Operating Instructions

PCTSTester™ 50 Pocket Tester

Applications
• Agriculture
• Drinking water
• Printing industry
• Aquaculture
• Ecology
• Swimming pools
• Aquacultures
• Electroplating
• Reverse osmosis
• Fish farms
• Reverse osmotic system operation
• Boiler blowdown
• Water treatment
• Car washes

Getting Started

The PCTSTester 50 Pocket Tester has been factory calibrated and usually works well out of the box. However, after extended periods of non-use, it is best to remove the sensor cap and soak the sensor in warm tap water for 10 minutes or so. Prior to taking the measurements, periodic calibration with certified standards is recommended for best accuracy.

Measurement Parameter Setting

1. Press ON/OFF (Hold) to power on the tester.
2. Press MENU/ to enter setup window. Press HOLD/ CAL pH (1065O100_MAN_35634-35.indd   1
3. Scroll down by pressing MENU/ to select Measure. The display shows pH, Cond, TDS and Salinity.
4. Press HOLD/ to select pH. The display shows the selected parameter with ✔.

pH Buffer Set Selection

PCTSTester 50 Pocket Tester features USA (pH 4.01, pH 7.00 and pH 10.01) or NIST (pH 4.01, pH 6.86, and pH 9.18) standards. Select either one to suit your requirements.

1. Press ON/OFF (Hold) to enter setup window. Press HOLD/ to select Settings. The display shows Buffer, TDS Factor and Backlight.
2. Press MENU/ to enter setup window. Scroll down by pressing MENU/ to select Settings.
3. Press HOLD/ to select Settings. The display shows Buffer, TDS Factor and Backlight.
4. Scroll down by pressing MENU/ to toggle between Buffer, TDS Factor and Backlight. Press HOLD/ to select the TDS Factor.
5. Press HOLD/ to select the default pH buffer setting or MENU/ to adjust the setting.
6. Press HOLD/ to confirm the selection of the setting. The display shows the selected value (TDS factor) with ✔.

Backlight Settings

1. Press MENU/ to enter setup window. Scroll down by pressing MENU/ to select Settings.
2. Press HOLD/ to select Settings. The display shows Buffer, TDS Factor and Backlight.
3. Scroll down by pressing MENU/ to toggle between Buffer, TDS Factor and Backlight. Press HOLD/ to select Backlight.
4. The display shows ON and OFF. Scroll down by pressing MENU/ to toggle between ON and OFF. Backlight ON increases readability in low-light conditions.
5. Press HOLD/ to select the desired backlight option. The display shows the selected backlight option with ✔.

Temperature Coefficient

1. Press MENU/ to enter setup window. Scroll down by pressing MENU/ to select Temp Set.
2. Press HOLD/ to select Temp Set. The display shows Set °C/°F, Temp Cal and Temp Coeff.
3. Scroll down by pressing MENU/ to toggle between Set °C/°F, Temp Cal and Temp Coeff.
4. Press HOLD/ to select Temp Cal or MENU/ to adjust the Temp Coeff.
5. Press HOLD/ to confirm the selection of the setting. The display shows the selected value of Temp Coeff with ✔.

Calibration for Conductivity, TDS, or Salinity

For best results, periodic calibration with an accurate standard is recommended prior to measurement. Use the calibration standard value that is close to your intended sample value. The tester will retain one calibration value in each mode (conductivity, TDS, salinity) when the instrument is powered off. The conductivity value can be calibrated automatically or manually, while the TDS & salinity values require manual calibration. The tester will begin in the measurement mode that was used when it was powered off. See "Measurement Parameter Setting" to change the desired parameter.

Automatic Calibration for Conductivity

1. Remove the cap and press ON/OFF (Hold) to power on.
2. Dip the sensor in at least 30 mm of calibration standard.
3. Stir gently and press CAL/ESC to enter calibration mode. The display returned to measurement window with pH 4.01.
4. The display will show CAL followed by the default value. CAL is indicated on the display during calibration mode.
5. If the reading is within the calibration range of the automatically recognized standards; 80 (84 µS/cm), 1410 (1413 µS/cm), or 12.80 (12.88 mS/cm), the icon is displayed when the automatic calibration standard value has been detected.
6. Press HOLD/ to accept the auto conductivity standard and finish the calibration.

Manual Calibration

When the conductivity reading is outside calibration range of the automatic conductivity standards or when TDS or salinity is used, the tester will require manual adjustment.

1. Repeat steps 1 to 4 from "Automatic Calibration for Conductivity".
2. Press MENU/ to manually adjust the value to the desired reading.
3. Note: The adjustment will decrease only, however the adjustment will eventually cycle to the highest available value after decreasing by 40% of the initial value.
4. Press HOLD/ to accept and finish the calibration when the desired value is selected.

Temperature Settings

1. Press MENU/ to enter setup window. Scroll down by pressing MENU/ to select Temp Set. Press HOLD/ to select Temp Set. The display shows Set °C/°F, Temp Cal and Temp Coeff.
2. Press HOLD/ to select Set °C/°F. Scroll down by pressing MENU/ to toggle between °C and °F.
3. Press HOLD/ to select temperature unit. The display shows the selected temperature setting with ✔.

Temperature Calibration

1. Press MENU/ to enter setup window. Scroll down by pressing MENU/ to select Temp Set. Press HOLD/ to select Temp Set. The display shows Set °C/°F, Temp Cal and Temp Coeff.
2. Scroll down by pressing MENU/ to toggle between Set °C/°F, Temp Cal and Temp Coeff. Press HOLD/ to select Temp Cal.
3. The lower display shows the current measured temperature reading based on the last set offset and the upper display shows the current measured temperature reading based on factory offset.
Factory Reset
Reset to the Factory Default Settings by using the Factory Reset function.
1. Press MENU/v to enter setup window. Scroll down by pressing MENU/v to select Reset. Press HOLD/… to select Reset. The display shows User Reset and Factory Reset.
2. Scroll down by pressing MENU/v to toggle between the resets. Press HOLD/… to select Factory Reset.
3. The display automatically shows No and Yes. Scroll down by pressing MENU/v to toggle between No and Yes.
4. Press HOLD/… to confirm either No or Yes. The display shows the Factory Reset option with a √.

HOLD Function
This feature lets you freeze the display for a delayed observation.
1. Press HOLD/… button to freeze the measurement.
2. Press HOLD/… again to release the measurement.

Sensor Maintenance
1. Always keep the sensor electrodes clean. Rinse the electrodes with de-ionized water and wipe them dry with clean cloth before storing with its protective cap. For cup type electrodes, remove the white plastic cup and insert thoroughly clean viscous solutions. Note: Never scratch electrodes with a hard substance.
2. For better performance, soak the electrode in alcohol for 10 to 15 minutes and rinse with de-ionized water before starting any measurement process. This is to remove dirt and oil stains on the electrode, which may affect the accuracy of the measurements.

Self-Diagnostic Messages
- Batteries are weak and need replacement soon.
- stable error: Appears when calibration is attempted but the reading is not yet stable. Wait for the reading to stabilize or manually confirm the calibration by pressing enter.
- buffer error: The buffer is outside of the calibration range.
- slope error: The 2nd and 3rd calibration point is not within 80% to 120% slope range.
- under range: The reading is below the measuring range of tester.
- over range: The reading is above the measuring range of tester.

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>PCTSTestr 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>±0.00 pH</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.01 pH</td>
</tr>
<tr>
<td>Relative accuracy</td>
<td>±0.01%</td>
</tr>
<tr>
<td>Calibration points</td>
<td>Up to 3 points</td>
</tr>
<tr>
<td>Buffer set standard</td>
<td>USA: 4.01/7.00/10.00</td>
</tr>
<tr>
<td>Calibration window</td>
<td>±1.00 pH</td>
</tr>
<tr>
<td>Calibration type</td>
<td>Point to point</td>
</tr>
<tr>
<td>Conductivity</td>
<td>0.0 to 200 μS, 200 to 2000 μS, 2.00 ± 0.00 mS</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.1 μS, 1 μS, ±0.01 mS</td>
</tr>
<tr>
<td>Relative accuracy</td>
<td>±1% full scale</td>
</tr>
<tr>
<td>TDS</td>
<td>0.0 to 1000 ppm, 100 to 1000 ppm, 10.0 ± 0.00 ppm (TDS Test &gt; 0.5)</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.1 ppm, 1 ppm, ±0.01 ppm</td>
</tr>
<tr>
<td>Relative accuracy</td>
<td>±1% full scale</td>
</tr>
<tr>
<td>Calibration points</td>
<td>Up to 3 points</td>
</tr>
<tr>
<td>TDS factor</td>
<td>0.40 to 1.00 (selectable)</td>
</tr>
<tr>
<td>Salinity</td>
<td>0.00 to 10.00 ppt</td>
</tr>
<tr>
<td>Resolution</td>
<td>±0.1 ppt</td>
</tr>
<tr>
<td>Relative accuracy</td>
<td>±1% full scale</td>
</tr>
<tr>
<td>Calibration points</td>
<td>1</td>
</tr>
</tbody>
</table>

Sensor Replacement
You can replace the sensor module at a fraction of the cost of a new tester. When the tester fails to calibrate or gives fluctuating readings in calibration standards, you need to change the electrode.
1. With dry hands, grip the ring with sensor facing you. Twist the ring counterclockwise. Save the ring for later use.
2. Pull the old sensor module away from the tester.
3. Align the four tabs on the new module so that they match the four slots on the tester.
4. Gently push the module onto the slots to sit it in position. Push the smaller D-ring fully onto the new sensor module. Push the other D-ring over the module and thread it into place by firmly twisting clockwise.
Note: It is necessary that you recalibrate your tester prior to measurement after a sensor replacement.

Replacing the Batteries
The PCTSTestr 50 Pocket Tester uses four AAA 1.5 V batteries.
1. To remove the battery cover, see Figure 1. Clear the front catch and then the back catch, before slidding the cover off.
2. To remove the battery plate, push the center tab towards the front of the tester as shown in Figure 2. Once unlocked, remove the plate to access the batteries.
3. Invert the tester upside down to remove the batteries. Each side uses two AAA batteries. Orient each battery with positive terminal facing downward.
4. To lock the battery place, align the small tabs (Figure 3) into the guide ribs on the hous- ing and then press down. See Figure 4.

Warranty
This instrument is supplied with a warranty against manufacturing defects for a period of one year from the date of purchase.

Return of Items
Authorization must be obtained from your distributor before returning items for any reason. When applying for authorization, please include information regarding the reason the item(s) are to be returned.
We reserve the right to make improvements in design, construction and appearance of products without notice. Prices are subject to change without notice.