

# LAQUA

LAQUA WQ-300 Series Smart Handheld Water Quality Meters



pH | ORP | Dissolved Oxygen | Conductivity | Resistivity | Total Dissolved Solids | Salinity | Ion





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HORIBA

Explore the future





# Large Colour Graphic LCD Screen with Backlight

All models have colour graphic digital LCD screen (70 x 52 mm) with white LED backlight for easy viewing.



# Built-in Foldable Meter Stand

Collapsible meter stand is builtin 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.



# **Battery and USB Powered**

Four AA batteries or battery pack with micro USB cable can be used to power the meter in the field. USB charger plugged to a power outlet can be used for an uninterrupted operation in the lab.





# Eco-friendly, Shock-proof, Scratch Resistant, and Non-slip

Apart from their high impact strength, the polycarbonate and TPE materials are also long-lasting and recyclable. The TPE provides non-slip grip and is not easily damaged by abrasion.



## **Built-in Sensor Holders**

Three grooves on the meter housing serve as sensor holders.

# LAQUA WQ-300 Series

# Smart Handheld Water Quality Meters





# Efficient Sensor Locking Mechanism

The push-pull connectors deliver a simple yet fast and strong method to connect and disconnect sensors. The lock is released only when the outer sleeve of the connector is pulled back so accidental disconnection is prevented.

# Compatible with Conventional Electrodes having BNC and Phono Connectors and Long Cables

With 300-BNC sensor head adapter, conventional electrodes with BNC and phono connectors can be connected to the meter. Also, electrodes with up to 10m cable can be used without noise problem.

# No Sensor Adapter Needed

Each sensor head has two grooves and one hook which can be used to attach up to three sensor heads.

# Sensor's LED Light as Reading Stability Indicator

Blue LED light on the sensor head flashes until the reading is stable.



# Hands-free Testing

Hang the meter using a wrist strap or lanyard, place it into the carrying case, or mount it to a wall while in use.

# **Ergonomic Design**

The black meter housing is made of polycarbonate material covered with a layer of thermoplastic elastomer (TPE) material. It is lightweight, comfortable to touch, and suitable for field applications.





# **Multi-Language Options**

Available in several languages— English, Japanese, French, German, Spanish, Portuguese, and Chinese.



# Simultaneous Calibrations and Measurements

Applicable for dual- and triplechannel models.

# Versatile Channels & Adaptive Display

Single-, dual-, and triple-channel models are available. Sensors can be connected to any channel in dual- and triple-channel models and the meter screen automatically adjusts.



# **Automatic Sensor Recognition**

Sensor info, calibration data, and measurement setup stored in sensor head are viewable in the meter when sensor is connected.





# Data Transfer via USB or **Wireless Communication**

Meter stores up to 10,000 data with date/time stamp. Transfer data from meter to computer seamlessly via USB cable or wirelessly via Wi-Fi. Each meter comes with a wireless SD card.





Scan code to view Series Wireless Data Transfer video



**Printer Communication** 

\$13

Print data using a printer via 25pin D-sub printer cable.





## **Sensor Status Indicator**

Sensor icon presents the sensor condition after calibration.





Very Good

# **Temperature Sensor Indicator**



Temperature sensor is connected to meter



Temperature sensor is not connected to meter

# Sample ID



Use up to eight characters for creating Sample ID.

# **Calibration Data**



Right arrow button shows the latest calibration data.



# **Measurement Modes**







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Create a custom meter kit by selecting the meter, sensor, and accessories.

**Customizable Meter Kit** 

# Up to 55 possible meter + sensor combinations









# HORIBA's Smart digital sensor technology

# Maintenance-free, gel-filled pH sensor

# No electrolyte refilling required

- KCl gel electrolyte
- Double junction reference
- Porous sintered polyethylene junction
- Built-in temperature sensor
- Rugged polycarbonate body
- Replaceable pH sensor cartridge
- pH sensor heads with 2m and 5m cables are available

# 2-Cell & 4-Cell conductivity sensors

## Wide range of conductivity measurements possible

- 2-Cell conductivity sensor with flow cell is designed for ultra-pure water applications
- From clean water to industrial wastewater, the 4-cell type can measure a variety of samples with different conductivities
- Built-in temperature sensor
- Stainless steel 2-cell cartridge
- Durable epoxy / carbon body 4-cell cartridge
- Replaceable conductivity sensor cartridge
- Conductivity sensor heads with 2m and 5m cables are available

# Optical dissolved oxygen (DO) sensor

## Longer usable life with excellent performance

- Easy to handle not affected with sample flow velocity, not sensitive to hydrogen sulfide, DO sensor cap replacement after 1-2 years\*
- Built-in temperature sensor
- Comes with replaceable DO sensor cap, air calibration bottle and Stainless Steel DO Sensor Protective Guard
- DO sensor heads with 2m and 5m cables are available



# Ion sensor head

Compatible with conventional ion selective electrodes

- Accepts all combination ion selective electrodes with BNC connector
- Requires sensor head adapter
- Comes with 2m cable
- ORP sensor head

Compatible with conventional ORP electrodes

- Accepts 9300-10D and other combination ORP electrodes with BNC connector
- Requires sensor head adapter
- Comes with 2m cable





flow cell





Sensor and Meter Specifications

oH Sensor Head pH / mV / Temp (°C/°F)		
Model	300PH-2	300PH-5
Part No.	3200812206	3200812207
pH Range		20.00 рН 20.000 рН
Resolution		00: 0.01 pH 000: 0.001 pH
Accuracy		0.00: ±0.01 .000: ±0.005
Calibration Points	Up	to 6
pH Buffer Groups	USA, DIN, NIST,	NIST10, Custom
mV Range	±1000.0 mV	
Resolution	0.1 mV	
Accuracy	±0.1 mV	
Temperature Range	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	
Body Material	ABS / Polycarbonate	
Length and Diameter	85 x 30 mm	
Connector	Push-pull	
Cable Length	2 m	5 m

pH Sensor Cartridge Model	e pH/mV/Temp (°C/°F) <b>300-P-C</b>
Part No.	3200786363
pH Range	-2.00 to 20.00 pH -2.000 to 20.000 pH
Operating Temperature Range	0 to 80 °C -32.0 to 176.0 °F
Junction Material	Porous sintered polyethylene
Double Junction	Yes
Temperature Sensor	Built-in
Length and Diameter	110 x 16 mm
Body Material	Polycarbonate, glass bulb

Dissolved Oxygen Sense	or DO (ma/l %) / (	D <sub>2</sub> / Temp (°C/°F)
Model	300-D-2	300-D-5
Part No.	3200780940	3200780942
Dissolved Oxygen (DO) Range		0.00 mg/L 100.0 %
Resolution	0.01 mg	/L, 0.1%
Accuracy	±0.2 mg	/L, ±2 %
Salinity Compensation		nsor / Manual: 0.0 to 40.0 pt
Barometric Pressure Compensation		er / Manual: 10.0 to 199.9 <sup>D</sup> a
Calibration Points	Up to 2	
Oxygen Range	0.0 to 50.0%	
Resolution	0.1%	
Accuracy	±0.5% -30.0 to 130.0 °C -22.0 to 266.0 °F 0.1 °C / °F	
Temperature Range		
Resolution		
Accuracy	±0.5 °C / ±0.9 °F	
Calibration Option	Yes	
Body Material	ABS / Polycarbonate	
Length and Diameter 200		16 mm
Connector	Push-pull	
Cable Length	2 m	5 m
Sensor cap included		1

<b>Dissolved Oxygen Sens</b>	or Cap
Model	300-D-M
Part No.	3200781554
DO Range	0.00 to 20.00 mg/L 0.0 to 200.0 %
Operating Temperature Range	0 to 50.0 °C 32.0 to 122.0 °F
Length and Diameter	10 x 16 mm
Body Material	PVC, PMMA
	. 08 -

	or Head EC/Sal/TD	
Model	300-C-2	300-C-5
Part No.	3200784468 µS/cm	3200812202 μS/m 0.0 to 19.9
Conductivity Range	0.000 to 0.199 0.200 to 1.999 2.00 to 19.99 20.0 to 199.9 200 to 199.9 mS/cm 2.00 to 19.99 20.0 to 19.99 20.0 to 199.9 200 to 2000	20.0 to 199.9 200 to 1999 mS/m 2.00 to 19.99 20.0 to 199.9 200 to 1999 S/m 2.00 to 19.99 20.0 to 19.99 20.0 to 200.0
Resolution	Auto ranging, up to	4 significant digits
Accuracy	> 200 mS/cm (20.0 S	le of each range /m): ± 1.5% full scale
Reference Temperature		30°C
Temperature Coefficient	0.00 to 10	
Calibration Points	1 ( 7)	Up to 5 (Manual)
Units		n, S/m 80.00 ppt
Salinity Range		8.000 %
Resolution		0.001 %
Accuracy	•	1 ppt, whichever is greater
Salinity Curves		(UNESCO 1978)
Calibration Option	Yes	
Total Dissolved Solids (TDS) Range	0.01 mg/L to 200,000 mg/L	
Resolution	0.01 minimum, 4 significant digits	
Accuracy TDS Curves	± 0.5% of reading or ± 0.1 mg/L, whichever is greate Linear (0.40 to 1.00), EN27888, 442, NaCl	
Resistivity Range	$\begin{array}{c} \Omega \bullet \text{cm} \\ \Omega \bullet \text{cm} \\ 0.1 \text{ to } 199.9 \\ 200 \text{ to } 199.9 \\ 200 \text{ to } 19.99 \\ 2.00 \text{ to } 19.99 \\ 20.0 \text{ to } 19.99 \\ 200 \text{ to } 199.9 \\ 200 \text{ to } 199.9 \\ M\Omega \bullet \text{cm} \\ 2.00 \text{ to } 19.99 \\ 20.0 \text{ to } 200.0 \end{array}$	$\begin{array}{c} \Omega \bullet m \\ \Omega \bullet m \\ 0.001 \text{ to } 1.999 \\ 2.00 \text{ to } 19.99 \\ 20.0 \text{ to } 199.9 \\ 200 \text{ to } 199.9 \\ 200 \text{ to } 1999 \\ k\Omega \bullet m \\ 2.00 \text{ to } 19.99 \\ 20.0 \text{ to } 19.99 \\ 20.0 \text{ to } 199.9 \\ 200 \text{ to } 2000 \end{array}$
Resolution	Auto ranging, up to	4 significant digits
Accuracy	± 0.5% full scale of each range > 200 mS/cm (20.0 S/m): ± 1.5% full sca	
Temperature Range		266.0 °F
Resolution		C/°F
Accuracy		/ ±0.9 °F
Calibration Option		es
Body Material		/carbonate
Length and Diameter Connector	85 x 3	30 mm I-Dull
Cable Length	2 m	5 m
Cable Lellytti	۷ ۱۱۱	JIII

4-Cell Conductivity	/ Sensor Cartridge
Model	300-4C-C
Part No.	3200780928
Cell Constant	0.172 cm <sup>-1</sup>
Conductivity Range	10 µS/cm to 2000 mS/cm
Operating Temperature Range	0 to 100 °C 32.0 to 212.0 °F
Temperature Sensor	Built-in
Length and Diameter	110 x 16 mm
Body Material	Epoxy, carbon

2-Cell Conductivity Sensor Cartridge		
Model	300-2C-C	
Part No.	3200820579	
Cell Constant	0.1 cm <sup>-1</sup>	
Conductivity Range	0.01 µS/cm to 500 µS/cm	
Temperature Range	0 to 100 °C 32.0 to 212.0 °F	
Temperature Sensor	Built-in	
Length and Diameter	110 x 16 mm	
Body Material	Stainless steel	

Ion Sensor Hea	ld Ion / mV / Temp (°C/°F)
Model	300-I-2
Part No.	3200812203
Ion Range	(mg/L, mmol/L) 0.000 to 0.999, 1.00 to 9.99, 10.0 to 99.9, 100 to 999, 1000 to 9990, 10000 to 99900
Resolution	0.001 minimum, 3 significant digits
Accuracy	±0.1 mV
Calibration Points	Up to 5
mV Range	±1000.0 mV
Resolution	0.1 mV
Accuracy	±0.1 mV
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
Body Material	ABS / Polycarbonate
Length and Diameter	85 x 30 mm
Connector	Push-pull
Cable Length	2 m

<b>ORP Sensor He</b>	ad ORP / Temp (°C/°F)
Model	300-0-2
Part No.	3200812204
ORP Range	-2000 to +2000 mV
Resolution	< ±1000.0 mV: 0.1mV ≥ 1000.0 mV: 1 mV
Accuracy	< ±1000.0 mV: ±0.1 mV ≥ 1000.0 mV: ±1 mV
Calibration Option	Yes
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
Body Material	ABS / Polycarbonate
Length and Diameter	85 x 30 mm
Connector	Push-pull
Cable Length	2 m



Model	WQ-310-K	WQ-320-K	WQ-330-K	
Part No.	3200832605	3200832606	3200832607	
Channel	Single	Dual	Triple	
Memory		10,000 Data with date and time stamp		
Data Log		Auto / Manual		
Measurement Modes		Auto Stable / Auto Hold / Real Time		
Calibration Alarm		Programmable: 0 to 400 days		
Auto Power Off		Programmable: 0 to 60 minutes		
Real-time Clock		Available		
Sensor Status		On display		
Diagnostics		Error codes		
Language	English, Japar	nese, French, German, Spanish, Portug	uese, Chinese	
PC Communication		Via micro USB cable or wireless		
Printer Communication		Via 25-pin D-sub printer (RS232) cable		
Meter Input		Push-pull connector		
Display		Color graphic TFT-LCD, 3.5 inches		
Housing	IP67, shock	IP67, shock & scratch resistant, non-slip (ABS / polycarbonate)		
Power Requirement	4 x AA batterie	4 x AA batteries / battery pack or USB charger with micro USB cable		
Battery Life	> 100 hours (	> 100 hours (with display brightness 3 and no sensor connected)		
Dimensions		220 (L) x 90 (W) x 34 (H) mm		
Weight	Approx. 40	Approx. 400g (batteries included), 320 g (batteries excluded)		
Standard Accessories	Carrying case, 4 x	AA batteries, wireless SD card, manua	II, and quick guide	
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# Accessories & Solutions

pH Buffers	5	
Part No.	Model	Description
3999960015	501-S	NIST pH Buffers Kit (pH 4.01, 6.86, 9.18 buffers & 3.33M KCl, 250ml each)
3999960016	502-S	USA pH Buffers Kit (pH 4.01, 7.00, 10.01 buffers & 3.33M KCl, 250ml each)
3999960028	500-2	pH 1.68 Buffer at 25°C, 500ml
3999960029	500-4	pH 4.01 Buffer at 25°C, 500ml
3999960030	500-686	pH 6.86 Buffer at 25°C, 500ml
3999960031	500-7	pH 7.00 Buffer at 25°C, 500ml
3999960032	500-9	pH 9.18 Buffer at 25°C, 500ml
3999960033	500-10	pH 10.01 Buffer at 25°C, 500ml
3999960034	500-12	pH 12.46 Buffer at 25°C, 500ml

ORP Powders				
	Part No.	Model	Description	
	3200043618	160-51	89 mV at 25°C for 250ml (10 sachets/pack)	<b>()</b>
	3200043617	160-22	258 mV at 25°C for 250ml (10 sachets/pack)	<b>\$</b> (!)

Conductiv	onductivity Standards				
Part No.	Model	Description			
3999960017	503-S	Conductivity Standards Kit (84µS/cm, 1413µS/cm, 12.88mS/cm & 111.8mS/cm, 250ml each)			
3999960035	500-21	84µS/cm Conductivity Standard at 25°C, 500ml			
3999960036	500-22	1413µS/cm Conductivity Standard at 25°C, 500ml			
3999960037	500-23	12.88mS/cm Conductivity Standard at 25°C, 500ml			
3999960038	500-24	111.8mS/cm Conductivity Standard at 25°C, 500ml			

#### Ion Standard Solutions Part No. Model Description 3200697172 500-NH4-SL 100 mg/L Ammonium Ion Standard Solution 3200697171 500-NH4-SH 1000 mg/L Ammonium Ion Standard Solution 3200697176 500-CA-SL 100 mg/L Calcium Ion Standard Solution 3200697175 500-CA-SH 1000 mg/L Calcium Ion Standard Solution 3200697168 500-CL-SL 100 mg/L Chloride Ion Standard Solution 3200697167 500-CL-SH 1000 mg/L Chloride Ion Standard Solution 500-F-SL 100 mg/L Fluoride Ion Standard Solution 3200697164 3200697163 500-F-SH 1000 mg/L Fluoride Ion Standard Solution 3200697180 500-NO3-SL 100 mg/L Nitrate Ion Standard Solution 3200697179 500-NO3-SH 1000 mg/L Nitrate Ion Standard Solution 3200697180 500-K-SL 100 mg/L Potassium Ion Standard Solution 3200697179 500-K-SH 1000 mg/L Potassium Ion Standard Solution

## Ionic Strength Adjustors

3200697174	50	0-NH3-ISA
3200697178	50	0-CA-ISA
3200697170	50	00-CL-ISA
3200697166	50	0-F-TISAB
3200697182	50	D-NO3-ISA
3200697182	5	00-K-ISA

## Ammonia Ionic Strength Adjustor Calcium Ionic Strength Adjustor Chloride Ionic Strength Adjustor Fluoride Ionic Strength Adjustor Nitrate Ionic Strength Adjustor Potassium Ionic Strength Adjustor

#### Ion Selective Electrode Filling Solutions 3200697173 500-NH3-IFS Ammonia Electrode Filling Solution 3200697177 500-CA-IFS Calcium Electrode Filling Solution 3200697169 500-CL-IFS Chloride Electrode Filling Solution 500-F-IFS 3200697165 Fluoride Electrode Filling Solution 3200697181 500-NO3-IFS Nitrate Electrode Filling Solution 3200697181 500-K-IFS Potassium Electrode Filling Solution





USA pH Buffers Kit 502-S





Conductivity Standards Kit 503-S



Calcium Ion Electrode Solutions



Chloride Ion Electrode Solutions



Fluoride Ion Electrode Solutions



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Nitrate Ion Electrode Solutions

# **Cleaning Solutions**

Part No.	Model	Description
3014028653	220	Cleaning solution for removing inorganic sample residues, 50ml x 2pcs
3200530494	230	Cleaning solution for removing inorganic and organic sample residues, Solution A (30ml) & Solution B (100ml)
3200366771	250	Cleaning solution for removing proteins, 400ml

# Cartridges, Ion Selective Electrodes, and Tips

Part No.	Model	Description
3200786363	300-P-C	pH sensor cartridge
3200780928	300-4C-C	4-cell conductivity sensor cartridge
3200781554	300-D-M	Optical DO sensor cap
3014046710	9300-10D	ORP electrode with flat platinum tip and temperature sensor
3200698386	5002S-10C	Amonia electrode (combination)
3200697410	6583S-10C	Calcium ion selective electrode (combination)
3200697407	6560S-10C	Chloride ion selective electrode (combination)
3200693774	6561S-10C	Fluoride ion electrode (combination)
3200697408	6581S-10C	Nitrate ion selective electrode (combination)
3200697409	6582S-10C	Potassium ion selective electrode (combination)
3200705774	-	Ammonia electrode membrane caps (3 pcs.)
3200697414	7683S	Calcium electrode tip
3200697411	7660S	Chloride electrode tip
3200693606	7661S	Fluoride electrode tip
3200697412	7681S	Nitrate electrode tip
3200697413	7682S	Potassium electrode tip

Accessories					
Part No.	Model	Description			
3200844642	_	Flow Cell (for 300-2C-C)			
3200821465	300-BNC	Sensor head adapter			
3014028368	X-51	Digital simulator (300-BNC is required for pH, ORP, and Ion sensor heads)			
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, 1.5m			
3014030149	—	Printer paper, 20 rolls			
3014030150	—	Printer ink ribbon, 5pcs/pack			
3200828646	_	Black pH sensor tip guard (for 200 series, 300 series), 3pcs/pack			
3200043508	_	Electrode protection caps, 5pcs/pack			

\*Sensors carry 6-month warranty against manufacturing defects.





Flow Cell

Printer ink ribbon Printer paper 25-pin D-sub printer cable





Cleaning Solutions



Ammonia electrode membrane caps

Calcium electrode tip









300-BNC Sensor Head Adapte



X-51 Digital Simulator

Printer

# Visit HORIBA's website! www.horiba-laqua.com

## Water Quality Analyzers

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 shock-resistant 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.



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.

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#### 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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