

HQd Digital Meters and IntelliCAL™ Probes



Now offering six testing parameters with standard, rugged, and ultra options. Hach's HQd system gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition. The full measurement suite includes IntelliCAL probes for pH, conductivity, Luminescent Dissolved Oxygen (LDO), Luminescent BOD (LBOD), ORP, and sodium.

DW

WW

PW

IW

E

FB

HQd Digital Meters

Guided Calibrations

All Hach HQd Digital Meters provide an intuitive user interface with guided calibration and check standard routines to reduce calibration errors and simplify operation. Calibration status indicator and custom calibration alerts ensure accurate results.

Traceability and Reporting

HQd meters record probe serial numbers, current calibration data, user ID, sample ID, time, and date automatically in the data log. Each measurement can be linked to sample ID, user ID, probe serial number, and more for complete traceability and regulatory reporting.

Easy to Use in the Field

All connections between the meter and the probe are secure and waterproof. Connectors can be color-coded for quick identification. Information is clearly displayed on one screen with back light for low light conditions. Display results can be enlarged for easier reading.



DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



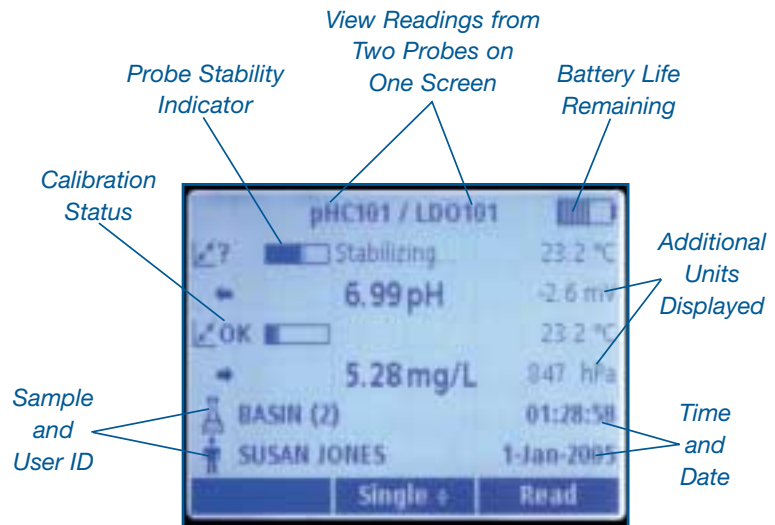
Be Right™

HQd Digital Meters *continued*



Detailed Screen Mode Shown

Alternate large display mode also available for single and dual parameters.



The Hach HQ40d features three connection ports: 2 ports that allow simultaneous measurement of two different parameters using two different probes, and 1 port for USB and external power.

Four Models to Choose From

- **HQ40d Dual-input Multi-parameter Meter**

Plug-and-play with **any two** IntelliCAL probes to measure pH, conductivity, dissolved oxygen using LDO technology, ORP/Redox and sodium in any combination. The HQ40d meter has three connection ports—two ports for simultaneous measurement using two IntelliCAL probes and an additional port for USB connectivity and external power. Measurements can be made and viewed simultaneously or individually. Transfer the entire data log or individual readings (GLP/ISO) to PC or USB flash stick. The meter can be password-protected for accurate, tamper-proof reporting. The HQ40d meter comes with USB and A/C adapters, and a field kit including a carrying case, protective glove, and sample cups.

- **HQ30d Single-input Flexi-parameter Meter**

Plug-and-play with **any one** IntelliCAL probe to measure pH, conductivity, dissolved oxygen using LDO technology, ORP/Redox and sodium. The HQ30d meter has one port for measurement with one IntelliCAL probe and one port for USB connectivity and external power. Adapters and cables must be purchased separately. Quickly and easily swap IntelliCAL probes without re-calibration. The meter can be password-protected for accurate, tamper-proof reporting. A 500-result data log stores measurements, calibrations, and check standards.

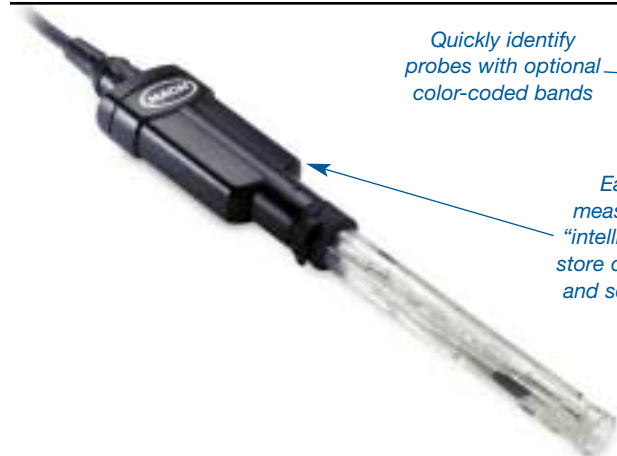
- **HQ11d, HQ14d Single-input dedicated meters**

Dedicated meter/IntelliCAL probe combinations provide economical options for testing single parameters with either standard or rugged probes. The HQ11d measures two parameters: pH and ORP. The HQ14d tests conductivity which translates to resistivity, salinity and TDS as well.



IntelliCAL Probes

Standard Probe: For Laboratory Use



Quickly identify probes with optional color-coded bands

Easily track measurements—"intelligent" probes store calibration info and serial numbers

Rugged Probe: For Field Use



Polymer shroud protects sensor from impact

Calibration History Stays with the Probe

Each Hach IntelliCAL probe stores its calibration history and settings in the probe itself, allowing the probes to easily be transferred from meter to meter, minimizing probe replacement and calibration. The serial number is also stored in the probe to provide complete traceability, chain of custody, and regulatory reporting.

Ready to Use

Factory-calibrated IntelliCAL probes are ready to use, right out of the box. The meter will even alert the user when a new calibration is necessary.

Three Probe Styles to Choose From

- **IntelliCAL Ultra Probes**

IntelliCAL ultra probes are designed for high performance in difficult applications. Probes are optimized for fast response time, accuracy, and precision. Refillable liquid-filled probes are non-submersible. Choice of cable lengths from one to three meters.

- **IntelliCAL Standard Probes**

IntelliCAL standard probes are waterproof for up to 24 hours at a depth of three meters (refillable liquid-filled probes are non-submersible). Choice of cable lengths from one to three meters.

- **IntelliCAL Rugged Probes**

IntelliCAL rugged probes are designed for harsh environments. These probes feature a super-tough, stainless steel body and polymer sensor shroud that is waterproof for 24 hours at a depth of 30 meters. The reinforced, steel-sheathed cables are durable, yet manageable. Choice of cable lengths available from 5 to 30 meters.



The LBOD system uses the breakthrough Hach Luminescent Dissolved Oxygen (LDO) probe for accurately determining DO and BOD for NPDES reporting. With no membranes to replace or fail mid-run, LBOD saves 15% in maintenance costs annually.

IntelliCAL Probes—

All with Built-in Temperature Sensors

- **pH Refillable Ultra**
Liquid-filled pH probe designed for fast response in all samples, including low-ionic strength sample types. Also measures temperature (not available in rugged style).
- **pH Gel-filled Combination**
Gel-filled pH probe also measures temperature (also available in rugged style).
- **pH Refillable Combination**
Liquid-filled pH probe also measures temperature (not available in rugged style).
- **Oxidation Reduction Potential/Redox Gel-filled Combination**
Gel-filled ORP/Redox probe also measures temperature (also available in rugged style).
- **Oxidation Reduction Potential/Redox Refillable Combination**
Liquid-filled ORP/Redox probe also measures temperature (not available in rugged style).
- **Dissolved Oxygen (DO)**
Using patented Hach Luminescent Dissolved Oxygen (LDO[®]) technology, this probe measures DO (mg/L), % saturation, pressure, and temperature (also available in rugged style).
- **LBOD**
By integrating a stirrer into the LDO probe, this probe will comply with requirements of the USEPA-based BOD₅ and CBOD testing. Patented LDO technology provides fast calibration and stabilization throughout the BOD test.
- **Sodium Ion Selective Electrode Refillable Combination**
Liquid-filled sodium ISE also measures temperature (not available in rugged style).
- **Conductivity**
Four-pole graphite design probe measures conductivity ($\mu\text{S}/\text{cm}$ or mS/cm), resistivity, salinity, TDS and temperature (also available in rugged style).

HQd Digital Meters Specifications*

Power

4 AA batteries (battery life: >200 hours)
 USB/DC and AC/DC power connection included (HQ40d only)
 USB/DC and AC/DC power connections available (HQ30d, HQ14d, HQ11d)

Languages

Selectable: English, French, German, Italian, Spanish, Danish, Dutch, Polish, Portuguese, Turkish, Swedish, Czech, Russian

Display

Display readings from one or two probes
 Simultaneous readings from two probes (HQ40d only)
pH: pH, mV, temperature
Conductivity: Conductivity, TDS, salinity, resistivity, temperature
LDO: dissolved oxygen, pressure, temperature
LBOD: dissolved oxygen, pressure, temperature
ORP/Redox: mV, temperature
Sodium: Sodium, mV, temperature

Data Memory

500 results

Data Storage

GLP/ISO compliant reading data stored with calibration details.
 Calibration details and check standard readings documented as events in data log.
 Automatically store in "press to read" mode and interval measurement mode.
 Manually store in "continuous read" mode.

Data Export

Download via USB connection to PC or flash stick.
 Automatically transfer entire data log or as readings are taken.

Temperature Correction/Compensation

Off, automatic, and manual (auto correction is parameter dependent)

Display Lock Function

Continuous measurement or "press to read" mode available with averaging function for LDO measurement

Automatic pH Buffer Recognition

Color-coded: 4.01, 7.00, 10.01 pH;
IUPAC: 1.679, 4.005, 7.000, 10.012, 12.45
DIN: 1.09, 4.65, 9.23
 User-defined custom buffer sets

Keyboard

External PC keyboard via USB connection

Water Resistance

Meter Casing: 1 meter submersion for 30 minutes (IP67)

Dimensions

19.7 x 9.5 cm (7.75 x 3.75 in.)

Weight

335 g (0.75 lb.)

IntelliCAL Probes & Electrodes Specifications*

Temperature

Range: -10.0 to 110.0°C
Resolution: 0.1°C
Accuracy: ±0.3°C (±0.54°F)
 (Visit www.hach.com for exact probe operating temperatures.)

pH

Range: 0 to 14 pH (both standard refillable and refillable ultra pH sample probes);
 2 to 14 pH (standard gel-filled probe)
Resolution: 0.1/0.01/0.001 selectable,
 pH Ultra Precision: 0.01 pH units
 pH Precision: 0.02 pH units

ORP/Redox

Range: -1200mV to +1200 mV
Resolution: 0.1 mV

Sodium

Range: 0.023 mg/L (1x10⁻⁶ M) to 23,000 mg/L (1 M) Na⁺
Resolution: 2/3/4 Significant digits selectable

Conductivity

Range: 0.01 µS/cm to 200 mS/cm
Resolution: 0.01 µS/cm (5 digits, maximum)

Resistivity

Range: 2.5 ohm cm to 49 Mohm cm
Resolution: 0.1 ohm cm (5 digits, maximum)

Salinity

Range: 0 to 42 g/kg or ‰
Resolution: 0.01 ppt

Total Dissolved Solids

Range: 0.0 to 50.0 g/L
Resolution: 0.1 mg/L

Dissolved Oxygen (using LDO technology)

Range: 0.05 to 20.00 mg/L (0 to 200%)
Resolution: 0.01 mg/L *NEW* Auto Salinity Correction feature when CDC401 probe is connected (HQ40d only)

BOD5/CBOD (using LBOD with LDO technology)

Range: 0.05 to 20.0 mg/L
Resolution: 0.01 mg/L

Elevation Limitation

5,000 m (16,400 ft.), maximum

Water Resistance

Standard: IP68, waterproof for 24 hours at a depth of 3 meters (refillable liquid-filled probes are not submersible)
Rugged: IP68, waterproof for 24 hours at a depth of 30 meters
LBOD: IP65, waterproof for strong jets of water

Cable Lengths

Standard (all except LBOD): 1 or 3 m (3.3 or 9.8 ft.)
Rugged: 5, 10, 15, or 30 m (16.4, 32.8, 49.2, or 98.4 ft.)
LBOD: 1.8 m (5.9 ft.)

Dimensions

Standard (all except LBOD): 17.8 cm (7 in.) length
Rugged: 21.6 cm (8.5 in.) length
LBOD: 19.1 x 4.1 cm (7.5 x 1.6 in.) length and width

Weight

Standard (1 meter cable):

pHC281 - 76 g (2.7 oz)	pHC101 - 76 g (2.7 oz)
pHC301 - 76 g (2.7 oz)	MTC101 - 76 g (2.7 oz)
MTC301 - 76 g (2.7 oz)	ISENa381 - 76 g (2.7 oz)
CDC401 - 104 g (3.7 oz)	LDO101 - 127 g (4.5 oz)

Rugged (5 meter cable):

pHC101 - 1182 g (41.7 oz)	MTC101 - 1182 g (41.7 oz)
CDC401 - 1210 g (42.7 oz)	LDO101 - 1232 g (43.5 oz)

LBOD: 225g (7.9 oz)

Ordering Information

Meters Only

HQ40d53000000 HQ40d Dual-input Multi-parameter Meter (includes field case and USB/AC power connections)

HQ30d53000000 HQ30d Single-input Multi-parameter Meter

HQ11d53000000 HQ11d Digital Portable pH/ORP Meter

HQ14d53000000 HQ14d Digital Portable Conductivity Meter

pH Probes

Ultra Refillable Combination Standard Probe

pHC28101 1 m cable

pHC28103 3 m cable

NEW!

Gel-filled Combination Standard Probe

pHC10101 1 m cable

pHC10103 3 m cable

Gel-filled Combination Rugged Probe

pHC10105 5 m cable

pHC10110 10 m cable

pHC10115 15 m cable

pHC10130 30 m cable

Refillable Combination Standard Probe

pHC30101 1 m cable

pHC30103 3 m cable

ORP/Redox Probes

NEW!

Gel-filled Combination Standard Probe

MTC10101 1 m cable

MTC10103 3 m cable

Gel-filled Combination Rugged Probe

MTC10105 5 m cable

MTC10110 10 m cable

MTC10115 15 m cable

MTC10130 30 m cable

Refillable Combination Standard Probe

MTC30101 1 m cable

MTC30103 3 m cable

Conductivity Probes

Standard Probe

CDC40101 1 m cable

CDC40103 3 m cable

Rugged Probe

CDC40105 5 m cable

CDC40110 10 m cable

CDC40115 15 m cable

CDC40130 30 m cable

Sodium ISE Probes

NEW!

Refillable Combination Standard Probe

ISENa38101 1 m cable

ISENa38103 3 m cable

Ordering Information *continued*

LDO (Luminescent Dissolved Oxygen) Probes

Standard Probe

LDO10101	1 m cable
LDO10103	3 m cable

Rugged Probe

LDO10105	5 m cable
LDO10110	10 m cable
LDO10115	15 m cable
LDO10130	30 m cable

BOD Probes

LBOD10101	LDO Probe with Integrated Stirrer and 1.8 m cable
HQDBOD01	BOD System; includes HQ40d meter, LBOD probe with 1.8 m cable, and meter stand
8505700	BOD System; includes HQ40d meter, LBOD probe with 1.8 m cable, meter stand, Disposable BOD Bottles (117/case), Acrylic Stoppers (25) and BOD Bottle Caps (2 packages of 6)

Meter & Probe Bundles

8505900	pH Starter Kit HQ11d pH meter, gel pH probe with 1 m cable, HQd meter stand, pH Buffer Kit (500 mL), pH storage solution (500 mL), and probe stand.
8506000	Complete Water Quality Lab Kit: DO/pH/Conductivity HQ40d meter with A/C power and USB adapters, refillable pH probe with 1 m cable, conductivity probe with 1 m cable, standard LDO probe with 1 m cable, HQd meter stand, pH Buffer Kit (500 mL), pH storage solution (500 mL), conductivity standard (1000 μ S/cm, 100 mL), disposable BOD bottle and stopper for calibration, and probe stand.
8506100	Conductivity Starter Kit HQ14d conductivity meter, standard conductivity probe with 1 m cable, HQd meter stand, conductivity standard (1000 μ S/cm, 100 mL), and probe stand.
8505800	Advanced pH/Conductivity Kit HQ40d meter with A/C power and USB adapters, refillable pH probe with 1 m cable, conductivity probe with 1 m cable, HQd meter stand, pH Buffer Kit, 500 mL, pH storage solution (500 mL), conductivity standard (1000 μ S/cm, 100 mL), probe stand.
8506200	Advanced pH/BOD Kit HQ40d meter with A/C power and USB adapters, refillable pH probe with 1 m cable, LBOD probe, HQd meter stand, pH Buffer Kit, 500 mL, pH storage solution (500 mL), disposable BOD Bottles (117/case), acrylic stoppers (25), probe stand, and BOD bottle caps (2 packages of 6).
8506300	Basic Dissolved Oxygen Kit HQ30d meter, standard LDO probe with 1 m cable, disposable BOD bottle and stopper for calibration, and HQd meter stand.
8506400	pH ultra Starter Kit HQ40d meter with A/C power and USB adapters, pH ultra probe with 1 m cable, probe stand, HQd meter stand, pH 4.01 buffer solution (color-coded red, 500 mL), pH 7.00 buffer solution (color-coded yellow, 500 mL), and pH 10.01 buffer solution (color-coded blue, 500 mL).
8506500	ORP Starter Kit HQ11d meter with A/C power and USB adapters, gel-filled standard ORP probe with 1 m cable, probe stand, HQd meter stand, ORP standard solution (500 mL).
8507000	Sodium ISE Starter Kit HQ40d meter with A/C power and USB adapters, cables, sodium ISE probe with 1 m cable, probe stand, HQd meter stand, sodium and potassium ionic strength adjustor powder pillows (pkg of 100), sodium standard solution 10 mg/L (1L), sodium standard solution 100 mg/L and (1 L), and sodium standard solution 1000 mg/L (500 mL).
8507100	ORP/pH Ultra Advanced Kit HQ40d meter with A/C power and USB adapters, standard gel-filled ORP probe with 1 m cable, pH ultra probe with 1 m cable, probe stand, HQd meter stand, ORP standard solution (500 mL), pH storage solution (500 mL), pH 4.01 buffer solution (color-coded red, 500 mL), pH 7.00 buffer solution (color-coded yellow, 500 mL), and pH 10.01 buffer solution (color-coded blue, 500 mL).
8507200	ORP/pH Basic Kit HQ40d meter with A/C power and USB adapters, standard gel-filled ORP probe with 1 m cable, standard gel-filled pH probe with 1 m cable, probe stand, HQd meter stand, ORP standard solution (500 mL), pH storage solution (500 mL), pH 4.01 buffer solution (color-coded red, 500 mL), pH 7.00 buffer solution (color-coded yellow, 500 mL), and pH 10.01 buffer solution (color-coded blue, 500 mL).

Ordering Information *continued*

Rugged Field Kits

8505100 Rugged DO Field Kit

Rugged case with durable foam insert for organization, HQ30d meter, rugged LDO probe with 5 m cable, protective glove for meter, 250 mL plastic flask for calibration, 4 containers for sample collection, polyethylene wash bottle (500 mL), box of disposable wipes, waste container, operation manual.

8505200 Rugged DO Field Kit with HQ40d Multi Meter

Rugged case with durable foam insert for organization, HQ40d meter with A/C power and USB adapters, rugged LDO probe with 5 m cable, protective glove for meter, 250 mL plastic flask for calibration, 4 containers for sample collection, polyethylene wash bottle (500 mL), box of disposable wipes, waste container, operation manual.

8505300 Advanced DO/pH/Conductivity Rugged Field Kit

Rugged case with durable foam insert for organization, HQ40d meter with A/C power and USB adapters, rugged LDO probe with 5 m cable, rugged pH probe with 5 m cable, rugged conductivity probe with 5 m cable, pH Buffer Singlet Packs for calibration, pH storage solution (50 mL), conductivity standard, Singlet Packs (1000 $\mu\text{S}/\text{cm}$), protective glove for meter, 250 mL plastic flask for calibration, polyethylene wash bottle (500 mL), box of disposable wipes, waste container, operation manual.

8505400 Rugged DO/pH Field Kit

Rugged case with durable foam insert for organization, HQ40d meter with A/C power and USB adapters, rugged LDO probe with 5 m cable, rugged pH probe with 5 m cable, pH Buffer Singlet Packs for calibration, pH storage solution (50 mL), protective glove for meter, 250 mL plastic flask for calibration, containers for sample collection, polyethylene wash bottle (500 mL), box of disposable wipes, waste container, operation manual.

8507300 Rugged ORP Field Kit

Rugged case with HQ40d meter with A/C power and USB adapters, ORP rugged gel-filled probe with 5 m cable, protective glove for meter, pH storage solution (500 mL), ORP standard solution (500 mL), electrode cleaning solution (500 mL), ORP electrode reducing solution (500 mL), Erlenmeyer flask (250 mL), polyethylene wash bottle (500 mL), sample containers (120 mL), and disposable wipes.

8507400 Rugged ORP/LDO Field Kit

Rugged case with HQ40d meter with A/C power and USB adapters, rugged gel-filled ORP probe with 5 m cable, rugged LDO probe with 5 m cable, protective glove for meter, storage solution (500 mL), ORP standard solution (500 mL), electrode cleaning solution (500 mL), ORP electrode reducing solution (500 mL), 250 mL plastic flask for calibration, polyethylene wash bottle (500 mL), sample containers (120 mL), blank white labels and disposable wipes.

8507500 Rugged Environmental Conductivity/LDO Field Kit

Rugged case with HQ40d meter with A/C power and USB adapters, rugged conductivity probe with 5 m cable, rugged LDO probe with 5 m cable, protective glove for meter, conductivity standard (1000 $\mu\text{S}/\text{cm}$, 491 mg/L NaCl, 100 mL), sample containers (120 mL), 250 mL plastic flask for calibration, polyethylene wash bottle (500 mL), and disposable wipes.



pH Starter Kit



Rugged DO/pH Field Kit

Ordering Information *continued*

Accessories

WM-BOD MGR Hach BOD Manager™ Software automates data entry and calculations from the HQ40d Meter and LBOD probe, providing improved productivity and data integrity for BOD testing. This stand-alone version includes: single computer license with a 2 gigabyte database, tracking up to 300 samples, HQ40d interface, one year of support and software updates, one hour of live web-based training, and training video.

NEW!



- 5838000** Replacement LBOD Sensor Cap; includes iButton® and sensor cap
- 5850800** Replacement Stirrer Assembly for IntelliCAL LBOD Probe
- 5811200** Replacement LDO Sensor Cap; includes iButton® and sensor cap
- 5825900** Replacement Polymer Shroud Kit for Rugged Probes; includes protective bell and locking ring
- 5828610** Probe Cable Depth Markers; 5/pkg. (for rugged probes only)
- 4754900** Meter Stand
- 8506600** Probe Stand for Hach IntelliCAL Probes (except LBOD)
- 5828700** Protective Glove for Meter
- 5829400** Probe Holder (standard probes only)
- 5825800** Field Kit; includes hard-sided carrying case, protective glove, and 5 120 mL sample cups
- 5818400** Color Coded Probe Clips; includes ten clips of five different colors
- 5826300** USB and A/C Power Adapter Kit; adapter is not waterproof (Included with HQ40d models)
- 5854000** HQd Software Upgrade Kit
- LZV582** USB Keyboard
- 2960100** USB Printer; Citizen PD-24 Handy Printer, 120-220 Vac
- 5836000** Printer Paper for PD-24, Thermal 5/pk

iButton® is a trademark of Maxim Integrated Products.



**Probe Stand for
Hach IntelliCAL Probes**



Meter Stand

**HQd Meter USB and
AC Power Adapter Kit**



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In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time.

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

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Be Right™