# ST Series Pen Meter
# Instruction Manual

*Welcome to OHAUS (www.ohaus.com)!*

*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 portable electrochemistry products that providesaccurate measurement of pH, ORP, conductivity, TDS and salinity.*

*ST series pen meters are the economical option when you are simply looking for meters that are easy to use and provide accurate measurements.*

*The pen meters should not be used by Children of age 12 or younger.*

*This product conforms to the EMC Directive 2004/108/EC. The Declaration of Conformity is available online at europe.ohaus.com/europe/en/home/support/compliance.aspx.*

## ST20C/ST20T/ST20S pen meters Instruction Manual

Thank you for choosing OHAUS waterproof pen meters. Please read the manual completely before use. This manual serves the following models:
- **ST20C-A (pen Conductivity meter)**
- **ST20C-B (pen Conductivity meter)**
- **ST20C-C (pen Conductivity meter)**
- **ST20T-A (pen TDS meter)**
- **ST20T-B (pen TDS meter)**
- **ST20S (pen salinity meter)**
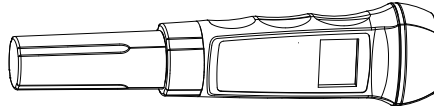
### First Usage
Condition the electrodes by rinsing and immersing it in pure water for 0.5 hour before use.

### Conductivity/TDS/Salinity Measurement
Remove the protection cap, rinse the Conductivity electrode with pure water (distilled water), and wipe clean.
- Press button-On/Off turn on the meter.
- Dip the electrode about 2 to 3cm into the test solution (at least 20ml). Wait until the reading stabilized.
- Clean the electrode with pure water after eaach measurement.

### Calibration
ST20C/ST20T/ST20S pen meters are factory calibrated, and does not need calibration in a few months. Be cautious to use this function when you are not familiar with conductivity pen.
- With the pen meter off press and hold the button-On/Off for more than 10 seconds. Let pen meter go into calibration mode, the display shows "CAL" and blinking.
- Dip the electrode into standard solution. Press button-up and button-down to adjust the displayed value same as Calibration Data as shown in the table below. When adjusting, "CAL" is not blinking. When displayed value equals the Calibration Data, press the button-On/Off to confirm the calibration.
- "CAL" will disappear after calibration, and pen meter goes is into measurement mode.

Calibration display of ST20C-B or ST20T-B
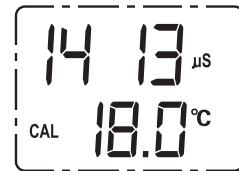
| Model | Standard Solution Concentration | Calibration Data |
|-------|--------------------------------|------------------|
| ST20C-A | 0.001mol/L KCl | 146.6μS/cm |
| ST20C-B | 0.01mol/L KCl | 1413μS/cm |
| ST20C-C | 0.1mol/L KCl | 12.88mS/cm |
| ST20T-A | 0.001mol/L KCl | 146.6μS/cm (73.3 mg/L) |
| ST20T-B | 0.01mol/L KCl | 1413μS/cm (706 mg/L) |
| ST20S | 5% NaCl | 50ppt |

### Order Information

| Model | Description |
|-------|-------------|
| ST20C-A | Pen Conductivity Meter, range 0.0~199.9 μS/cm |
| ST20C-B | Pen Conductivity Meter, range 0~1999 μS/cm |
| ST20C-C | Pen Conductivity Meter, range 0.00~19.99 mS/cm |
| ST20T-A | Pen TDS Meter with temperature, range 0.0-100.0 mg/L |
| ST20T-B | Pen TDS Meter with temperature, range 0-1000 mg/L |
| ST20S | Pen Salinity Meter with temperature, range 0.0-10.0 ppt |

### Maintenance
Clean the electrode after test and cover the protection cap, be sure storage solution is not dry in the cap.Harsh samples may short the pen meter life time, such as sticky, dirty or oily liquids.

The meter use button battery 1.5V (AA)*4 , replace all the batteries when the display fade or not turn on.
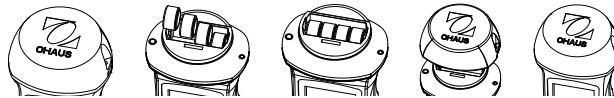
**The electrode is replaceable.**

**Replaceable electrodes:**
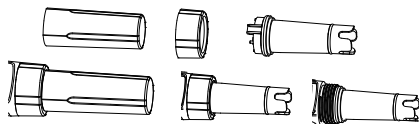
| Electrode CT20A ST |
|--------------------|
| Electrode CT20B ST |
| Electrode CS20C ST |

### Specification

| Water Proof Pen Meters | ST20C-A | ST20C-B | ST20C-C | ST20T-A | ST20T-B | ST20S |
|------------------------|---------|---------|---------|---------|---------|-------|
| Cond. range | 0.0~199.9 μS/cm | 0~1999 μS/cm | 0.00~19.99 mS/cm | 0.0-100.0 mg/L | 0-1000 mg/L | 0.0-80.0 ppt |
| Resolution | 0.1 μS/cm | 1 μS/cm | 10 μS/cm (0.01 mS/cm) | 0.1 mg/L | 1 mg/L | 0.1 ppt |
| Accuracy | ±1.5% FS | ±1.5% FS | ±1.5% FS | ±1.5% FS | ±1.5% FS | ±1.5% FS |
| Temperature | 0.0~99.9 ℃ | 0.0~99.9 ℃ | 0.0~99.9 ℃ | 0.0~99.9 ℃ | 0.0~99.9 ℃ | 0.0~99.9 ℃ |
| Battery | 4 x 1.5V | 4 x 1.5V | 4 x 1.5V | 4 x 1.5V | 4 x 1.5V | 4 x 1.5V |
| Dimension | 185x42x37mm | 185x42x37mm | 185x42x37mm | 185x42x37mm | 185x42x37mm | 185x42x37mm |
| Weight | 105g | 105g | 105g | 105g | 105g | 105g |
| Auto-off | After 6 min no operation | After 6 min no operation | After 6 min no operation | After 6 min no operation | After 6 min no operation | After 6 min no operation |
| Ambient temperature | 0~50 ℃(32-122°F) | 0~50 ℃(32-122°F) | 0~50 ℃(32-122°F) | 0~50 ℃(32-122°F) | 0~50 ℃(32-122°F) | 0~50 ℃(32-122°F) |
| Materials | ABS | ABS | ABS | ABS | ABS | ABS |

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