

Chemtrol® PORTAPROBE_{II}

Digital Tester/Simulator

The PORTAPROBE2 is a 4-in 1 digital portable tester/simulator for use with all CHEMTROL® controllers. As a tester, it reads signals from ORP, pH, conductivity, and temperature sensors - independently from the controller. As a simulator, it generates sensor signals that can be used to verify proper operation of the controller.

SIMPLE AND RELIABLE

The PORTAPROBE 2 (P/N PTS050) is a user-friendly and reliable tester/simulator that is designed to checkout and troubleshoot all CHEMTROL® controllers. It is covered by a full **ONE-Year electronics warranty**.

TECHNICAL SUPPORT

Technical support from CHEMTROL® is based on our experience with over 30,000 installations worldwide. It is also available by toll-free phone, by fax, or by email.



**SANTA BARBARA
CONTROL SYSTEMS**

Leaders in Automated Water Treatment Since 1976
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SENSOR TESTING

- **ORP READINGS** over +/- 2,000 mV.
- **pH READINGS** over +/- 420mV.
- **TEMPERATURE READINGS** from 70 to 110°F (21 to 43°C)
- **CONDUCTIVITY READINGS** from 0 to 4,000 μ S, displayed in **TOTAL DISSOLVED SOLIDS (TDS)** values of 0 to 2,000 ppm (mg/L) with a factor of 0.5.

SIGNAL SIMULATOR

- **ORP SIMULATOR** from 0 to 1,000 mV with 3-ft coaxial cable and (2) BNC connectors,
- **pH SIMULATOR** from -180 to +180 mV (4 to 10 pH scale) with 3 ft coaxial cable and two (2) BNC connectors,
- **TEMPERATURE SIMULATOR** for 80 F (26.7 C) with two 3-ft connector cables
- **CONDUCTIVITY SIMULATOR** for 2,000 μ S (or 1,000 ppm (mg/L)) of TDS with a factor of 0.5 with two 3-ft connector cables



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SENSOR TESTING

Set the Mode Switch to TEST (testing)

ORP SENSOR

1. Connect the ORP sensor to the left ORP BNC connector (above PROBES)
2. Place the sensor in balanced water (pH = 7.5 / PPM = 1.0 Cl). You should get an ORP reading within 650 to 750 mV
3. Place the sensor in an acid solution You should get a High Positive reading
4. Place the sensor in a BLEACH (liquid chlorine) solution. You should get a LOW POSITIVE reading.

pH sensor

1. Connect the pH sensor to the left pH BNC connector (above PROBES) on top of the PORTAPROBE. Turn the selector knob to pH
2. Place the sensor in nearly neutral water (pH = 7.5 / PPM = 1.0 Cl). You should get an pH reading of about -30mV.
3. Place the sensor in an acid solution. You should get a HIGH POSITIVE reading.
4. Place the sensor in a BLEACH solution. You should get a HIGH NEGATIVE reading
5. The Linear scale on the right shows the conversion of millivolt readings into pH units

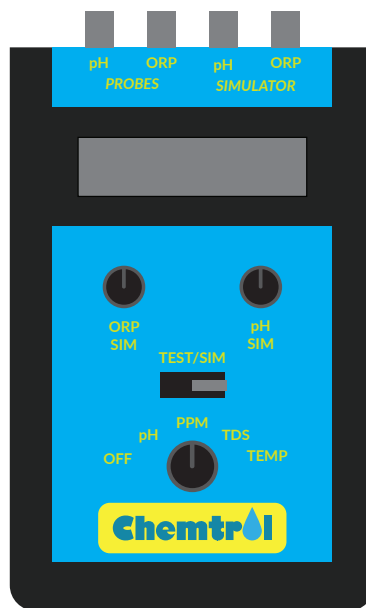
TEMPERATURE SENSOR

1. Connect the sensor to the quick connector on the left side of the PORTAPROBE (PROBES).
2. Turn the Selector Knob to TEMP.
3. Place the sensor in ambient temperature water.
4. You should be getting a correct temperature Reading.

CONDUCTIVITY / TDS SENSOR

1. Connect the sensor to the quick connector on the left side of the PORTAPROBE (PROBES).
 2. Turn the Selector Knob to TDS. Place the sensor in tap water (You Should be getting a reading between 500 and 1,000 ppm or mg/l).
- NOTE: Conductivity readings are automatically converted to TDS values, using a conversion factor of 0.5. For instance, a conductivity of 2,000 corresponds to a TDS value of 1,000 ppm or mg/l

OPERATION



PH SCALE

mV	pH
+420	0
+30	6.5
0	7.0
-6	7.1
-12	7.2
-18	7.3
-24	7.4
-30	7.5
-60	8.0
-90	8.5
-420	14.0

SIMULATION

Set the Mode Switch to SIM (simulation)

ORP AND pH SIMULATION

1. Before starting ORP and pH simulation, turn off the Probe Monitor option on the PC programmable controller
2. Use the two coaxial cables to connect the BNC connectors (above SIMULATOR) on the top right of the PORTAPROBE to the respective BNC connectors on the controller
3. Set the Selector Knob to either pH or ORP Simulator. The readings on the controller should match the readings of the simulator display (unless offset by calibration of the pH probe)
4. The outputs of the ORP and pH simulators can be adjusted with the 2 small knobs located below the digital display. The ORP range is 0 to 1,000 mV. The pH range is -180 to +180 mV (10 to 4 on the pH scale). These outputs can be used to test for proper operation of the feed and alarm features of the controller.

NOTE 1: Due to signal stabilization, the readings on the controller may take up to 10 seconds to reach full value

NOTE 2: The ORP and pH signals can be simulated at the same time but only one signal is shown on the tester display.

TEMPERATURE AND TDS SIMULATION

1. Use the jumper wires to connect the quick connectors on the *right side* of the PORTAPROBE (SIMULATOR) to the temperature and conductivity inputs on the motherboard inside the controller.
2. The temperature simulator is set to simulate a fixed output of 80 °F (26.7 °C).
3. The Conductivity simulator is set for a fixed output of 2,000 µSiemens or about 1,000 ppm (mg/l) of Total Dissolved Solids



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THE CHEMTROL GUARANTEE

Every unit we make is supplied with a comprehensive operation manual and is backed by our five year electronics warranty. Our customer support department is second to none, providing the technical support you need - and we've been part of over 100,000 installations worldwide.