

TechPro II Quick Start Guide

Handheld Conductivity / TDS / pH and Temperature Meter

This Quick Start Guide is for the Myron L® Company TechPro II Models TP1 and TPH1. Download the full TechPro II Operation Manual (P/N TPIIOM) from www.myronl.com to get a more detailed set of instructions for taking measurements, storing and recalling measurements, changing instrument settings, maintenance procedures, calibration procedures, Troubleshooting Guide and the **FACTORY CAL** reset procedure.

QUICK REFERENCE INSTRUCTIONS

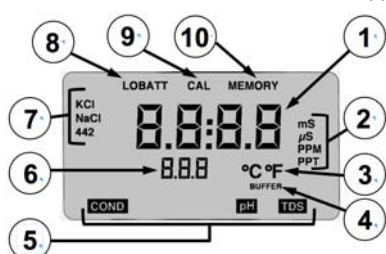
-    Press and release any one of these buttons to turn on the TechPro II and begin taking measurements.
NOTE: (pH only available on Model TPH1).
-  Press and release the CAL/MCLR button to calibrate (CAL) the active measurement parameter or press and hold to clear displayed memory location (MCLR).
-  Press and release to store (MS) a measurement or move upward on the list of stored measurements while in memory recall mode.
-  Press and release to enter memory recall mode, view the most recent stored measurements or move downward on the list of stored measurements (Location 20 to 1). Also used to enter Settings Mode.

TECHPRO II FEATURES

1. **TEMPERATURE SENSOR** – Houses thermistor for making temperature measurements.
2. **CONDUCTIVITY CELL** – Contains electrodes that generate a flux field in defined area for Conductivity and TDS measurements.
3. **pH SENSOR** – (user replaceable) – Measures test sample's hydrogen ion concentration. The reference junction is located under the glass bulb.
4. **pH SENSOR PROTECTIVE CAP** – Snaps in place to protect pH Sensor when not in use and seals in Storage Solution.
5. **LCD DISPLAY** – Displays measurements, units of measure, active measurement mode, current solution mode setting, low battery warning (LOBATT), and other information (see below).
6. **MEASUREMENT KEYS** – Press and release any one of these to turn on the TechPro II and begin taking measurements.
7. **FUNCTION KEYS** – Press and release to store the current measurement (MS), recall a stored measurement (MR). Also used to move between memory locations and to select various settings modes.
8. **CAL/MEMORY CLEAR KEY** – Use to calibrate (CAL) the active measurement parameter, clear the contents of the currently displayed memory location (MCLR), or Solution selection.



LCD DISPLAY

1. **MAIN VALUE DISPLAY** – Displays the current measurement value and settings menu information.
 2. **UNITS OF MEASURE ICONS** – Appropriate icon appears to show the units of measure for the current measurement.
 3. **TEMPERATURE UNITS OF MEASURE** – Displays °C (Celsius) or °F (Fahrenheit) based on setting selected for Temperature readings.
 4. **BUFFER ICON (TPH1 ONLY)** – Appears when the TPH1 is in pH Calibration mode to indicate that the instrument is expecting a pH buffer solution.
 5. **PARAMETER ICONS** – Appropriate icon appears to show what type of measurement is being made.
 6. **TEMPERATURE DISPLAY** – Displays the temperature of the sample solution, memory location number (1 – 20), or buffer during pH calibration.
 7. **SOLUTION MODE ICONS** – Appropriate icon appears to indicate the current solution temperature compensation mode setting for Conductivity and TDS measurements.
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8. **LOBATT ICON** – Appears when the TechPro II's battery requires replacement.
 9. **CAL ICON** – Appears when the TechPro II is in Calibration mode.
 10. **MEMORY ICON** – Appears to indicate that the values and icons being displayed are for a measurement stored in the TechPro II's memory and are NOT a live measurement.

TECHPRO II DEFAULT SETTINGS

Temperature Units: °C (Temperature is displayed in Degrees Celsius)
Salinity Mode: OFF

Solution Mode: Conductivity – KCl; TDS – 442;
Temperature Compensation: ON

OPERATING INSTRUCTIONS

MEASUREMENT SETUP: Before you take a reading, make sure the TechPro II is clean, calibrated, and if measuring COND or TDS, that the desired solution mode has been selected (See Section II of Operating Instructions, below). The sample solution must also be within the specified range.

I. MEASUREMENT

1. Rinse and empty the appropriate sensor (COND or pH) 3 times with sample to be measured.
2. Fill with test sample.
3. Press appropriate Measurement Key:

 COND to measure CONDUCTIVITY
0-9999 MICROSIEMENS (µS/cm), 10-20 (mS/cm)

 TDS to measure TOTAL DISSOLVED SOLIDS
0-9999 PARTS PER MILLION (PPM), 10-20 (PPT)

 pH (TPH1 Only) to measure 0-14 pH.

NOTES:

- When finished making Conductivity or TDS measurements, rinse the cell cup out with clean water (preferably DI, RO, or distilled)
- TPH1 Only - When finished measuring pH, rinse sensor well with clean water (preferably DI, RO, or distilled), refill it with Myron L® Company Storage Solution then reinstall protective cap.

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II. SOLUTION MODE SELECTION

1. Press or to select which parameter is having its solution type changed.
2. Press and hold about 3 seconds or until "SEL" appears on the display.
3. Use the or key to select type of solution desired. The possible solution types are KCl, NaCl or 442™.
4. Press to accept new solution type.

NOTE: See the full TechPro II Operation Manual (P/N TPOM) for instructions on turning On the instrument's Salinity (SALT) mode.

CALIBRATION

CALIBRATION SOLUTIONS

Mode	Standard Solution or Buffer
Conductivity KCl	KCl: 7000 μ S
TDS 442™	442™: 3000 PPM
TDS NaCl	Displays as 2027 ppm in TDS NaCl mode
pH	4.0, 7.0 and 10.0 buffer

I. CONDUCTIVITY OR TDS CALIBRATION

1. Rinse cell cup 3 times with proper fresh, standard solution.
2. Refill cell cup with standard solution.
3. Press or , then press "CAL" will appear.
4. Press or until display agrees with standard solution.
5. Press to accept value.

NOTE: A deviation of more than 10% from standard solution value will produce a "FAC" on the display. Press to accept factory calibration, or clean the cell and recalibrate.

II. pH/ CALIBRATION (TPH1 ONLY)

1. Rinse sensor well 3 times with 7.0 buffer solution.
2. Refill sensor well with 7.0 buffer solution.
3. Press , then , "CAL", "7" and "BUFFER" will appear on the display.
4. Press or until display agrees with buffer value.
5. Press once to accept the value.
6. Rinse 3 times with either ACID (Acid) (pH 1- 6) or BASE (bAS) (pH 8- 14) buffer solution.
7. Refill and repeat steps 4 & 5.
8. Rinse 3 times with opposite buffer solution, refill and repeat steps 4 & 5 or press to exit.
9. When calibration is complete, rinse sensor, then refill sensor well with Myron L Storage Solution and reinstall cap.

NOTE: A deviation of more than ± 1 pH unit from the value of the calibration buffer may indicate the need for pH sensor replacement.

MAINTENANCE

I. BATTERY REPLACEMENT (LOBATT)

1. Dry Instrument THOROUGHLY. **ONLY** open TechPro II in a clean, dry environment!
2. Remove the four (4) bottom screws.
3. Open instrument CAREFULLY.
4. Carefully detach battery from circuit board.
5. Replace with 9-volt alkaline battery.
6. Replace bottom, ensuring the sealing gasket is installed in the groove of the top half of case.
7. Re-install the 4 screws, tightening them evenly and securely.

II. CAUTIONS

- Solutions in excess of 71°C/160°F should not be placed in the cell cup area; this may cause damage
- The pH sensor (TPH1) may fracture if the TechPro II temperature is allowed to go below 0°C/32°F.
- The cell cup should be kept as clean as possible. Flushing with clean water following use will prevent buildup on electrodes. If very dirty samples (particularly scaling types) are allowed to dry in the cell cup, a film will form reducing accuracy.

- The pH sensor in your TechPro II should not be allowed to dry out. Whenever the sensor is not in use make sure it is filled with Myron L® Company Storage Solution, a 4 buffer or a high KCl solution, and that the protective cap is in place.

III. CLEANING SENSORS

A. Conductivity or TDS

- When there are visible films of oil, dirt, or scale in the cell cup or on the electrodes or if the readings are not as expected, use isopropyl alcohol or a foaming non-abrasive household cleaner.
- Rinse out the cleaner, and your TechPro II is again ready for accurate measurements.

- B. pH (TPH1 only):** If the pH sensor dries out or becomes dirty, it may be cleaned and/or reconditioned. For instructions on performing these operations, download the full TechPro II Operation Manual from the Myron L® Company website.

IV. pH Sensor Replacement (TPH1)

Order model RPG. Be sure to include the model and serial number of your instrument to ensure receipt of the proper type.

NOTE: Complete installation instructions are provided with each replacement sensor.

SPECIFICATIONS

Specifacaton	pH (TPH1 ONLY)	CONDUCTIVITY	TDS	TEMPERATURE
Ranges	0-14 pH	0 - 9999 μ S/cm; 10 - 20 mS In 3 autoranges	0 - 9999 ppm; 10 - 20 ppt In 3 autoranges	0°C – 70°C 32°F – 160°F
Resolution	0.01 pH	0.1 S (<1000 μ S) 1.0 μ S (≥ 1.0 mS and < 10 mS) 0.01 mS (≥ 10 mS)	0.1 ppm (<1000 μ S) 1.0 ppm (≥ 1.0 ppt and < 10 ppt) 0.01 ppt (≥ 10 ppt)	0.1 °C / °F
Accuracy	± 0.01 pH	$\pm 1\%$ of reading		$\pm 0.1^\circ\text{C} / ^\circ\text{F}$
Auto Temperature Compensation	0-71°C 32-160°F	0-71°C 32-160°F		N/A
Conductivity & TDS Ratios	N/A	KCl, NaCl or 442™		N/A



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