

LACIA 200 Series Handhold Water Quality Maters

LAQUA 200 Series Handheld Water Quality Meters LAQUA MEAS 1 рΗ 0 1111 9 HORIBA LAQUA R Z 0 6 PC220 ORP Dissolved Oxygen Conductivity pН Resistivity Total Dissolved Solids MADE IN JAPAN

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Automotive Test Systems | Process & Environmental | Medical | Semiconductor | Scientific

HORIBA

LAQUA 200 Series Handheld Water Quality Meters

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Resistant 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.



Impact

Backlit, Large LCD Screen

IORIB

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.



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PC220

CAL

MODE

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DATA

B

SET

R

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pH

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P

pH

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.



Ergonomic

Design

Polycarbonate

1.0 mm Thermoplastic

elastomer (TPE)

1000 mAh 2500 mAh

High Battery 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.

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

B A B

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) cable¹ to transfer data via data acquisition software or to upgrade² meter software or connect to a HORIBA printer using a printer (RS232) cable¹ to print data.

¹ Cables and printer are sold separately ² Also applicable to 210 models



The black meter housing

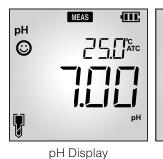
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LAQUA 200 Series Handheld Water Quality Meters

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Easy-to-Read Display

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







Dissolved Oxygen Display



Electrode Status Indicator

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





Excellent

Very Good



Temperature sensor connected



Temperature sensor disconnected

Temperature Sensor Indicator

Fair

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; 😳 annunciator blinks until the reading is stable.

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

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







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MEAS

Ыq

HOLD

ATC



Calibration Data

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





Diagnostic Messages

Self-diagnosing meters display measurement and meter issues for fast fault finding and troubleshooting.



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



Real Time

LAQUA | 03

User Manual • and Notes Compartment

Clear sleeve for Quick Guide AQ

Rugged Carrying Case

The durable case keeps your meter, electrodes, solutions, and accessories secured, organized, and protected during quick field testing on the go or storage.

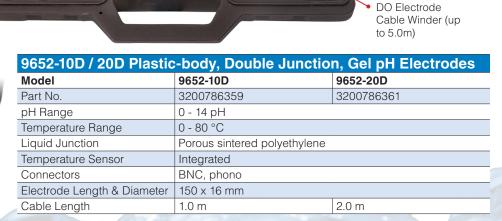
> Electrode Cable • Compartment

> > pH Electrode

Conductivity Electrode

LAQUA 200 Series Meter





9383-10D Plastic-body, Titanium/Platinum Black Conductivity Cel		
Model	9383-10D	
Part No.	3200780927	
Cell Constant	1 cm ⁻¹	
Conductivity Range	1 µS/cm to 200 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	

	552-20D / 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	
Ţ	Electrode Length & Diameter	164 x 30 mm	
	Cable Length	2.0 m	5.0 m
1	Replacement DO Tip / Part No.	5402 / 3200781553	

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DO Replacement Tip

Calibration Solutions

Electrode Adapter 2 x AA Batteries

DO Electrode

LAQUA 200 Series Handheld Water Quality Meters





Model	PH210	PH220
	pH/ORP/T	emp (°C/°F)
pH Range	-2.00 to 16.00 pH	
Resolution	0.0	1 pH
Accuracy	±0.0)1 pH
Calibration Points	USA & NIST (Up	to 5), DIN (Up to 6)
pH Buffer Groups	USA, N	IIST, DIN
ORP Range	±200	00 mV
Resolution	0.1 mV (< ±1000 mV	/), 1 mV (≥ ±1000mV)
Accuracy	±0.3 mV (< ±1000 mV), 0.3	3% of reading ($\geq \pm 1000$ mV)
Calibration Option	Y	íes
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	Yes	
Memory	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 ¹	•	•
PC Communication ¹	_	•
Printer Communication ²		•
Meter Inputs	BNC,	phono
Display	Custom LCD with backlight	
Housing	IP67, shock & scrat	ch resistant, non-slip
Power Requirement	2 x AA batteries	
Battery Life	> 500 hours	
Meter Dimensions	160 (L) × 80 (W) × 40.60 (H) mm	
Meter Weight	Approx. 260 g (with batteries) / 216 g (without batteries)	
Meter Kit*	PH210-K Waterproof pH/ORP/Temp Handheld Meter Kit (3200779526) • PH210 Meter • 9652-10D Gel pH electrode • 4.01, 7.00, 10.01 pH Buffers (60 ml each) • 2 x AA Batteries • Carrying case • Manual	 PH220-K Waterproof pH/ORP/Temp Handheld Meter Kit (3200779527) PH220 Meter 9652-10D Gel pH electrode 4.01, 7.00, 10.01 pH Buffers (60 ml each) 2 x AA Batteries Carrying case Manual

*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

Conductivity Meters



EC/TDS/Res/S μS/cm to 200.	al/Temp (°C/°F)
µS/cm to 200.	$2 \cdot 0 \cdot (1 + 0)$
	J MS/CM (K=1.U)
0.05% f	ull scale
$\pm 0.6\%$ full scale, $\pm 1.5\%$ full scale > 18.0 mS/cm	
15 to	30 °C
	10.00%
	ull scale
. ,	
	e > 1.80 MΩ•cm
0.1 ppt / 0.01% ±0.2% full scale	
NaCl, Seawater	
Yes	
-30.0 to 130.0 °C / -22.0 to 266.0 °F	
-30.0 10 130.0 °C / -22.0 10 266.0 °F 0.1 °C / °F	
	1000
-	1000
	•
_	
•	•
•	•
	•
—	
—	
	phono
Custom LCD with backlight	
IP67, shock & scratch resistant, non-slip	
2 x AA batteries	
> 500 hours	
160 (L) x 80 (W) x 40.60 (H) mm	
Approx. 260 g (with batteries) / 216 g (without batteries)	
 EC210-K Waterproof EC/TDS/Temp Handheld Meter Kit (3200779528) EC210 Meter 9383-10D Ti/Pt Conductivity electrode (k=1.0) 84 μS/cm, 1413 μS/cm, 12.88 mS/cm, & 111.8 mS/cm Conductivity standards (60 ml each) 2 x AA Batteries Carrying case Manual 	 EC220-K Waterproof EC/TDS/Res/Sal/Temp Handheld Meter Kit (3200779529) EC220 Meter 9383-10D Ti/Pt Conductivity electrode (k=1.0) 84 μS/cm, 1413 μS/cm, 12.88 mS/cm, & 111.8 mS/cm Conductivity standards (60 ml each) 2 x AA Batteries Carrying case Manual
	0.00 to 0.1, 1.1 Up to 4 (Auto) / 1 S/cm, S/m (A ppm to 100 ppt 0.01 ppm (mg/l ±0.1% f Linear (0.40 to 1.00), 0.000 Ω•cm tic 1.0.6% fi ±1.5% full scale 0.0 to 100.0 ppt, 0.1 opt ±0.2% f NaCl, S 4.0.5 °C 0.1 °C ± 0.5 °C Ye 500 0.1 °C 1.0

QUA 200 Series Handheld Water Quality Meters



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Model	DO210	DO220
	DO/Tem	p (°C/°F)
Dissolved Oxygen (DO) Range	0.0 to 20.00 mg/L 0.0 to 200.0%	
Resolution	0.01 mg/L, 0.1%	
Accuracy	±0.1	mg/L
Salinity Compensation	0.0 to 40.0 ppt	
Barometric Pressure Compensation	Yes	
DO Probe Type	Galvanic integrated w	ith 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 ¹	•	•
PC Communication ¹	_	•
Printer Communication ²	_	•
Meter Inputs	BNC,	phono
Display	Custom LCD with backlight	
Housing	IP67, shock & scrate	ch resistant, non-slip
Power Requirement	2 x AA batteries	
Battery Life	> 500 hours	
Meter Dimensions	160 (L) × 80 (W) × 40.60 (H) mm	
Meter Weight	Approx. 260 g (with batteries) / 216 g (without batteries)	
Meter Kit	 DO210-K Waterproof DO/Temp Handheld Meter Kit (3200779530) DO210 Meter 9552-20D Galvanic DO probe, 2 m cable 2 x AA Batteries Carrying case Manual 	 DO220-K Waterproof DO/Temp Handheld Meter Kit (3200779531) DO220 Meter 9552-20D Galvanic DO probe, 2 m cable 2 x AA Batteries Carrying case Manual

¹Via PC (USB) cable PN 3200779639 ²Via Printer (RS232) cable PN 3200779638

Multi-Parameter Meters



PC210	PC220
pH/ORP/EC/TDS/Sa	
0.05% full scale	
±0.6% full scale,	
±1.5% full scale > 1.80 MΩ•cm	
0.0 to 100.0 ppt / 0.00 to 10.00 %	
0.1 ppt / 0.01%	
NaCl, Seawater	
	es
0.1 °C / °F	
± 0.5 °C	/ ± 0.9 °F
	es
500	1000
•	•
—	
_	•
	•
•	
—	
	batteries
	hours
) x 40.60 (H) mm
Approx. 260g (with batterie	es) / 216g (without batteries)
 PC210-K Waterproof pH/ORP/EC/TDS/Temp Handheld Meter Kit (3200779532) PC210 Meter 9652-10D Gel pH electrode 9383-10D Ti/Pt Conductivity electrode (k=1.0) 4.01 & 7.00 pH Buffers (60 ml each) 1413 µS/cm & 12.88 mS/cm Conductivity 	PC220-K Waterproof pH/ORP/EC/TDS/Sal/ Res/Temp Handheld Meter Kit (3200779533) PC220 Meter 9652-10D Gel pH electrode 9383-10D Ti/Pt Conductivity electrode (k=1.4 4.01 & 7.00 pH Buffers (60 ml each) 1413 µS/cm & 12.88 mS/cm Conductivity
	-2.00 to

¹Via PC (USB) cable PN 3200779639 ²Via Printer (RS232) cable PN 3200779638 AQUA 200 Series Handheld Water Quality Meters



Mandal	PD210	PD220	
Model	pH/ORP/DC	D/Temp (°C/°F)	
pH Range	-2.00 to 16.00 pH		
Resolution	0.01 pH		
Accuracy	±0.01 pH		
Calibration Points	USA & NIST (Up to 5), DIN (Up to 6)		
pH Buffer Groups	USA, NIST, DIN		
ORP Range	±2000 mV		
Resolution	0.1 mV (< ±1000 m	V), 1 mV (≥ ±1000mV)	
Accuracy	±0.3 mV or (< ±1000 mV),	0.3% of reading ($\geq \pm 1000$ mV)	
Calibration Option		Yes	
Dissolved Oxygen (DO) Range	0.0 to 20.00 mg/L 0.0 to 200.0%		
Resolution	0.01 m	g/L, 0.1%	
Accuracy	±0.	1 mg/L	
Salinity Compensation	0.0 to	40.0 ppt	
Barometric Pressure		Yes	
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		Yes	
Memory	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 ¹	•	•	
PC Communication ¹	_	•	
Printer Communication ²		•	
Meter Inputs	BNC, phono		
Display	Custom LCD with backlight		
Housing	IP67, shock & scratch resistant, non-slip		
Power Requirement		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*	 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 Mapuel 	 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 Maqual 	
	Manual	Manual	

Available

Not available

*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

Accessories & Solutions

pH Buffers Part No. Model Description NIST pH Buffers Kit (pH 4.01, 6.86, 9.18 buffers & 3.33 M KCl, 3999960015 501-S 250 ml each) USA pH Buffers Kit (pH 4.01, 7.00, 10.01 buffers & 3.33 M KCl, 3999960016 502-S 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 pH 6.86 Buffer at 25 °C, 500 ml 3999960030 500-686 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 500-12 3999960034 pH 12.46 Buffer at 25 °C, 500 ml **ORP** Powders Model Part No. Description 3200043618 160-51 89 mV at 25 °C for 250 ml (10 sachets/pack) **&** (!) 160-22 3200043617 **\$**(!) 258 mV at 25 °C for 250 ml (10 sachets/pack) **Conductivity Standards** Part No. Model Description Conductivity Standards Kit (84 µS/cm, 1413 µS/cm, 12.88 mS/ 3999960017 503-S cm & 111.8 mS/cm, 250 ml each) 3999960035 500-21 84 µS/cm Conductivity Standard at 25 °C, 500 ml 3999960036 500-22 1413 µS/cm Conductivity Standard at 25 °C, 500 ml 3999960037 500-23 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 pH Electrode Cleaning Solutions Part No. Model Description Cleaning solution for removing inorganic <u>}</u> 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 Plastic-body, gel-filled pH electrode with integrated 3200786359 9652-10D temperature sensor and 1 m cable Plastic-body, gel-filled pH electrode with integrated 3200786361 9652-20D temperature sensor and 2 m cable 3014046710 9300-10D ORP electrode with flat platinum tip and temperature sensor Plastic-body, Titanium / Platinum black (k=1.0) conductivity cell 3200780927 9383-10D with integrated temperature sensor and 1 m cable Galvanic DO probe with integrated temperature sensor and 3200780939 9552-20D 2 m cable Galvanic DO probe with integrated temperature sensor and 3200780941 9552-50D 5 m cable 3200781553 5402 Replacement DO tip for 9552-20D and 9552-50D Accessories Part No. Model Description 3014028368 X-51 Digital simulator for pH, mV, Ion, DO & temperature 3014028370 X-52 Digital simulator for conductivity & temperature Printer for GLP / GMP compliance, 120V US version (printer 3014030146 cable is sold separately) Printer for GLP / GMP compliance, 230V EU version (printer 3014030147 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 PC (USB) cable with free data acquisition software in USB 3200779639

flash drive to connect meter and computer, 1.5 m

501-S NIST pH Buffers Kit



502-S USA pH Buffers Kit







X-51 Digital Simulator

X-52 Digital Simulator







(Meter to Computer)



25-pin D-Sub Printer (RS232) cable (Meter to Printer) Replacement DO tip 5402

*Electrodes carry 6-month warranty against manufacturing defects.

Visit HORIBA's website!

Water Quality Analyzers

www.horiba-laqua.com

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 needs.

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



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.





Electrodes

our website.

Pocket Meters

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

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Asia Pacific

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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: lagua@horiba.com

Europe, Middle East, & Africa

HORIBA UK Limited Kyoto Close, Moulton Park, Northampton NN3 6FL Phone: 44 (0) 1604 542567 Fax: 44 (0) 1604 542699 e-mail: waterguality@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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