

Scientific



Handheld Water Quality Meters
100 Series



In the lab, in the field or anywhere you need it 100 Series Water Quality Instruments

Waterproof

in 1 meter of water.

and dustproof

IP67 rated waterproof and dustproof casing. *IP67: Fully waterproof for approximately 30 minutes



Shock-resistant

Polycarbonate resin* used in automobiles and mobile phones has been adopted to enhance shock resistance. *Polycarbonate resin has about twice the shock resistance of conventional ABS resin.



Easy to carry

The compact and ergonomic design is easy to carry and includes an electrode hook attachment.

Electrode holder

Included adaptor allows up to 2 electrodes to be attached on either side of the meter.

Rugged carry-case

Moulded carry-case houses meter as well as the sensors, calibrating solutions, manuals, batteries. Convenient for field measurement and safe storage place for meter and accessories

9651-10D plastic body gel-filled electrode

- pH range 0 to 14
- temp range 0 to 80°C
- Porous sintered polyethylene liquid junction
- With integrated temperature sensor
- Waterproof, Lead-free glass
- 1m cable with BNC & phono jack connectors





Extended operation

Uses about 10% of the power compared to conventional meters. With up to 1000 hrs of use, long periods of field work is possible.







DATA

One hand operation

Slim body fits in your hand. Only three basic operation buttons for onehand operability.



Auto Hold or Auto Stable functions

- In auto hold mode, meter freezes LCD when readings are stable
- Auto stable mode continuously refreshes readings on LCD with stability indicator



Large LCD Screen

- · Large 64mm by 52mm screen allows for clear view of readings, diagnostic messages
- Backlight available in selected models

Visible LCD in dark places

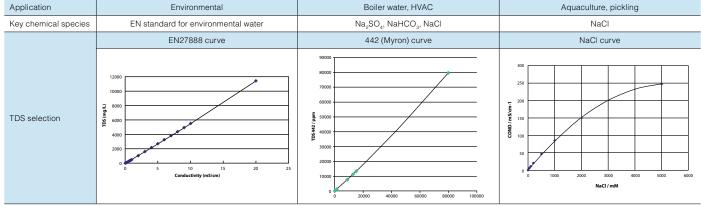
Backlight allows reading of measured values even in the dark

Dual-display screen (pH 130, PC 110 & PD 110)

- Dual channel meters
- feature dual display screen Simultaneous independent measurements of both channels
- Independent setup for each channel

TDS calibration curves

TDS models include predetermined standard curves for more accurate TDS readings across the measurement range. For convenience, calibration is only performed in EC mode.



pH Meters



	pH 110	pH 120	pH 130
Model	pH/ORP/Temp (°C)	pH/ORP/Temp (°C)	Dual Channel pH/ORP/Ion/Temp (°C)
Part No.	3200739844	3200739845	3200739846
oH range	-2.00 to 16.00 pH	-2.00 to 16.00 pH	-2.00 to 16.00 pH
Resolution	0.01 pH	0.01 pH	0.01 pH
Accuracy	±0.01 pH	±0.01 pH	±0.01 pH
Cal points	5	5	5
Buffer options	USA, NIST	USA, NIST, Custom	USA, NIST, Custom
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ORP range	±2000 mV	±2000 mV	±2000 mV
Resolution	1 mV	1 mV	1 mV
Accuracy	1 mV or 1% of reading (whichever is greater)	1 mV or 1% of reading (whichever is greater)	1 mV or 0.2% of reading (whichever is greater)
on range	_	_	0.00 μg/l to 999 g/l
Resolution	_	_	3 significant digits
Accuracy	_	_	±0.8% full scale
Cal points	_	_	Up to 5
emperature range	-30.0 °C to 130 °C	-30.0 °C to 130 °C	-30.0 °C to 130 °C
Resolution	0.1 °C	0.1 °C	0.1 °C
Accuracy	±0.4 °C	±0.4 °C	±0.4 °C
Cal option	Yes	Yes	Yes
·			
Memory	150	1000	1000
Data-logging	_	Yes	Yes
Real time clock	_	Yes	Yes
Date/time stamping	_	Yes	Yes
Auto Shut-off	Yes (programmable: 1 to 30 mins)	Yes (programmable: 1 to 30 mins)	Yes (programmable: 1 to 30 mins)
Auto-Hold	Yes	Yes	Yes
Averaging/Stability	Yes, Automatic	Yes, Automatic	Yes, Automatic
Offset display	Yes	Yes	Yes
Slope display	Yes	Yes	Yes
Cal Alarm	(independent acid and alkaline slopes depending on calibration) Yes (programmable: 1 to 400 days)	(independent acid and alkaline slopes depending on calibration) Yes (programmable: 1 to 400 days)	(independent acid and alkaline slopes depending on calibration) Yes (programmable: 1 to 400 days)
Electrode status		On screen display	On screen display
	On screen display Yes	Yes	Yes
Diagnostic messages	Custom LCD		
Display	BNC, phono, DC sockets	Custom LCD with backlight	Custom LCD with backlight
Inputs	BNC, pilolio, DC sockets	BNC, phono, DC sockets	2 x BNC, 2 x phono, DC sockets
Outputs	IDC7 short societast	RS232C	RS232C
IP rating	IP67, shock resistant	IP67, shock resistant	IP67, shock resistant
Power requirements	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adap
Battery life	> 1000 hrs	> 1000 hrs	> 500 hrs
Kit* includes:	PH110-K Waterproof pH/ORP handheld meter (Part No. 399960167) PH110 meter P651-10D plastic-body, gel-filled pH electrode pH 4.01, 7.00, 10.01 solutions (60ml) carry case	PH120-K Waterproof pH/ORP handheld data meter (Part No. 399960168) • PH120 meter • 9651-10D plastic-body, gel-filled pH electrode • pH 4.01, 7.00, 10.01 solutions (60ml) • carry case	PH130-K Waterproof pH/ORP/lon handheld data meter (Part No. 3999960169) • PH130 meter • 9651-10D plastic-body, gel-filled pH electrode • pH 4.01, 7.00, 10.01 solutions (60ml) • carry case

 $^{{}^{\}star}\text{Kit with NIST buffers set is available upon request. Add 'N' suffix to order code when ordering}$

Conductivity Meters



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Model	EC 110	EC 120
model.	EC/TDS/Res/Temp (°C)	EC/TDS/Res/Sal/Temp (°C)
Part No.	3200739842	3200739847
range	μS/cm to 200.0 mS/cm (@ k=1.0)	μS/cm to 200.0 mS/cm (@ k=1.0)
Resolution	0.05% F.S.	0.05% F.S.
Accuracy	±0.6% F.S.; ±1.5% F.S. > 18.0 mS/cm	±0.6% F.S.; ±1.5% F.S. > 18.0 mS/cm
Ref. temp.	15 to 30 °C (adjustable)	15 to 30 °C (adjustable)
Temp. compensation	0.0 to 10.0% (adjustable)	0.0 to 10.0% (adjustable)
Cell constants	0.1 / 1.0 / 10.0	0.1 / 1.0 / 10.0
Cal points	4 points	4 points
Units setting	Auto ranging / Manual μS/cm or mS/cm or S/m	Auto ranging / Manual μS/cm or mS/cm or S/m
OS range	ppm to 100 ppt (TDS factor @ 0.5)	ppm to 100 ppt (TDS factor @ 0.5)
Resolution	0.01ppm / 0.1 ppt	0.01ppm / 0.1 ppt
Accuracy	±0.1% F.S.	±0.1% F.S.
TDS curves	EN27888, 442, linear (0.40 to 1.0)	EN27888, 442, linear (0.40 to 1.0)
esistivity Range	$0.000~\Omega/cm$ to $200.0~M\Omega/cm$	$0.000~\Omega/\text{cm}$ to $200.0~\text{M}\Omega/\text{cm}$
Resolution	0.05% F.S.	0.05% F.S.
	0.6% F.S.	0.6% F.S.
Accuracy	±1.5% F.S > 1.80 MΩ/cm	±1.5% F.S > 1.80 MΩ/cm
alinity	_	0.0 to 100.0 ppt 0.00 to 10.00 %
Resolution	_	0.1 ppt / 0.1%
Accuracy	_	0.2% F.S.
Cal curves	_	NaCI / Sea water
mperature range	-30.0 °C to 130 °C	-30.0 °C to 130 °C
Resolution	0.1 ℃	0.1 ℃
Accuracy	±0.4 °C	±0.4 °C
Marray	400	1000
Memory Data logging	100	Yes
Data-loggiing		Yes
Real time clock		Yes
Date/time stamping		
Auto Shut-off	Yes (programmable: 1 to 30 mins)	Yes (programmable: 1 to 30 mins)
Auto-Hold	Yes	Yes
Diagnostic messages	Yes	Yes
Display	Custom LCD	Custom LCD with backlight
Inputs	BNC, phono, DC sockets	BNC, phono, DC sockets
Outputs	_	RS232C
IP rating	IP67, shock resistant	IP67, shock resistant
Power requirements	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor
Battery life	> 200 hrs	> 200 hrs
EC1	10-K Waterproof EC/TDS/Res handheld meter	EC120-K Waterproof EC/TDS/Res/Sal handheld data meter

Kit includes:

- EC110-K Waterproof EC/TDS/Res handheld meter
 (Part No. 3999960170)
 EC110 meter
 9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0
 84uS/cm, 1413 uS/cm, 12.88 mS/cm solutions (60ml)

• carry case

EC120-K Waterproof EC/TDS/Res/Sal handheld data meter (Part No. 3999960171)

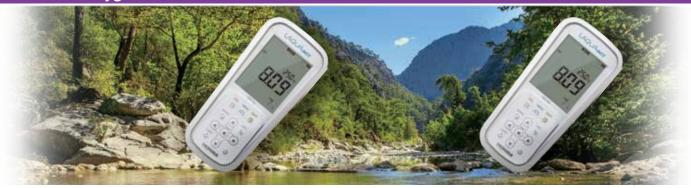
• EC120 meter

• 9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0

• 84uS/cm, 1413 uS/cm, 12.88 mS/cm, 111.8 mS/cm solutions (60ml)

• carry case

Dissolved Oxygen Meters



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Model	DO 110	DO 120	
	DO / Temp (°C)	DO / Temp (°C)	
Part No.	3200739848	3200739849	
Dissolved Oxygen range	0.0 to 20.00 mg/l 0.0 to 200.0%	0.0 to 20.00 mg/l 0.0 to 200.0%	
Resolution	0.01 mg/l or 0.1%	0.01 mg/l or 0.1%	
Accuracy	±0.1 mg/l	±0.1 mg/l	
Salinity compensation	0 to 40 ppt	0 to 40 ppt	
Barometric pressure compensation	Yes	Yes	
DO Probe type	Galvanic with integrated temperature sensor	Galvanic with integrated temperature sensor	
Calibration	1 or 2 points	1 or 2 points	
Temperature range	-30.0 °C to 130 °C	-30.0 °C to 130 °C	
Resolution	0.1 °C	0.1 °C	
Accuracy	±0.4 °C	±0.4 °C	
Memory	100	1000	
Data-logging	_	Yes	
Real time clock	_	Yes	
Date/time stamping	_	Yes	
Auto Shut-off	Yes (programmable: 1 to 30 mins)	Yes (programmable: 1 to 30 mins)	
Auto-Hold	Yes	Yes	
Diagnostic messages	Yes	Yes	
Display	Custom LCD	Custom LCD with backlight	
Inputs	BNC, phono, DC sockets	BNC, phono, DC sockets	
Outputs	-	RS232C	
IP rating	IP67, shock resistant	IP67, shock resistant	
Power requirements	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor	2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor	
Battery life	> 500 hrs	> 500 hrs	

	Kit includes:	(Part No. 3999960172) ● DO110 meter	D0120-K Waterproof Dissoled Oxygen data meter (Part No. 3999960173) • D0120 meter • 9551-20D Galvanic D0 probe, 2m cable • carry case
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Multi-Parameter Meters

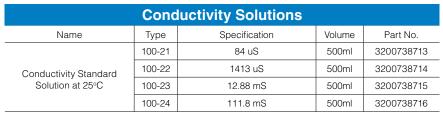


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Presolution			
Address Addr	pH range		
Second			
Boller rigitions			·
Proposition Accounty Town Town Town	·		
Mescalarian	Buffer options	USA, NIST	USA, NIST
Mescalarian	ORP range	±2000 mV	±2000 mV
Distance Department			
Dissalved Duyges range	Accuracy	1 mV or 1% of reading (whichever is greater)	1 mV or 1% of reading (whichever is greater)
Percebution			0.0 to 20.00 mg/l
Macrany	Dissolved Oxygen range	_	0.0 to 200.0%
Saminy compensation	Resolution	_	0.01 mg/l or 0.1%
Second pressure compression	Accuracy	_	±0.1 mg/l
Claimation	Salinity compensation	_	0 to 40 ppt
Caliparion	Barometric pressure compensation	_	Yes
Resolution	DO Probe type	_	Galvanic with integrated temperature sensor
Resolution	Calibration	_	1 or 2 points
# Accuracy # 1.50 % F.S. * 150 ma/m	EC range	μS/cm to 200.0 mS/cm (@ k=1.0)	_
### Ref temp. 15 to 30 °C directable) —— Ref temp.	Resolution	0.05% F.S.	_
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Prating IP67, shock resistant IP67, shock resistant IP67, shock resistant		200 - 2	11 1
Power requirements Battery life > 2 x 'AAA' or LR03 or Ni-H rechargeable batteries or power adaptor > 200 hrs > 500 hrs PC110-K Waterproof pH/ORP/EC/TDS/Res/Sal handheld data meter (Part No. 3999960174) PC110 meter • 9651-10D plastic gel-filled pH electrode • 9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 • pH 4.01, pH7.00, 1413 uS/cm, 12.88 mS/cm solutions (60ml) • carry case P 4 4.01, pH7.00, 10.01 solutions (60ml) • carry case			
Battery life > 200 hrs > 500 hrs PC110-K Waterproof pH/ORP/EC/TDS/Res/Sal handheld data meter (Part No. 3999960174) PC110 meter 9651-10D plastic gel-filled pH electrode 9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 PH 4.01, pH7.00, 1413 uS/cm, 12.88 mS/cm solutions (60ml) carry case PC110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO handheld data meter (Part No. 3999960175) PD110-K Waterproof pH/ORP/DO		•	·
PC110-K Waterproof pH/ORP/EC/TDS/Res/Sal handheld data meter (Part No. 3999960174) PC110 meter PC110 meter PC110 meter PC110 meter PC110 meter PC110 plastic gel-filled pH electrode PC110 plastic pody, Titanium/Platinum black, conductivity cell, k=1.0 PC110 meter PC110 meter PC110 meter PC110 plastic gel-filled pH electrode PC110 plastic pd-filled pH electrode			
PC110 meter 9651-10D plastic gel-filled pH electrode 9882-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 9182-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 9182-10D plastic gel-filled pH electrode 9551-20D Galvanic DO probe, 2m cable 9184-01, 7.00, 10.01 solutions (60ml) 0182-10D plastic gel-filled pH electrode 9551-20D galvanic DO probe, 2m cable 9184-01, 7.00, 10.01 solutions (60ml) 0183-0193-0193-0193-0193-0193-0193-0193-019	Battery life	> 200 hrs	> 500 hrs
**Filton plastic gel-filled pH electrode • 9882-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 • 9882-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 • 9551-20D Galvanic DO probe, 2m cable • pH 4.01, 7.00, 10.01 solutions (60ml) • carry case			
• 9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0 • pH 4.01, pH7.00, 1413 uS/cm, 12.88 mS/cm solutions (60ml) • carry case • 9382-10D Galvanic DO probe, 2m cable • pH 4.01, 7.00, 10.01 solutions (60ml) • carry case	Vit* includes	9651-10D plastic gel-filled pH electrode	9651-10D plastic gel-filled pH electrode
• carry case	KIL" IIICIUOES:	9382-10D plastic-body, Titanium/Platinum black, conductivity cell, k=1.0	9551-20D Galvanic DO probe, 2m cable
	*Kit with NIST buffers set is available	-	

- Kit* includes:

^{*}Kit with NIST buffers set is available upon request. Add 'N' suffix to order code when ordering

pH Solutions							
Name	Volume	Part No.					
	100-2	pH 1.68	500ml	3200043639			
	100-4 pH 4.01		500ml	3200043638			
	100-7	pH 6.86	500ml	3200043637			
Buffer Solution at 25°C	100-7U	pH 7.00 (USA)	500ml	3200738711			
	100-9	pH 9.18	500ml	3200043636			
	100-10U	pH 10.01 (USA)	500ml	3200738712			
	12.46	Available on request	500ml	-			



ORP Powder							
Name	Type	Specification	Packet	Part No.			
Powder for ORP Standard Solution	160-51	89 mV For 250 ml	10	3200043618			
\$ (!)	160-22	258 mV For 250 ml	10	3200043617			

Accessories					
Name	Description	Part No.			
CBM-910 Printer	US version 120V Serial Printer	5700012747			
AC adapter cable set	Multi-voltage (100-240V) with USA 120V cable	3200647413			
Digital simulator X-51	pH, mV, Ion, DO simulator	3014028368			
Digital simulator X-52	Conductivity simulator	3014028370			
Serial cable	Cable to connect meter and PC (Serial, 9 pins)	3014030151			
Electrode hook	With function for winding the cable	3200528475			
DP-70S Electrode stand (adjustable type)	With holder for D/ES/OM-70	3200528474			

Electrodes					
Name	Description	Part No.			
9651-10D	Plastic-body, gel-filled pH electrode with integrated temperature sensor	3200642020			
9382-10D	Plastic-body, k=1.0 conductivity cell, Titanium / Platinum black, with integrated temperature sensor	3014046709			
9551-20D	Immersible DO probe with integrated temperature sensor and 2m cable	3014047090			
9300-10D	Platinum Electrode for ORP meausrement	3014046710			



Electrode Internal Solution

• For electrode maintenance of refillable pH, ORP, and reference electrodes.

Name	Туре	Volume (ml)	Part No.
Internal Solution	300	250	3200043640

Electrode Cleaning Solutions

• For removing inorganic sample residues from glass electrodes, and for cleaning liquid junctions.

Name	Туре	Volume (ml)	Part No.
Cleaning Solution	220	50 x 2 pcs	3014028653

• For removing protein containing sample residues from glass electrodes, and for cleaning liquid junctions.

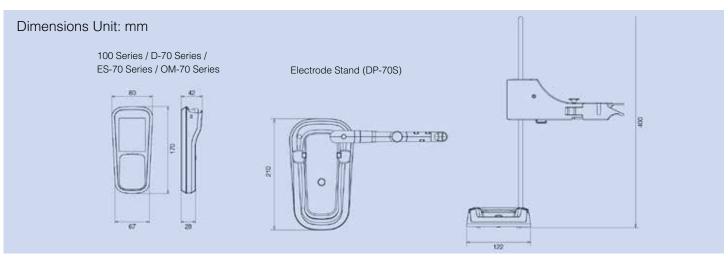
Name	Туре	Volume (ml)	Part No.
Cleaning Solution	250	400	3200366771





GMP compliance)

Digital simulator



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.





Electrodes

HORIBA's superior electrode technology has been employed in manufacturing our unparalleled tough pH glass bulbs and unique flat sensors. Our electrodes have different designs to cater a wide range of applications—from pure water to complex samples. Select the suitable electrode that is specially designed for your application.



Bench 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.



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.





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/znwE6i) 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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