



# STARTER™ SERIES

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:**

- **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.

# STARTER™ 400 *Water Analysis Portable Meters*

## Starter 400 pH and Starter 400M Multi-Parameter Meters

Starter 400/400M Portable Water Analysis Meters are robust, lightweight, battery-operated units with waterproof housing which makes them ideal for prolonged use in wet environments, and a rubber protective case fit for field testing. A rechargeable lithium battery ensures hours of trouble-free testing in the field. Intuitive software and an easy-to-view LCD allows for simple operation. A built-in USB port enables easy data transfer.

- IP67 Waterproof Housing for Working in Wet Environments**  
 Built with IP67 waterproof housing as well as a rubber cover and IP67 probes, the ST400/400M is ideal for prolonged use in any field environment.
- Rechargeable Lithium Battery Ensures Less Downtime**  
 Rechargeable lithium battery provides 40 hours of uninterrupted use and more than 300 charge cycles—eliminating the need to change out batteries often.
- Easy to Operate with Intuitive Software and Information Displayed on the LCD**  
 The ST400/400M features intuitive software which guides the user through operation. All necessary information to run tests successfully such as electrode condition is displayed clearly on the large LCD.
- Equipped with Large Storage Capacity and Ability to Transfer Data Easily Via USB**  
 The ST400/ST400M has a large data storage capacity of 1000 records. If it exceeds capacity, data can be quickly transferred to a laptop via the micro-USB port, ensuring that users can retain every measurement.



## 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 400 Portable Meter Packages



Model	ST400 Packages
ST400-B	400 Meter with IP67 Rubber Housing, Electrode Clip, Wrist Strap and 4 AAA Batteries (Probes Not Included)
ST400-F	ST400-B with ST320 IP67 3m Probe
ST400-G	ST400-F with Portable Bag

Model	ST400M Packages
ST400M-B	400M Meter with IP67 Rubber Housing, Electrode Clip, Wrist Strap and 4 AAA Batteries (Probes Not Included)
ST400M-F	ST400M-B with ST320 IP67 3m and STCON3 IP67 3m probes
ST400M-G	ST400M-F with Portable Bag

Model	ST400D Packages
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

# STARTER™ 400 Water Analysis Portable Meters

## ST400 Series Portable Meters

		ST400	ST400M	ST400D
Measuring Range	pH	-2 ... 16.00 pH		—
	mV	-1999 ... 1999 mV		—
	Conductivity	—	0.0 µS/cm ... 199.9 mS/cm	—
	TDS	—	0.1 mg/l ... 199.9 g/l	—
	Salinity	—	0.0 ... 99.9 psu	—
	Resistivity	—	0... 20MΩ·cm	—
	Temperature	-5 °C ... 110 °C		0 to 50 °C
	Dissolved Oxygen	—		0.0 to 200.0% 0.00 to 20.0 mg/L (ppm)
	Barometric Range	—		50.0 to 115.0 kPa
Resolution	pH	0.01 pH		—
	mV	1 mV		—
	Conductivity	—	0.1 µS/cm, Auto-range	—
	TDS	—	0.01 mg/l, Auto-range	—
	Salinity	—	0.01 psu, Auto-range	—
	Resistivity	—	0.01 Ω·cm, Auto-range	—
	Temperature	0.1 °C		—
	Dissolved Oxygen	—		0.1% 0.01 mg/L (ppm)
	Barometric Resolution	—		0.1 kPa
Accuracy	pH	± 0.01 pH		—
	mV	± 1 mV		—
	Conductivity	—	± 0.5% F.S.	—
	TDS	—	± 0.5% F.S.	—
	Salinity	—	± 0.5% F.S.	—
	Resistivity	—	± 0.5% F.S.	—
	Temperature	± 0.5 °C	± 0.3 °C	—
Calibration	pH	1-5 points, 6 predefined buffer groups	1-5 points, 6 predefined buffer groups	1 or 2 points
	Conductivity	-	1 point, 5 predefined standards	—
Memory		1000 measurements 5 calibration data for each sensor ID	1000 measurements (pH + conductivity) 5 calibration data for each sensor ID	99 Measurements Last Calibration Data
Power Supply		Rechargeable Li-battery, 2600mAh; > 300 charge and discharge times		4 × AAA (LR03) Batteries, 12 hrs
Size/Weight		Approximately 100W × 230 L × 40 H mm / 0.35 kg		Approx. 90 W × 150 D × 35 H mm / 0.16 kg (Without Batteries)
Display		LCD with Backlight		
Input	pH	IP67 BNC, impedance > 10e+12 Ω		Mini-DIN
	Temperature	IP67 Cinch, NTC 30 k		—
	Conductivity	—	IP67 LTW	—
Temperature Compensation	pH	ATC & MTC		ATC
	Conductivity	—	ATC, Linear: 0.00 / °C to 10.00% / °C Reference Temperature: 20 or 25 °C	—
Salinity Compensation		—		0.0 to 40.0 ppt
Error Limits		—		± 0.2 mg/L (<8 mg/L), ± 0.3 mg/L (8 to 20 mg/L); ± 0.3 °C ± 1.5 kPa
IP Protection		IP67		IP54
Housing		ABS / PC		ABS
Communication		Micro-USB		—

# STARTER™ SERIES IP67 Water Analysis Portable Meters



## Durable, Waterproof Battery-Operated pH and Multi-Parameter Meters Ideal for Field Testing!

- **IP67 Housing**  
The Starter ST400/400M portable meter is constructed of an IP67 waterproof housing, ensuring it will operate even when fully immersed in water. A rubber cover protects the meter in harsh field environments or if accidentally dropped. Single-handed control of the meter is possible, which gives the user the ability to perform field tests, while simultaneously operating the meter.
- **Long Battery Life**  
The ST400/400M has a rechargeable lithium battery which provides more than 40 hours of continuous use (without backlight), and over 300 charge cycles—making it ideal for use on long expeditions to the most remote test sites. It comes with a USB-charging cable, which means that the meter can be charged in a car or any USB outlet, similar to a mobile phone.
- **Easy to Operate**  
The large backlit LCD with intuitive software displays useful information such as the electrode condition, calibration information, as well as all GLP required information including date, time, and user ID. The optimized menu is easy to navigate and makes setting up the portable meter quick and easy.





# STARTER™ 300 *Water Analysis Portable Meters*

## Versatile Portable Meters for Lab and Field Use

The Starter 300 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 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



# STARTER™ 300 *Water Analysis Portable Meters*

## ST300 Series Portable Meters

Model	ST300	ST300C	ST300D
Measurement Range	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	0.01 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	NA	NA	375 to 825 mmHg 500 to 1100 mbar 500 to 1100 hPa
Barometric Resolution	NA	NA	1 mmHg 1 mbar 1 hPa
Error Limits	± 0.01 pH ± 1 mV ± 0.5 °C	± 0.5 % of the Measured Value ± 0.3 °C	± 1% ; ± 0.3 °C
Calibration	3 Points 4 Predefined Buffer Group	1 Point 4 Predefined Standards	1 or 2 Points 100% and 0%
Memory	30 Measurements Last Calibration Data	30 Measurements Last Calibration Data	30 Measurements Last Calibration Data
Power Supply	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 / 0.18 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
Input	BNC, Impedance > 10e+12 Ω Cinch, NTC 30 kΩ	Mini-DIN	BNC, Cinch, NTC 30 kΩ
Temperature Compensation	ATC & MTC	ATC, Linear: 0.00 %/°C... 10.00 %/°C Reference Temperature: 20 & 25 °C	ATC & MTC
Salinity Compensation	NA	NA	0.0 to 50.0 ppt
IP Protection	IP54	IP54	IP54
Housing	ABS	ABS	ABS

## Starter 300 Portable Meter Packages



Model	ST300 Packages
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

Model	ST300D Packages
ST300D-B	300D Meter with IP54 Sets, Electrode Clip, Wrist Strap and 4 AAA Batteries (Probe Not Included)
ST300D	ST300D-B with STD011 Galvanic DO Probe, and STTEMP30 Temperature Probe
ST300D-G	ST300D-B with STD011 Galvanic DO Probe, STTEMP30 Temperature Probe, Portable Bag

Model	ST300C Packages
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™ SERIES *Electrodes & Probes*

## ST300 Compatible Probes

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 × 5 mm (L × Ø), Suitable for Tubes and Narrow Containers	STMICRO5
2 In 1 Refillable pH Electrode, Glass Shaft, 150 × 8 mm (L × 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

## ST300D Compatible Probes

Description	Model
Temperature Probe	STTEMP30
Galvanic DO Probe	STDO11

## 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%).

## ST400 Compatible Probe

Description	Model
pH electrode, IP67, 3m cable	ST320 IP67 3m

## ST400M Compatible Probes

Description	Model
pH electrode, IP67, 3m cable	ST320 IP67 3m
Conductivity Probe, IP67, 3m cable	STCON3 IP67 3m

## ST400D Compatible Probe

Description	Model
Optical DO Probe	STDO21

## Buffers and Accessories

Description	Item Number	300	300C	300D/ 400D	400	400M
pH Buffer Powder Sachet (4.01;7.00;10.01)	83033971	•			•	•
Buffer pH 1.68 250ml	30100424	•			•	•
Buffer pH 4.01 250ml	30100425	•			•	•
Buffer pH 6.86 250ml	30100426	•			•	•
Buffer pH 7.00 250ml	30100427	•			•	•
Buffer pH 9.18 250ml	30100428	•			•	•
Buffer pH 10.01 250ml	30100429	•			•	•
Buffer pH 12.45 250ml	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 500 uS/cm 250 mL	30393269					•
Cond 1413 µS/cm 250 mL	30100443		•			•
Cond 12.88 µS/cm 250 mL	30100444		•			•
Dissolved Oxygen Zero Oxygen Chemicals	30059257			•		
IP54 Seal Kit	83032962	•	•	•		
Wrist Strap	83032963	•	•	•		
Electrode Clip	83032964	•	•	•		
Portable Bag	30031635	•	•	•	•	•



# STARTER™ SERIES Water Analysis Portable Meters



**ST400**  
pH Meter



**ST400M**  
Multi-Parameter Meter



**ST400D**  
Dissolved Oxygen Meter



**ST300**  
pH Meter



**ST300C**  
Conductivity Meter



**ST300D**  
Dissolved Oxygen Meter

## Compliance

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

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*The management system governing the manufacture of this product is ISO 9001:2015 certified.*

Europe Literature #

