



# Starter

Water Analysis Portable Meters



## Versatile and Portable Electrochemistry Products for Wherever Your Work Takes You

After more than a century of perfecting the art of measurement through our durable weighing products, OHAUS precision is now available in a line of Starter portable water analysis meters, for measuring pH, conductivity, salinity, total dissolved solids (TDS), oxidation reduction potential (ORP) and dissolved oxygen (DO). These portable meters offer convenience, reliability and durability in one compact design.

### Standard Features Include:

- **Intuitive Software that Powers the Starter Series**—Intuitive software and a well-organized display work in tandem to make operating the Starter Series a simple and straightforward task.
- **Compact and Ergonomic Design Creates a User-Friendly Experience**—Starter portable meters fit comfortably in the palm of your hand. Each meter also comes equipped with a retractable built-in stand that can be used to prop it up on a flat surface.
- **Reliable Calibration Results for Accurate Measurement**—Starter portable meters track the accuracy of the calibration process right on the display, so that you can measure with peace-of-mind, knowing that your results will be highly precise.



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# Starter Water Analysis Portable Meters

## Versatile Portable Meters for Lab and Field Use

The Starter portable water analysis meters were created with versatility in mind. They can be operated in the lab with the support of built-in stand, or in the field. Easy to use with a clear, well-organized LCD screen, one touch recall of calibration data and stored information. In addition, they are equipped with IP54 protection which shields the meter from damage by water and dust particles.

### Starter 400D Dissolved Oxygen Meter

ST400D, a practical, affordable, low-maintenance DO portable meter equipped with optical technology - ideal for applications that require simple yet accurate DO measurements.

- The optical probe requires minimal maintenance –frequent membrane replacement not needed. Also, warm up and stirring of samples when taking measurements is not required.
- Equipped with a color LCD display, the ST400D is designed to fit comfortably in the palm of your hands. The automatic/manual endpoints enable easy recall of last calibration data and stored information with one touch.
- Simple calibration process offers quick delivery of measurements, and automatic temperature and barometric pressure compensation ensure accurate results.

### Starter 300 pH Meter

Starter 300 combines portability with precise pH measurement.

- With a meter stand, wrist strap for secure field use and IP54 housing, Starter 300 is durable and prepared for versatile use.
- Automatic and manual temperature compensation ensure accurate readings while a 30 measurement library stores data for future reference.
- The auto buffer recognition stores calibration data and helps to avoid errors during the calibration process.

### Starter 300C Conductivity Meter

Starter 300C is the reliable and accurate choice for measurement of conductivity and TDS levels of liquids.

- The 30 item library allows the user to store measurements data, and stored information and calibration data can be easily recalled with one touch.
- Auto temperature compensation with adjustable temperature co-efficient for accurate measurements, and 4-pole and 2-pole conductivity probes which offer a large conductivity range that safeguards them from effects of polarization and pollution.
- With a simple calibration process and quick delivery of measurement results, Starter 300C is efficient and easy-to-use.

### Starter 300D Dissolved Oxygen Meter

Starter 300D provides accurate and reliable DO measurement, critical to aquatic life and water quality.

- With a simple calibration process, quick delivery of measurements and automatic temperature compensation, Starter 300D is both easy-to-use and accurate.
- The automatic or manual endpoints allow the user to easily recall the last calibration data and stored information with one quick touch.
- The galvanic electrode can be used immediately after being powered on without the wait time typically associated with dissolved oxygen meters.



# Specifications

Model	ST400D*	ST300*	ST300C*	ST300D*
Measurement Range	0.0 to 200.0% 0.00 to 20.0 mg/L(ppm) 0 to 50 °C	0.00 to 14.00 pH -1999 to 1999 mV 0 °C to 100 °C	0.0 µS/cm to 199.9 mS/cm 0.1 mg/l to 199.9 g/l (TDS) 0 °C to 100 °C	0.0 to 199.9%; 200 to 400% 0.00 to 19.99; 20.0 to 45.0 mg/L 0.00 to 19.99; 20.0 to 45.0 ppm 0 to 50 °C
Measurement Resolution	0.1% 0.01 mg/L(ppm) 0.1 °C	0.01 pH 1 mV 0.1 °C	Automatic Range 0.1 °C	0.1%; 1% 0.1 mg/L; 1mg/L 0.01 ppm; 0.1 ppm 0.1 °C
Barometric Range	50.0 to 115.0 kPa	NA	NA	375 to 825 mmHg 500 to 1100 mbar 500 to 1100 hPa
Barometric Resolution	0.1 kPa	NA	NA	1 mmHg 1 mbar 1 hPa
Error Limits	± 0.2 mg/L (<8 mg/L), ± 0.3 mg/L (8 to 20 mg/L); ± 0.3 °C ± 1.5 kPa	± 0.01 pH ± 1 mV ± 0.5 °C	± 0.5 % of the Measured Value ± 0.3 °C	± 1 %; ± 0.3 °C
Calibration	1 or 2 points	3 Points 4 Predefined Buffer Group	1 Point 4 Predefined Standards	1 or 2 Points 100% and 0%
Memory	99 Measurements Last Calibration Data	30 Measurements Last Calibration Data	30 Measurements Last Calibration Data	30 Measurements Last Calibration Data
Power Supply	4 x AAA (LR03) Batteries, 12 hrs	4 AAA > 500 Operating Hours	4 AAA > 250 Operating Hours	4 AAA > 250 Operating Hours
Size/Weight	Approximately 90 W × 150 D × 35 H mm / 0.16 kg (Without Batteries)	Approximately 90 W × 150 D × 35 H mm / 0.18 kg (Without Batteries)	Approximately 90 W × 150 D × 35 H mm / 0.16 kg (Without Batteries)	Approximately 90 W × 150 D × 35 H mm / 0.18 kg (Without Batteries)
Display	Liquid Crystal	Liquid Crystal	Liquid Crystal	Liquid Crystal
Input	Mini-DIN	BNC, Impedance > 10e+12 Ω Cinch, NTC 30 kΩ	Mini-DIN	BNC, Cinch, NTC 30 kΩ
Temperature Compensation	ATC	ATC & MTC	ATC, Linear: 0.00 %/°C...10.00 %/°C Reference Temperature: 20 & 25 °C	ATC & MTC
Salinity Compensation	0.0 to 40.0 ppt	NA	NA	0.0 to 50.0 ppt
IP Protection	IP54	IP54	IP54	IP54
Housing	ABS	ABS	ABS	ABS

\*Portable Meters are available in different packages:

## ST400D

Model	Description
ST400D-B	400D Meter with IP54 Sets, Electrode Clip, Wrist Strap and 4 AAA Batteries (Probe Not Included)
ST400D	ST400D-B with STDO21 Probe
ST400D-G	ST400D-B with STDO21 Optical DO Probe, Portable Bag

## ST300

Model	Description
ST300-B	300 Meter with IP54 Sets, Electrode Clip, Wrist Strap and 4 AAA Batteries (Electrode Not Included)
ST300	ST300-B, ST320 3-in-1 Plastic Gel pH Electrode, and pH Buffer Powder Sachet
ST300-G	ST300-B, ST320 3-in-1 Plastic Gel pH Electrode, pH Buffer Powder Sachet (4.01, 7.00, 10.01), Portable Bag

## ST300D

Model	Description
ST300D-B	300D Meter with IP54 Sets, Electrode Clip, Wrist Strap and 4 AAA Batteries (Probe Not Included)
ST300D	ST300D-B with STDO11 Galvanic DO Probe, and STTEMP30 Temperature Probe
ST300D-G	ST300D-B with STDO11 Galvanic DO Probe, STTEMP30 Temperature Probe, Portable Bag

## ST300C

Model	Description
ST300C-B	300C Meter, Conductivity Standards 1413 µS/cm and 12.88 mS/cm (20mL bottles), IP54 Sets, Electrode Clip, Wrist Strap, 4 AAA Batteries (Probe Not Included)
ST300C	ST300C-B, with STCON3 4-Pole Conductivity Probe (70 µS/cm-200 mS/cm), 2 Small Bottles of Standard Conductivity Solution - 1413 µS/cm and 12.88 mS/cm, IP54 Sets, Electrode Clip, Wrist Strap, 4 AAA Batteries
ST300C-G	ST300C-B, STCON3 4-Pole Conductivity Probe (70 µS/cm - 200 mS/cm), Portable Bag

# Starter Water Analysis Portable Meters

## ST400D Compatible Probe

Description	Model
Optical DO Probe	STDO21

## ST300 Compatible Electrodes

Description	Model
3 in 1 Refillable pH Electrode, Integrated Temperature Probe, Glass Shaft	ST350
3 in 1 Non-refillable pH Electrode, Gel Electrolyte, Integrated Temperature Probe, Plastic Shaft	ST320
3 in 1 Refillable pH Electrode, Integrated Temperature Probe, Plastic Shaft	ST310
2 in 1 Non-refillable Puncture pH Electrode, Glass Shaft	ST270
2 in 1 pH Electrode, Glass Shaft, Double Salt-Bridge, Suitable For Tris-Buffer pH Measurements	ST260
2 in 1 Refillable pH Electrode, Glass Shaft, Suitable for Muddy Samples (Such as Milk, Juice etc.)	ST230
2 in 1 Refillable pH Electrode, Plastic Shaft	ST210
2 in 1 Refillable pH Electrode, Glass Shaft, 80 x 5 mm (L x Ø), Suitable for Tubes and Narrow Containers	STMICRO5
2 in 1 Refillable pH Electrode, Glass Shaft, 150 x 8 mm (L x Ø), Suitable for Tubes and Narrow Containers	STMICRO8
2 in 1 Refillable pH Electrode, Glass Shaft, Suitable for Pure Water Samples	STPURE
2 in 1 Refillable pH Electrode, Suitable for Flat Surface Applications, Plastic Shaft	STSURF
Temperature Probe 30kΩ, Stainless Steel Shaft	STTEMP30
Non-refillable ORP Electrode, Gel Electrolyte, Plastic Shaft	STORP1
Refillable ORP Electrode, Glass Shaft	STORP2

## ST300C Compatible Probes

Description	Model
4-Pole Conductivity Probe (70 µS/cm-200 mS/cm)	STCON3*
2-Pole Pure Water Conductivity Probe (0.02 – 200 µS/cm)	STCON7

\*In this range 70 µS/cm-200 mS/cm the measurement accuracy is 0.5%. STCON3 can also measure conductivity value which is below 70 µS/cm, the measurement will be less accurate (approximately 1% to 5%).

## ST300D Compatible Probes

Description	Model
Temperature Probe	STTEMP30
Galvanic DO Probe	STDO11

## Compliance

- **Electromagnetic Compatibility:** FCC Part 15 Class A; ICES-003 Class A

## Buffers and Accessories

Description	Item Number	300	300C	300D/400D
pH Buffer Powder Sachet (4.01; 7.00; 10.01)	83033971	•		
Buffer Solution pH 1.68 250 mL	30100424	•		
Buffer Solution pH 4.01 250 mL	30100425	•		
Buffer Solution pH 6.86 250 mL	30100426	•		
Buffer Solution pH 7.00 250 mL	30100427	•		
Buffer Solution pH 9.18 250 mL	30100428	•		
Buffer Solution pH 10.01 250 mL	30100429	•		
Buffer Solution pH 12.45 250 mL	30100440	•		
pH Electrode Reference Electrolyte	30059255	•		
pH Electrode Protection Solution (3M KCl, 125 mL)	30059256	•		
pH Sensor Protection Bottle (Package of 10)	30064800	•		
Cond 10 µS/cm 250 mL	30100441		•	
Cond 84 µS/cm 250 mL	30100442		•	
Cond 1413 µS/cm 250 mL	30100443		•	
Cond 12.88 mS/cm 250 mL	30100444		•	
Dissolved Oxygen Zero Oxygen Chemicals	30059257			•
IP54 Seal Kit	83032962	•	•	•
Wrist Strap	83032963	•	•	•
Electrode Clip	83032964	•	•	•
Portable Bag	30031635	•	•	•

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