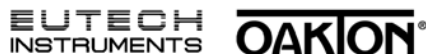




# INSTRUCTION MANUAL

## MULTI-PARAMETER TESTR 35 SERIES

### pH / Conductivity / TDS / Salinity / Temperature



Part of Thermo Fisher Scientific 68X441601 Rev. 1 March 2010

Thank you for selecting our Multi-Parameter Testr. This manual serves the following (3) models:

- **PCTestr 35** (Eutech PCTEST35-01X441504 / Oakton 35425-00)

**pH / Conductivity / Temperature**

- **PTTestr 35** (Eutech PCTEST35-01X441505 / Oakton 35425-05)

**pH / Total Dissolved Solids / Temperature**

- **PCSTestr 35** (Eutech PCSTEST35-01X441506 / Oakton 35425-10)

**pH / Conductivity / Total Dissolved Solids / Salinity / Temperature**

## Getting Started:

Your instrument has been factory calibrated and usually works well out of the box. However, after extended periods of non-use, it's best to remove the sensor cap and soak the sensor (pictured here) in warm tap water or pH buffer for 10 minutes or so. A brief rinse with deionized (DI) water is OK, but avoid soaking or storing in deionized water as this will shorten the pH electrode life. Prior to taking measurements, periodic calibration with certified standards is recommended for best accuracy.



Your Testr begins in the measuring mode that was previously used. Just prior to measurement or when switching modes, you will see the setting associated with each parameter i.e.) pH (buffer group selected), Conductivity (Auto), TDS (factor), Salinity (unit of measure).

## Setup:

Your Testr allows customization of various settings. **To access the setup mode:**

1. With the Testr off, keep the pressed down while you press and release . (Setup) will appear, then as you release , (Parameter) will appear.
2. Press or to choose (Parameter Setup) or (System Setup) menu.
3. Press to enter the selected setup menu.

**\*IMPORTANT\*** It is necessary to save your Parameter and System changes in order for them to take effect.

1. When you are finished making your desired changes, press both and at the same time and keep them pressed until you see "SA" (Save) on the display.
2. With the primary display "SA" and secondary display "YES", press to save the changes. The instrument will resume measurement mode with new setting(s).



Note: If auto-shut off is used, changes will be automatically saved 8.5 minutes after the last change was made.

**Parameter Setup:** Select to make changes relating to the parameters – pH, Conductivity TDS, Salinity. Note: only the PCS Testr will have all of these options. See below for menus available from each parameter. To Navigate the menus:

- Press to select or confirm the displayed option.
- Press or to scroll thru options or change values.

### pH Options:

- **USA** or **NIST** Buffer Group for calibration buffer option.
  - **5-pt** calibration (all points) or **3-pt** calibration (middle three points only).

### Salinity (SALt) Option (PCS Testr only)

- Choose **PPT** (parts per thousand) or **Per** (percentage %) as unit of measure.

### Total Dissolved Solids (tDS) Option (PT and PCS Tester only)

- **FAcT** factor the instrument uses to convert from conductivity to TDS value. Adjustable from **0.40** to **1.00** (default factor is 0.71).

### Conductivity Options (PC and PCS Tester only)

- **A.Cal** (Automatic Calibration) Choose **YES** or **NO** (manual).

**TIP:** The PC Testr 35 and PCS Testr 35 are capable of automatic or manual conductivity calibration. In automatic calibration mode, the meter will automatically choose one of (3) conductivity calibration standards depending on the ranges listed below. If you will only use 84  $\mu$ S, 1413  $\mu$ S, or 12.88 mS calibration standards, automatic calibration is a time saving option. If you intend to calibrate with one or more standards that are **not** listed below, choose "NO" which will disable auto calibration and allow you to enter your desired value manually.

Conductivity Range	Automatic Calibration Value	Available with
0.0 – 200.0 $\mu$ S	84 $\mu$ S	PCS only
201 – 2000 $\mu$ S	1413 $\mu$ S	PC or PCS
2.01 – 20.00 mS	12.88 mS	PC or PCS

- **SPC** (Single-Point Calibration) Choose **YES** or **NO** (multi-point calibration).

**TIP:** The PC Testr 35 and PCS Testr 35 are capable of single or multi-point conductivity calibration. Use Single-Point Calibration to apply a single calibration value across all ranges. Use Multi-Point Calibration for individual calibration in each range. This will restrict an individual calibration so that it is applied to one range only. When using multi-point calibration, perform a calibration in each range that you expect to use for best results.

## System Setup:

Select to make changes relating to the system. See below for available menus. Note: other than changing Temperature units, it is advised to keep the factory default settings for best results. To Navigate the System menus:

- Press to select or confirm the displayed option.

- Press or to scroll thru menu options or change values.

### Unit rSt (Instrument reset)

- **PH** (pH) or **EC** (electrical conductivity / TDS / Salinity)
- **CAL** (calibration reset) or **FcT** (Reset to factory default settings)
- **Set A.Off** (Automatic shut off after 8.5 minutes) Choose **YES** or **NO**.
- **Set t.C** (Temperature Coefficient) **0.0-10.0%** (2.1% is default)
- **Set AtC** (Auto Temperature Compensation) Choose **YES** or **NO** (25°C is used).
- **Set °C °F** (select temperature units) Choose °Celsius or °Fahrenheit.

## Temperature Calibration:

The factory temperature calibration should last for the life of the original sensor since it doesn't normally drift. Temperature calibration is always recommended upon sensor replacement. It may also be desirable to adjust the temperature to match a certified accurate thermometer or another Testr. The temperature value is common to all parameters so only one calibration is needed. To perform temperature calibration:

1. Press to turn on meter. Place the reference thermometer and your Testr into the same sample. Allow enough time for both to stabilize.
2. Press as needed to select the pH measuring mode. Press to begin pH calibration mode.
3. Press for 5 seconds to begin temperature calibration mode. The current temperature will be displayed on top while the factory default temperature is below.
4. Press or to manually adjust to the desired temperature—up to  $\pm 5^\circ$  C or  $\pm 9^\circ$  F of the factory default value.
5. Press to confirm and return to the pH measuring mode.

## pH Calibration:





For best results, calibrate with certified accurate pH calibration standards (buffers). You may calibrate up to five points with the USA (1.68, 4.01, 7.00, 10.01, 12.45) or the NIST (1.68, 4.01, 6.86, 9.18, 12.45) buffer group.

1. Press to turn meter on and to select pH mode as needed.
2. Rinse the sensor with clean water. Immerse the sensor into your pH buffer and press . The primary display will show the un-calibrated pH value, while the secondary display should search for and lock on the closest automatic calibration value.
3. Allow the primary display to stabilize, then press to confirm the calibration value. The primary value will blink briefly before the secondary value automatically scrolls thru the remaining pH buffers available for calibration.
4. Repeat steps 2 & 3 with additional buffers or press to return to measurement mode.

## Conductivity Calibration (Automatic):

For best results, calibrate with certified accurate conductivity calibration standards. Selection of multi-point calibration will allow up to three of the following values, while Single-point calibration will allow only one; choose 84  $\mu\text{S}$ , 1413  $\mu\text{S}$ , or 12.88 mS.

Conductivity Range	Automatic Calibration Value	Available with
0.0 – 200.0 $\mu\text{S}$	84 $\mu\text{S}$	PCS only
201 – 2000 $\mu\text{S}$	1413 $\mu\text{S}$	PC or PCS
2.01 – 20.00 mS	12.88 mS	PC or PCS







- Press  to turn meter on and  to select conductivity mode as needed.
- Rinse the sensor with clean water. Immerse the sensor into your standard and press . The primary display will show the un-calibrated value, while the secondary display should search for and lock on the closest automatic calibration value.
- Allow the primary display to stabilize, then press  to confirm the calibration value. The primary value will blink briefly before returning to measurement mode.
- Repeat steps 2 & 3 with additional calibrations standards if desired.

## Conductivity, TDS, & Salinity Calibration (Manual):



For best results, calibrate with certified accurate calibration standards. 1 point per range.

Conductivity (3-pt)	TDS (3-pt)	Salinity (1-pt)
0.0 – 200.0 $\mu\text{S}^*$	0.0 – 99.9 ppm*	1.00 – 10 ppt
201 – 2000 $\mu\text{S}$	100 – 999 ppm	
2.01 – 20.00 mS	1.00 – 10 ppt	

\*Range only available with PCS Testr 35

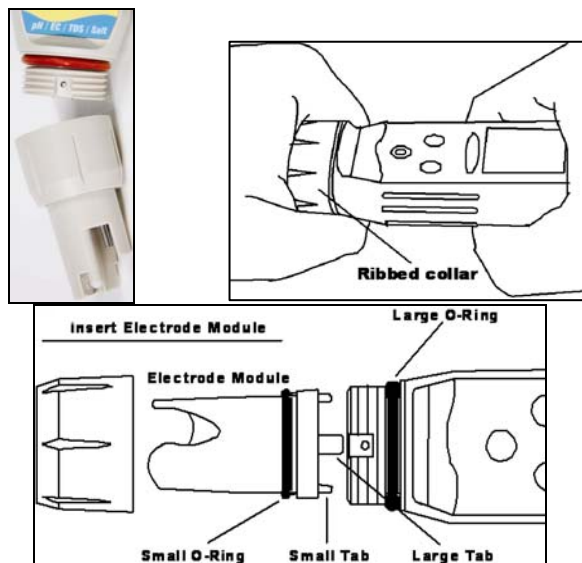
- Press  to turn meter on and  to select conductivity, TDS, or salinity mode.
- Rinse the sensor with clean water. Immerse the sensor into your standard and press . The primary display will show the un-calibrated value, while the secondary display will display the factory default calibration.
- Press  or  to manually adjust the primary display to your calibration standard.
- Press  to confirm the new adjusted value. The primary value will blink briefly before returning to measurement mode.
- Repeat steps 2 & 3 with additional calibration standards if desired.

## Hold Function:

For prolonged observation of a reading, press  during measurement mode to freeze the display. The "HOLD" indicator will display when the reading is held. To release the held value and resume live measurement, press .

## Sensor Replacement:

Your instrument includes a replaceable sensor (Eutech PCSENSOR - 01X097108 / Oakton 35425-50). If the tip gets damaged or as the sensor wears over time, the entire sensor can easily be replaced. To remove the old sensor, simply twist off the ribbed collar and pull the sensor straight out.



To install the new sensor, line up the tabs and 8 pins of the sensor to the instrument body. Twist ribbed collar back on to keep waterproof rating and secure sensor. The O-rings should create a watertight seal and provide some resistance when twisting.





## Battery Replacement:

Your Testr includes (4) 1.5V alkaline batteries. LR44 or A76 battery types are suitable and commonly available. Replace all (4) batteries together. Waiting too long to replace the batteries can lead to inaccurate readings and is the most common cause of problems. Twist and unscrew to remove the battery cover at the top of the Testr. Pull on the white ribbon to remove the batteries. Note the correct polarity of the instrument before installing. The flat side of the battery is +. Place new batteries on top of the white ribbon so they can be easily removed next time. Hand tighten the battery cover to keep waterproof rating.



## Storage:

The sensor does not require special storage. Rinse with clean water after use and cover the sensor with the included cap. Keep at room temperature away from extreme temperatures. The sensor can easily be re-hydrated by soaking if stored dry.

Message	Indicates
	>75% battery life remaining
	50-75% battery life remaining
	25-50% battery life remaining
	No bars & blinking = replace batteries
Err	Calibration error, usually attempting to calibrate to a value which is out of range or under range.
Unstable pH reading / Slow response	Broken or dirty sensor. Clean, rehydrate, and replace if necessary. Could also be due to low battery condition or sample with temperature that has not stabilized.
"Ur" (Under range) or "Or" (Over range)	Measured value is out of range. Most often caused by dry electrode that needs to be re-hydrated / soaked. Sensor may not be completely submerged or is not connected to Testr body properly.
Meter not responsive	If "Hold" on display, press Hold key to resume live measurement.
Secondary display continually scrolls	The automatic calibration standard is not within expected calibration range. Use fresh standard or an alternate calibration standard.

## Warranty:

The waterproof Testrs are warranted to be free from manufacturing defects for 1 year and the electrode module is warranted for 6 months, unless otherwise stated. If repair, adjustment or replacement is necessary and has not been the result of abuse or misuse within the time period specified, please return the tester – freight prepaid – and correction will be made without charge. Out of warranty products will be repaired on a charge basis.

## 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. Note: We reserve the right to make improvements in design, construction and appearance of products without notice. Prices are subject to change without notice.