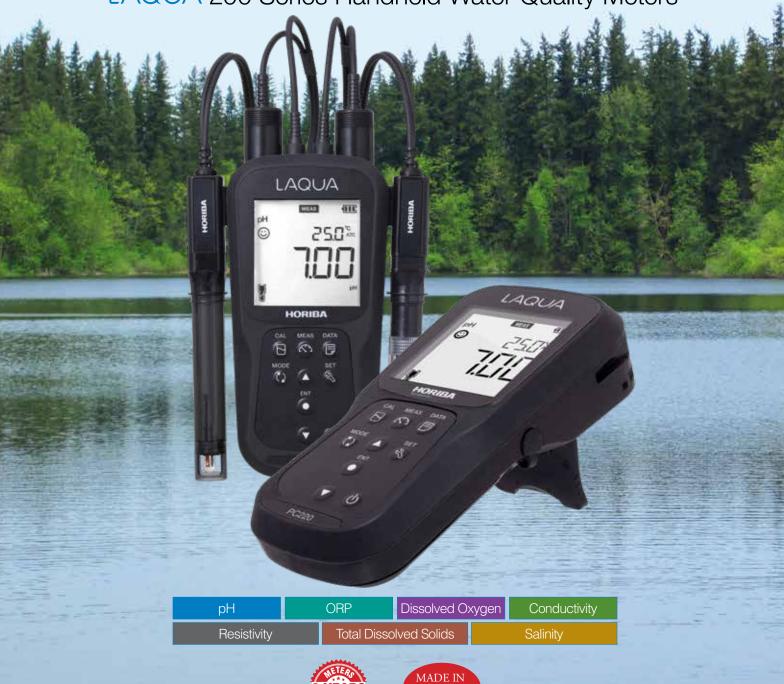


# LAQUA

LAQUA 200 Series Handheld Water Quality Meters







www.horiba-laqua.com



LAQUA 200 Series

Handheld Water Quality Meters



**Eco-friendly, Shock & Scratch** Resistant, & Non-slip

Apart from their high impact strength, the polycarbonate and TPE materials are also longlasting and recyclable. The TPE provides nonslip grip and is not easily damaged by abrasion.



## **Backlit, Large LCD Screen**

All models have scratchresistant monochrome digital LCD (50 x 50 mm) with white LED backlight for easy viewing of readings even in dark locations.



#### **Hands-free Testing**

Attach a wrist strap\* or lanyard to hang the meter or place the meter into the carrying case while in use.



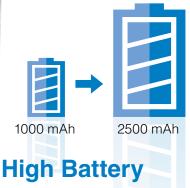
Meter shown in actual size

## **Built-in Electrode** Holder

Two grooves on the meter serve as electrode holders.

Electrode adapter provides secure attachment for two electrodes so they can be easily placed in solutions.





## **Capacity**

AA batteries have greater power capacity than AAA batteries. Battery life is increased by 2.5x.



## 9-Button Keypad **Minimal Matrix**

Operation buttons are reduced to the bare minimum.



1.0 mm Thermoplastic

elastomer (TPE)

Polycarbonate

**Ergonomic** 

The black meter housing is made of polycarbonate material covered with a

layer of TPE material. It is

lightweight, comfortable to touch, and suitable for

field applications.

**Design** 

## **Integrated Foldable Meter Stand**

A collapsible meter stand is integrated at the back of the meter for convenient usage and storage.

## **IP67 Waterproof** and Dustproof

Fully protected from dust and capable of withstanding water immersion up to 1 meter depth for 30 mins.

#### **PC / Printer Communications**



The 220 models are GLP-compliant: calibration and measurement data are captured with date and time stamp. Connect any 220 model to a computer using a PC (USB) cable<sup>1</sup> to transfer data via data acquisition software or to upgrade<sup>2</sup> meter software or connect to a HORIBA printer using a printer (RS232) cable<sup>1</sup> to print data.

- 1 Cables and printer are sold separately
- <sup>2</sup> Also applicable to 210 models

#### **Easy-to-Read Display**

Electrode condition, reading stability, parameter, and temperature in one screen can be checked at a glance.



pH Display



Conductivity Display



Dissolved Oxygen Display



**Calibration Data** 

DATA

Simply press CAL button and then DATA button to view the latest calibration data.





Self-diagnosing meters display measurement and





## **Diagnostic Messages**

meter issues for fast fault finding and troubleshooting.



#### **Electrode Status Indicator**

The electrode icon indicates the condition of the electrode after each calibration.









Temperature sensor connected



Temperature sensor disconnected

## **Temperature** Sensor **Indicator**

When the temperature sensor is connected to the meter, ATC is displayed. Otherwise MTC is displayed.

## Measurement modes: Auto Stable, Auto Hold, Real Time

Auto Stable (AS) mode - the meter shows live readings; (2) annunciator blinks until the reading is stable.

Auto Hold (AH) mode - the meter locks the stable reading; (2) annunciator blinks until reading is stable and then HOLD lights up.

Real Time - the meter shows live readings; Both (2) and HOLD annunciators are inactive.



Visit the HORIBA LAQUA Singapore Channel on YouTube and subscribe to see more of our videos.













Real Time





9652-10D / 20D Plastic-body, Double Junction, Gel pH Electrodes		
Model	9652-10D	9652-20D
Part No.	3200786359	3200786361
pH Range	0 - 14 pH	
Temperature Range	0 - 80 °C	
Liquid Junction	Porous sintered polyethylene	
Temperature Sensor	Integrated	
Connectors	BNC, phono	
Electrode Length & Diameter	150 x 16 mm	
Cable Length	1.0 m	2.0 m

to 5.0m)

9383-10D Plastic-body, Titanium/Platinum Black Conductivity Cell		
Model	9383-10D	
Part No.	3200780927	
Cell Constant	1 cm <sup>-1</sup>	
Conductivity Range	1 μS/cm to 100 mS/cm	
Temperature Range	0 - 80 °C	
Temperature Sensor	Integrated	
Connectors	BNC, phono	
Electrode Length & Diameter	150 x 16 mm	
Cable Length	1.0 m	

y ·			
9552-20D / 50D Galvanic DO Probes			
Model	9552-20D	9552-50D	
Part No.	3200780939	3200780941	
DO Range	0 - 20.00 mg/L		
Temperature Range	0 - 50 °C		
Temperature Sensor	Integrated		
Connectors	BNC, phono		
Electrode Length & Diameter	165 x 30 mm		
Cable Length	2.0 m 5.0 m		
Replacement DO Tip / Part No.	5402 / 3200781553	_	

pH Meters

±0.3 mV (< ±1000 mV), 0.3% of reading (≥ ±1000mV)	
Yes	
-30.0 to 130.0 °C / -22.0 to 266.0 °F	
0.1 °C / °F ± 0.5 °C / ± 0.9 °F	
2 x AA batteries	
> 500 hours	
160 (L) x 80 (W) x 40.60 (H) mm	
/ORP/Temp 0779527) rrode uffers (60 ml each)	
<b>0</b> 7	

#### Conductivity Meters **EC210 EC220** Conductivity Range .µS/cm to 200.0 mS/cm (k=1.0) Resolution 0.05% full scale Accuracy ±0.6% full scale, ±1.5% full scale > 18.0 mS/cm Reference Temperature 15 to 30 °C Temperature Coefficient 0.00 to 10.00% Cell Constants 0.1, 1.0, 10.0 Up to 4 (Auto) / Up to 5 (Manual) Calibration Points Units S/cm, S/m (Auto Ranging) Total Dissolved Solids (TDS) Range ppm to 100 ppt (TDS factor=0.5) 0.01 ppm (mg/L) / 0.1 ppt (g/L) Resolution ±0.1% full scale Accuracy TDS Curves Linear (0.40 to 1.00), EN27888, 442, NaCl Resistivity Range 0.000 Ω•cm to 20.0 MΩ•cm Resolution 0.05% full scale ±0.6% full scale, Accuracy ±1.5% full scale > 1.80 MΩ•cm Salinity Range 0.0 to 100.0 ppt / 0.00 to 10.00 % Resolution 0.1 ppt / 0.01% Accuracy ±0.2% full scale Salinity Curves NaCl, Seawater Calibration Option Yes Temperature Range -30.0 to 130.0 °C / -22.0 to 266.0 °F Resolution 0.1 °C / °F Accuracy $\pm 0.5 \, ^{\circ}\text{C} \, / \pm 0.9 \, ^{\circ}\text{F}$ Calibration Option Yes 1000 Memory 500 Auto Data Log Real-time Clock Date & Time Stamp Auto Hold / Auto Stable/ Real Time Auto Shut-Off (1 to 30 mins.) Electrode Status Diagnostic Messages Software Upgrade<sup>1</sup> PC Communication<sup>1</sup> Printer Communication<sup>2</sup> BNC, phono Meter Inputs Custom LCD with backlight Display Housing IP67, shock & scratch resistant, non-slip Power Requirement 2 x AA batteries > 500 hours Battery Life Meter Dimensions 160 (L) x 80 (W) x 40.60 (H) mm Approx. 260 g (with batteries) / 216 g (without batteries) Meter Weight EC210-K Waterproof EC/TDS/Res/Sal/Temp EC220-K Waterproof EC/TDS/Res/Sal/Temp Handheld Meter Kit (3200779528) Handheld Meter Kit (3200779529) EC210 Meter EC220 Meter 9383-10D Ti/Pt Conductivity electrode (k=1.0) 9383-10D Ti/Pt Conductivity electrode (k=1.0) Meter Kit 84 μS/cm, 1413 μS/cm, 12.88 mS/cm, & 111.8 $84 \mu S/cm$ , $1413 \mu S/cm$ , 12.88 m S/cm, & 111.8mS/cm Conductivity standards (60 ml each) mS/cm Conductivity standards (60 ml each) 2 x AA Batteries 2 x AA Batteries Carrying case Carrying case Manual & Quick Guide Manual & Quick Guide

# 200 Series Handheld Water Quality Meters

DO Meters		
	DO210	DO220
Model		p (°C/°F)
		р ( С/ F) .00 mg/L
Dissolved Oxygen (DO) Range		200.0%
Resolution	0.01 mg	g/L, 0.1%
Accuracy	±0.1	mg/L
Salinity Compensation	0.0 to 4	10.0 ppt
Barometric Pressure Compensation	Yes	
DO Probe Type	Galvanic integrated with temperature sensor	
Calibration Points	Up to 2	
Temperature Range	-30.0 to 130.0 °C	/ -22.0 to 266.0 °F
Resolution	0.1 °C / °F	
Accuracy	± 0.5 °C	/ ± 0.9 °F
Calibration Option	Y	es
Memory	500	1000
Auto Data Log	•	•
Real-time Clock	_	•
Date & Time Stamp	_	•
Auto Hold / Auto Stable / Real Time	•	•
Auto Shut-Off (1 to 30 mins.)	•	•
Electrode Status	•	•
Diagnostic Messages	•	•
Software Upgrade <sup>1</sup>	•	•
PC Communication <sup>1</sup>	_	•
Printer Communication <sup>2</sup>	_	•
Meter Inputs	BNC,	phono
Display	Custom LCD	with backlight
Housing	IP67, shock & scratch resistant, non-slip	
Power Requirement	2 x AA batteries	
Battery Life	> 500 hours	
Meter Dimensions	160 (L) x 80 (W)	) x 40.60 (H) mm
Meter Weight	Approx. 260 g (with batteries) / 216 g (without batteries)	
Meter Kit with Galvanic DO probe, 2m cable	DO210-K Waterproof DO/Temp Handheld Meter Kit (3200779530)  DO210 Meter  2 x AA Batteries  Carrying case  Manual & Quick Guide  9552-20D Galvanic DO probe, 2m cable	DO220-K Waterproof DO/Temp Handheld Meter Kit (3200779531)  DO220 Meter  X AA Batteries  Carrying case  Manual & Quick Guide  9552-20D Galvanic DO probe, 2m cable
Meter Kit with Galvanic DO probe, 5m cable	DO210-K05 Waterproof DO/Temp Handheld Meter Kit (4000009167)	DO220-K05 Waterproof DO/Temp Handheld Meter Kit (4000009168)    Available — Not available



<sup>\*</sup>Meter kit with NIST pH buffers is available upon request. Add 'N' suffix to order code.

<sup>&</sup>lt;sup>1</sup>Via PC (USB) cable PN 3200779639 <sup>2</sup>Via Printer (RS232) cable PN 3200779638

Multi-Parameter Meters			
Model	PD210	PD220	
pH Range		D/Temp (°C/°F) o 16.00 pH	
Resolution		01 pH	
Accuracy		.01 pH	
Calibration Points		o to 5), DIN (Up to 6)	
pH Buffer Groups		NIST, DIN	
ORP Range		000 mV	
Resolution		V), 1 mV (≥ ±1000mV)	
Accuracy		0.3% of reading (≥ ±1000mV)	
Calibration Option		Yes	
Dissolved Oxygen (DO) Range		20.00 mg/L	
		200.0%	
Resolution	0.01 mg/L, 0.1%		
Accuracy Salinity Compensation		±0.1 mg/L	
Barometric Pressure	0.0 to 40.0 ppt		
Compensation		Yes	
DO Probe Type	Galvanic integrated	with temperature sensor	
Calibration Points		p to 2	
Temperature Range	-30.0 to 130.0 °C	-30.0 to 130.0 °C / -22.0 to 266.0 °F	
Resolution	0.1 °C / °F		
Accuracy	± 0.5 °C / ± 0.9 °F		
Calibration Option		Yes	
Memory Auto Data Lag	500	1000	
Auto Data Log Real-time Clock	•		
Date & Time Stamp	_		
Auto Hold / Auto Stable / Real Time	_		
Offset & Average Slope Display	•	•	
Calibration Alarm (1 to 90 days)	•	•	
Auto Shut-Off (1 to 30 mins.)	•	•	
Electrode Status	•	•	
Diagnostic Messages	•	•	
Software Upgrade <sup>1</sup>	•	•	
PC Communication <sup>1</sup>	_	•	
Printer Communication <sup>2</sup>	_	•	
Meter Inputs	BNC, phono		
Display		Custom LCD with backlight	
Housing	-	IP67, shock & scratch resistant, non-slip	
Power Requirement	2 x AA batteries		
Battery Life		> 500 hours	
Meter Dimensions Meter Weight	160 (L) x 80 (W) x 40.60 (H) mm  Approx. 260 g (with batteries) / 216 g (without batteries)		
Meter Kit*	PD210-K Waterproof pH/ORP/DO/Temp Handheld Meter Kit (3200779534)  PD210 Meter  9652-20D Gel pH electrode, 2 m cable  9552-20D Galvanic DO probe, 2 m cable  4.01, 7.00, 10.01 pH Buffers (60 ml each)  2 x AA Batteries  Electrode Adapter  Carrying case  Manual & Quick Guide	PD220-K Waterproof pH/ORP/DO/Temp Handheld Meter Kit (3200779535)  PD220 Meter  9652-20D Gel pH electrode, 2 m cable 9552-20D Galvanic DO probe, 2 m cable 4.01, 7.00, 10.01 pH Buffers (60 ml each) 2 x AA Batteries Electrode Adapter Carrying case Manual & Quick Guide	
*Meter kit with NIST pH buffers is available upon rec		Manual & Quick Guide     Available — Not available	

<sup>\*</sup>Meter kit with NIST pH buffers is available upon request. Add 'N' suffix to order code. 'Via PC (USB) cable PN 3200779639 ²Via Printer (RS232) cable PN 3200779638

10000001101			
pH Buffers			
Part No.	Model	Description	
3999960015	501-S	NIST pH Buffers Kit (pH 4.01, 6.86, 9.18 buffers & 3.33 M KCl, 250 ml each)	
3999960016	502-S	USA pH Buffers Kit (pH 4.01, 7.00, 10.01 buffers & 3.33 M KCl, 250 ml each)	
3999960028	500-2	pH 1.68 Buffer at 25 °C, 500 ml	
3999960029	500-4	pH 4.01 Buffer at 25 °C, 500 ml	
3999960030	500-686	pH 6.86 Buffer at 25 °C, 500 ml	
3999960031	500-7	pH 7.00 Buffer at 25 °C, 500 ml	
3999960032	500-9	pH 9.18 Buffer at 25 °C, 500 ml	
3999960033	500-10	pH 10.01 Buffer at 25 °C, 500 ml	
3999960034	500-12	pH 12.46 Buffer at 25 °C, 500 ml	
ORP Powd	ers		
Part No.	Model	Description	
3200043618	160-51	89 mV at 25 °C for 250 ml (10 sachets/pack)	
3200043617	160-22	258 mV at 25 °C for 250 ml (10 sachets/pack)	
	ty Standard	, , ,	
Part No.	Model	Description	
3999960017	503-S	Conductivity Standards Kit (84 µS/cm, 1413 µS/cm, 12.88 mS/cm & 111.8 mS/cm, 250 ml each)	
3999960035	500-21	84 µS/cm Conductivity Standard at 25 °C, 500 ml	
3999960036	500-21	1413 µS/cm Conductivity Standard at 25 °C, 500 ml	
3999960037	500-22	12.88 mS/cm Conductivity Standard at 25 °C, 500 ml	
3999960038	500-24	111.8 mS/cm Conductivity Standard at 25 °C, 500 ml	
	de Cleaning	•	
Part No.	Model	Description	
		Cleaning solution for removing inorganic	
3014028653	220	sample residues, 50 ml x 2 pcs  Cleaning solution for removing inorganic and organic sample	
3200530494	230	residues, Solution A (30 ml) & Solution B (100 ml)	
3200366771	250	Cleaning solution for removing proteins, 400 ml	
Electrodes	*		
Part No.	Model	Description	
3200786359	9652-10D	Plastic-body, gel-filled pH electrode with integrated temperature sensor and 1 m cable	
3200786361	9652-20D	Plastic-body, gel-filled pH electrode with integrated temperature sensor and 2 m cable	
3014046710	9300-10D	ORP electrode with flat platinum tip and temperature sensor	
3200780927	9383-10D	Plastic-body, Titanium / Platinum black (k=1.0) conductivity cell with integrated temperature sensor and 1 m cable	
3200780939	9552-20D	Galvanic DO probe with integrated temperature sensor and 2 m cable	
3200780941	9552-50D	Galvanic DO probe with integrated temperature sensor and 5 m cable	
3200781553	5402	Replacement DO tip for 9552-20D and 9552-50D	
Accessorie	es		
Part No.	Model	Description	
3014028368	X-51	Digital simulator for pH, mV, Ion, DO & temperature	
3014028370	X-52	Digital simulator for conductivity & temperature	
3014030146	-	Printer for GLP / GMP compliance, 120V US version (printer cable is sold separately)	
3014030147	-	Printer for GLP / GMP compliance, 230V EU version (printer cable is sold separately)	
3200779638	-	25-pin D-Sub Printer (RS232) cable (meter to printer), 1.5 m	
3014030149	-	Printer paper, 20 rolls	
3014030150	-	Printer ink ribbon, 5pcs/pack	
3200779640	-	Electrode adapter	
3200779639	-	PC (USB) cable with free data acquisition software in USB flash drive to connect meter and computer, 1.5 m	
*Flactrodes sorr. C.	month warranty again	et manufacturing defects	

<sup>\*</sup>Electrodes carry 6-month warranty against manufacturing defects.



502-S USA pH Buffers Kit









X-51 Digital Simulator

X-52 Digital Simulator



Printer





PC (USB) cable (Meter to Computer)

Electrode Adapter







Replacement DO tip 5402

With over 60 years of engineering excellence, HORIBA's diverse range of water quality analyzers and electrodes are ideal for everyday laboratory needs through to the most demanding of applications. Visit our website for a wealth of useful information and water quality measurement tips to help you obtain the best results in your work.





#### **Benchtop Meters**

Developed using extensive feedback from users, our new LAQUA meters deliver the best solution for water quality analysis. Our LAQUA website features an online 'Selection Guide' to enable you to find the perfect LAQUA meter and electrode for your need.



#### **Handheld Meters**

In the lab, in the field or anywhere you need it. LAQUA Handheld meters are designed for use with one hand and with an IP67 waterproof rating and shockresistant casing. Meters can be used for long periods, even in dark places, making it ideal for field measurements in rivers and lakes.



#### **Pocket Meters**

Analyzing water quality is simplified when using our LAQUAtwin range of meters. Designed to produce accurate and reliable results. Anyone, anywhere, at any time can measure samples easily with a LAQUAtwin meter. See just how good they are at our website.



#### **Electrodes**

Various electrodes to match any application. A wide range of products for both benchtop and portable systems are available, including easy and reliable standard models, application-focused models for small samples or large containers, and special electrodes for specific sample characteristics.





#### **Application Notes**

LAQUAtwin pocket meters offer quick and convenient alternative to analyze important parameters with high accuracy. Several application notes are available at (http://goo.gl/znwE6j) detailing the use of LAQUAtwin and the results achieved for the respective applications. Additional application notes will be added when available.









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#### Asia Pacific

HORIBA Instruments (Singapore) Pte. Ltd. 83 Science Park Drive, #02-02A, The Curie, Singapore 118258 Phone: 65 6908-9660

Fax: 65 6745-8155 e-mail: laqua@horiba.com

#### ■ Europe, Middle East, & Africa HORIBA UK Limited

Kyoto Close, Moulton Park, Northampton NN3 6FL Phone: +44 1604 642500 e-mail: waterquality@horiba.com

## Americas

**HORIBA Instruments Incorporated** 9755 Research Drive, Irvine California 92618 USA Phone: +1 949 250 4811 Fax: +1 949 250 0924, +1 949 468 1890 e-mail: labinfo@horiba.com

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