY 2m	7472510K
Connector cap (standard accessories)	7659850K
Dummy cap (standard accessories)	7659830K
Silicone grease (standard accessory)	141D002
Protective cover (with shoulder belt) (standard accessory)	7659870K
GPS Unit	7679760K
Modbus power BOX	7670840K
Stirrer	ST-7



DKK-TOA CORPORATION



CAUTION

Please read the operation manual carefully before using products.

Information and specifications are subject to change without notice.



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