HORIBA
Scientific

LAQUA

LAQUAact

pH	ORP	Ion	Conductivity
Resistivity	TDS	DO	Salinity

Handheld Water Quality Meters
LAQUAact 100 Series

LAQUA*act*

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

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.

Impact Resistant

Easy to carry

The compact and ergonomic design is easy to carry and includes an electrode hook attachment that allows up to 2 electrodes to be attached on either side of the meter.

Waterproof and dustproof

IP67 rated waterproof and dustproof casing. *IP67: Fully waterproof for approximately 30 minutes in 1 meter of water.

IP 67

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.
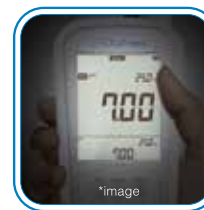
CAL   **MEAS**   **DATA**

One hand operation

Slim body fits in your hand. Only three basic operation buttons for one-hand 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

Visible LCD in dark places

Backlight allows reading of measured values even in the dark.

Large LCD screen

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

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.

Application	Environmental	Boiler water, HVAC	Aquaculture, pickling
Key chemical species	EN standard for environmental water	Na_2SO_4, $NaHCO_3$, NaCl	NaCl
TDS selection	EN27888 curve	442 (Myron) curve	NaCl curve

LAQUA*act*

Multi-Parameter Meters

PC 110

PD 110

Models	PC 110 Dual Channel pH/ORP/ EC/TDS/Res/Sal/Temp (°C)	PD 110 Dual Channel pH/ORP/ DO/Temp (°C)
pH range	-2.00 to 16.00 pH	-2.00 to 16.00 pH
Resolution	0.01 pH	0.01 pH
Accuracy	±0.01 pH	±0.01 pH
Cal points	5	5
Buffer options	USA, NIST, Custom	USA, NIST, Custom
ORP range	±2000 mV	±2000 mV
Resolution	1 mV	1 mV
Accuracy	±1 mV or 0.2% of reading (whichever is greater)	±1 mV or 0.2% of reading (whichever is greater)
Dissolved Oxygen range	—	0.00 to 20.00 mg/L 0.0 to 200.0%
Resolution	—	0.01 mg/L or 0.1%
Accuracy	—	±0.1 mg/L
Salinity compensation	—	0.0 to 40.0 ppt
Barometric pressure compensation	—	Yes
DO Probe type	—	Galvanic with integrated temperature sensor
Calibration	—	1 or 2 points
EC range	... µS/cm to 200.0 mS/cm (K=1.0)	—
Resolution	0.05% F.S.	—
Accuracy	±0.6% F.S.; ±1.5% F.S. > 18.0 mS/cm	—
Ref. temp.	15 to 30 °C (adjustable)	—
Temp. compensation	0.00 to 10.00% (adjustable)	—
Cell constants	0.1 / 1.0 / 10.0	—
Cal points	4 points (Auto/Manual)	—
Units setting	Auto ranging / Manual µS/cm or mS/cm or S/m	—
TDS range	... mg/L to 100 g/L (TDS factor = 0.5)	—
Resolution	0.01 mg/L	—
Accuracy	±0.1% F.S.	—
TDS curves	EN27888, 442, Linear (0.40 to 1.0), NaCl	—
Resistivity Range	0.000 kΩ•cm to 20.00 MΩ•cm	—
Resolution	0.05% F.S.	—
Accuracy	±0.6% F.S. ±1.5% F.S. > 1.80 MΩ•cm	—
Salinity	0.0 to 100.0 ppt 0.00 to 10.00 %	—
Resolution	0.1 ppt / 0.01%	—
Accuracy	±0.2% F.S.	—
Cal curves	NaCl / Sea water	—
Temperature Range	-30.0 °C to 130 °C	—
Resolution	0.1 °C	—
Accuracy	±0.4 °C	—
Memory	1000	1000
Auto 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)
Auto-Hold / Stability	Yes	Yes
Offset display	Yes	Yes
Slope display	Yes (independent acid and alkaline slopes depending on calibration)	Yes (independent acid and alkaline slopes depending on calibration)
Cal Alarm	Yes (programmable: 1 to 400 days)	Yes (programmable: 1 to 400 days)
Electrode status	On screen display	On screen display
Diagnostic messages	Yes	Yes
Display	Custom LCD with backlight, Dual channel	Custom LCD with backlight, Dual channel
Inputs	Dual BNC, phono, DC sockets	Dual BNC, phono, DC sockets
Outputs	RS232C	RS232C
IP rating	IP67, shock resistant	IP67, shock resistant
Power requirements	2 x 'AAA' or LR03 or Ni-MH rechargeable batteries or power adaptor	2 x 'AAA' or LR03 or Ni-MH rechargeable batteries or power adaptor
Battery life	> 200 hrs	> 500 hrs
Kit* includes:	PC110-K Waterproof pH/ORP/EC/TDS/Res/Sal handheld data meter (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	PD110-K Waterproof pH/ORP/DO handheld data meter (3999960175) • PD110 meter • 9651-10D plastic gel-filled pH electrode • 9551-20D Galvanic DO probe, 2m cable • pH 4.01, 7.00, 10.01 solutions (60ml) • carry case

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

pH Solution Kits

Name	Type	Specification	Volume	Part No.
NIST pH Buffer Solution Kit	501-S	(4.01/6.86/9.18/3.33M KCl)	250ml ea	3999960015
USA pH Buffer Solution Kit	502-S	(4.01/7.00/10.01/3.33M KCl)	250ml ea	3999960016

pH Solutions

Name	Type	Specification	Volume	Part No.
Buffer Solution at 25°C	500-2	pH 1.68	500ml	3999960028
	500-4	pH 4.01	500ml	3999960029
	500-686	pH 6.86	500ml	3999960030
	500-7	pH 7.00	500ml	3999960031
	500-9	pH 9.18	500ml	3999960032
	500-10	pH 10.01	500ml	3999960033
	500-12	pH 12.46	500ml	3999960034

pH Buffer Solutions

Conductivity Standard Solutions

Conductivity Solution Kit

Name	Type	Specification	Volume	Part No.
Conductivity Standard Solution Kit	503-S	(84 uS/cm; 1413 uS/cm; 12.88 mS/cm; 111.8 mS/cm)	250ml ea	3999960017

Conductivity Solutions

Name	Type	Specification	Volume	Part No.
Conductivity Standard Solution at 25°C	500-21	84 uS/cm	500ml	3999960035
	500-22	1413 uS/cm	500ml	3999960036
	500-23	12.88 mS/cm	500ml	3999960037
	500-24	111.8 mS/cm	500ml	3999960038

Electrode Cleaning Solutions

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

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

Accessories

Name	Description	Part No.
Printer (for GLP / GMP compliance)	US version 120V (does not include printer cable)	3014030146
	EU version 230V (does not include printer cable)	3014030147
Printer cable	1.5 m	3014030148
Printer paper	20 rolls	3014030149
Ink ribbon	5 pcs/set	3014030150
Universal AC adapter	Multi-voltage (100-240V) with 6 plugs,1.5m cable	3200647413
Digital simulator X-51	pH, mV, Ion, DO, temperature simulator	3014028368
Digital simulator X-52	Conductivity, temperature 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 / 100 Series	3200528474

Printer (for GLP/ GMP compliance)

Universal Adapter with 6 plugs

Digital simulator

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	Galvanic DO probe with integrated temperature sensor and 2m cable	3014047090

*Electrodes carry a 6-month warranty against manufacturing defects only

Dimensions Unit: mm

100 Series / D-70 Series / ES-70 Series / OM-70 Series

80
42
170
67
28

Electrode Stand (DP-70S)

210

400

122

Water Quality Analyzers   www.horiba-laqua.com
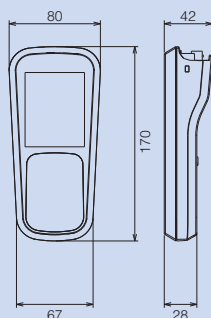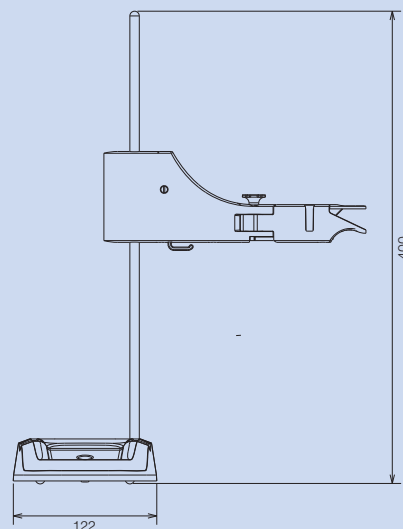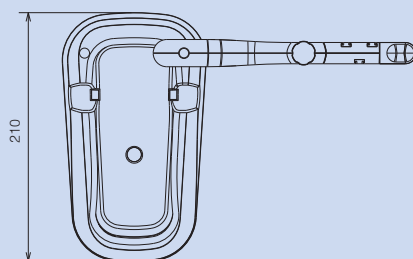
With over 60 years of engineering excellence, HORIBA's diverse range of water quality analyzers and electrodes are ideal for everyday laboratory needs through to the most demanding of applications. Visit our website for a wealth of useful information and water quality measurement tips to help you obtain 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 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.

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.