



# Starter

Water Analysis Pen Meters



## Convenient Results at Your Fingertips

For over a century, OHAUS has perfected the art of measurement through our line of weighing products. Taking a similar approach to our weighing equipment, OHAUS now delivers a line of pen meters that are durable, practical and affordable. Starter pen meters - the portable solution for on-the-go measurement of pH, oxidation-reduction potential (ORP), conductivity, salinity, total dissolved solids (TDS) and dissolved oxygen (DO). Starter pen meters are the economical option when you are simply looking for meters that will provide accurate measurement with no restriction.

### Standard Features Include:

- **Simple Operation in a Slim and Portable Design**—Starter pen meters provide what should be expected of a small pen meters: simple, fast, straightforward, no-frills yet highly accurate operation time and time again.
- **Durably Constructed to Withstand Wear and Tear Resulting from Repetitive Use**—With durable plastic housing, a protective cap that safeguards the sensor and an automatic shutdown feature to preserve battery life, the Starter pen meters can endure consistent use in rugged environments.
- **Waterproof Housing Protects the Meters in their Working Environment**—Equipped with a wrist strap that helps to prevent unintentional dropping, Starter pen meters are constructed with an IP67 waterproof design that can prevent water damage when accidentally dropped into liquid.

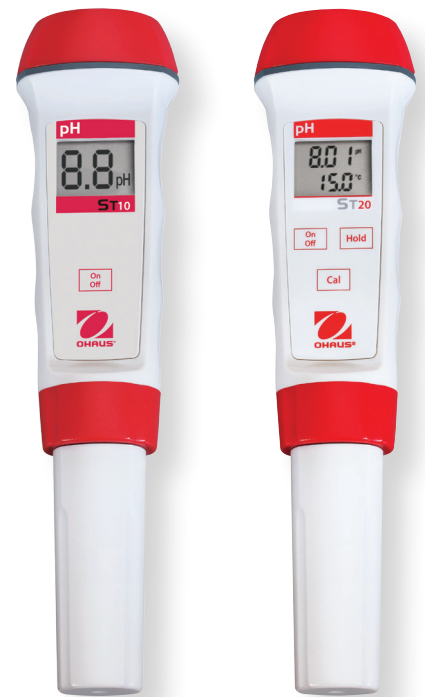
# Starter Water Analysis Pen Meters

## Convenient pH Testing

Two models with varying resolution and accuracy, ST10 and ST20 offer a convenient way to measure pH, or the relative acidity or alkalinity of a sample at a given temperature. The pH pen meters can be completely operated with just one hand, freeing up your other hand to handle samples.

## pH Meters

Model	ST20	ST10
Range	0.00-14.00	0.0-14.0
Resolution	0.01pH	0.1pH
Accuracy	0.05pH	0.1pH
Temperature Range	0.0-99.0 °C	NA
Temperature Compensation	Yes	NA
Display	Dual	Single
Calibration	3 Point	NA
Buffer Group	4.01, 7.00, 10.01	NA
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 × 45 × 38 mm, 110 g	185 × 45 × 38 mm, 110 g



## Portable ORP Measurement

ST10R and ST20R can bring measurement of ORP virtually anywhere the need for measurement of the availability of electrons in a liquid exist. Both models provide almost instantaneous results and the ST20R offers the ability to hold the reading right on the display to provide additional time for data logging.

## ORP Meters

Model	ST20R	ST10R
Range	-1000mV-1000mV	-1000mV-1000mV
Resolution	1mV	1mV
Accuracy	2mV	2mV
Temperature Range	0.0-99.0 °C	NA
Temperature Compensation	Yes	NA
Display	Dual	Single
Calibration	NA	NA
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 × 45 × 38 mm, 110 g	185 × 45 × 38 mm, 110 g



## Productive Conductivity Meters

Starter pen meters are the choice for basic testing needs of the total ionic concentration within a solution. With six models that can measure within three different conductivity ranges, there is a Starter conductivity meter for every application that requires portable operation and quick results.

### Conductivity Meters

Model	ST20C-C	ST20C-B	ST20C-A
Range	0.00-19.99 mS/cm	0-1999 $\mu$ S/cm	0.0-199.9 $\mu$ S/cm
Resolution	10 $\mu$ S/cm	1 $\mu$ S/cm	0.1 $\mu$ S/cm
Accuracy	$\pm$ 1.5% FS	$\pm$ 1.5% FS	$\pm$ 1.5% FS
ATC	With Temperature Display	With Temperature Display	With Temperature Display
Display	Dual	Dual	Dual
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g

Model	ST10C-C	ST10C-B	ST10C-A
Range	0.00-19.99 mS/cm	0-1999 $\mu$ S/cm	0.0-199.9 $\mu$ S/cm
Resolution	10 $\mu$ S/cm	1 $\mu$ S/cm	0.1 $\mu$ S/cm
Accuracy	$\pm$ 2.5% FS	$\pm$ 2.5% FS	$\pm$ 2.5% FS
ATC	Without Temperature Display	Without Temperature Display	Without Temperature Display
Display	Single	Single	Single
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g

## Simple Salinity Measurement

Starter pen meters combine all of the most useful features for measuring salinity in a liquid medium. With the combination of quality construction and sturdy design, Starter pen meters will provide durable operation in even the toughest environments.

### Salinity Meters

Model	ST20S	ST10S
Range	0.0-80.0 ppt	0.0-10.0 ppt
Resolution	0.1 ppt	0.1 ppt
Accuracy	$\pm$ 1.5% FS	$\pm$ 2.5% FS
ATC	With Temperature Display	Without Temperature Display
Display	Dual	Single
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g



# Starter Water Analysis Pen Meters

## Complete TDS Meters

When you need reliable and accurate measurement of TDS, the Starter pen meter offer a great value in a portable and compact design. Bring the Starter TDS Meter wherever your need to measure the combined content of all organic and inorganic substances in a liquid takes you.

## TDS Meters

Model	ST20T-B	ST20T-A	ST10T-B	ST10T-A
Range	0-1000 mg/L	0.0-100.0 mg/L	0-1000 mg/L	0.0-100.0 mg/L
Resolution	1 mg/L	0.1 mg/L	1 mg/L	0.1 mg/L
Accuracy	±1.5% FS	±1.5% FS	±2.5% FS	±2.5% FS
ATC	With Temperature Display	With Temperature Display	Without Temperature Display	Without Temperature Display
Display	Dual	Dual	Single	Single
Automatic Shutdown	6 Minutes of Non-Use	6 Minutes of Non-Use	6 Minutes of Non-Use	6 Minutes of Non-Use
Battery	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries	4 AG13 1.5V Micro Alkaline Batteries
Size/Weight	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g	185 x 45 x 38 mm, 110 g



## Simple and Fast Dissolved Oxygen (DO) Measurement

The perfect DO meter for every application that requires portable operation and quick results. With IP67 waterproof design and automatic shutdown feature that preserves battery life, the Starter DO meter can endure consistent use in rugged environments.

## DO Meter

Model	ST20D
Measurement Range	0.0–19.9 mg/L
Resolution	0.1 mg/L
Accuracy	± 0.5 mg/L
Battery	4 AG13 1.5V Micro Alkaline Batteries
Dimension	185 x 42 x 37 mm
Weight	90 g
Auto-off	After 15 Minutes of Inactivity
Auto Temperature Compensation Range	5 to 45 °C (41 to 113 °F)
Materials	ABS



## Replacement Electrodes

Item NO	Description	Compatible with
30087992	Electrode pH10 ST	ST10
30087993	Electrode pH20 ST	ST20
30087994	Electrode CT10A ST	ST10C-A, ST10T-A
30087995	Electrode CT10B ST	ST10C-B, ST10T-B
30087996	Electrode CS10C ST	ST10C-C, ST10S
30087997	Electrode CT20A ST	ST20C-A, ST20T-A
30087998	Electrode CT20B ST	ST20C-B, ST20T-B
30087999	Electrode CS20C ST	ST20C-C, ST20S
30088020	Electrode R10 ST	ST10R
30088021	Electrode R20 ST	ST20R
30222083	Electrode, D20 ST	ST20D
30222084	Membrane & Electrolyte, ST20D	ST20D

## Compliance

- **Electromagnetic Compatibility:** IEC/EN 61326-1 – Class B, Basic environments

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