Quick Guide

Bench 700 Series

pH/mV/Ion/Conductivity/TDS/Dissolved Oxygen/ºC/ºF

EUTECH INSTRUMENTS
Technology Made Easy ...

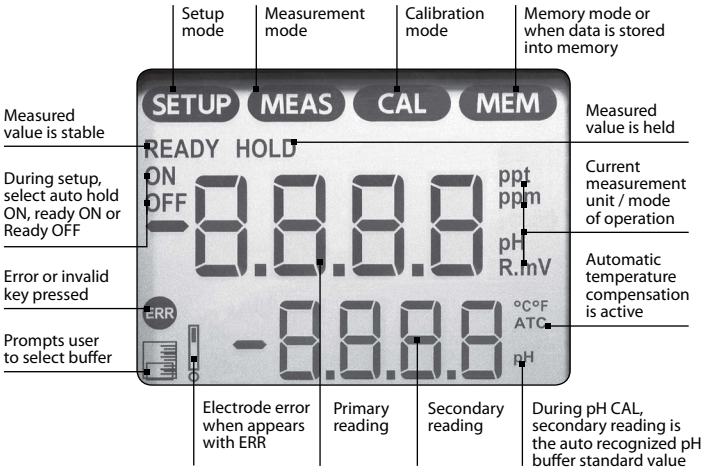
OAKTON®

GETTING STARTED

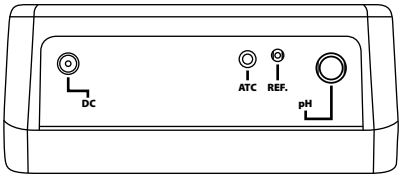
■ Keypad Functions

Keys	Functions
⏻	Powers the meter on and off. Upon power on, the meter automatically begins in the mode that was last used. Calibration and memory values are retained even if meter is unplugged.
MODE	Toggle between available measurement modes; pH/Temp, mV/Temp, or ppm/mV (Ion 700 only). Also used to switch from pH to Temp during pH calibration mode. **Press and hold for 5 seconds to enter SETUP mode.**
CAL / MEAS	Toggles between measurement and calibration modes. In SETUP mode, returns user to the measurement mode.
▲ MI	**MI** (Memory Insert) stores values into memory. ▲ Increase value. Scroll up in SETUP mode.
▼ MR	**MR** (Memory Recall) recalls values from memory ▼ Decrease value. Scroll down in SETUP mode.
HOLD	Freezes measured reading. Press again to resume live reading.
ENTER	Confirms calibration values in CAL mode. Confirms selections in SETUP mode. View recalled values in memory mode.

■ LCD Annunciators



Meter Connections



pH	BNC connection for pH, ORP (Redox), or Ion Selective Electrodes (ISE).
REF	Pin connection for half cell reference electrodes. Requires separate half cell BNC electrode. Note: REF is not commonly used and is not required.
ATC	For Automatic Temperature Compensation probe.
DC	Power supply.

CALIBRATION

pH Calibration

For best results, periodic calibration with known accurate standards is recommended. The 700 series meters can be calibrated with up to 5 buffers. The non-volatile memory retains all calibration values upon meter shut down.
The following calibration standards are automatically recognized;

USA buffer group	1.68, 4.01, 7.00, 10.01, 12.45
NIST buffer group	1.68, 4.01, 6.86, 9.18, 12.45

To eliminate temperature errors associated with the pH electrode, attach the automatic temperature compensation (ATC) probe for best accuracy.

1. Press MODE as needed to select pH.

2. Dip the pH and ATC electrodes into pH buffer and press CAL MEAS. The secondary display will lock on the appropriate buffer value. Provide stirring for best results.

   When the **READY** indicator appears, press ENTER to accept. The primary reading will flash briefly before the secondary display begins scrolling the remaining available buffers.

3. Rinse the pH and ATC electrodes then dip into the next pH buffer. The secondary display will lock on the appropriate buffer value. When the **READY** indicator appears, press ENTER to accept. The primary reading will flash briefly then display the percent efficiency (slope) before the secondary display begins scrolling the remaining available buffers.

4. To calibrate another buffer repeat step 3 or press CAL MEAS to return to the measurement mode.

Temperature Calibration

The thermistor sensor used for automatic temperature compensation and measurement is both accurate and stable. Temperature calibration is recommended upon electrode replacement, whenever the temperature reading is suspect, or if matching against a certified thermometer is desired.

1. Connect the temperature probe to the meter and place into a solution with a known accurate temperature such as a constant temperature bath.

   Note: To adjust the manual temperature compensation (MTC) value, do not connect the temperature probe.

2. Press MODE as needed to select pH or mV/R.mV.

3. Press CAL MEAS followed by MODE. The primary display shows the measured temperature while the secondary display shows the factory default temperature.

4. Adjust the temperature using MI or MR. Press ENTER to accept or CAL MEAS to cancel. The meter allows an adjustable maximum value of ± 5 °C (or ± 0.9 °F) from the factory default temperature.

Millivolt (mV) Offset Adjustment

Oxidization Reduction Potential (ORP or Redox) is not a precise measurement, but is useful as a relative indicator. mV offset adjustment makes readings comparable to a reference.

1. Connect an ORP electrode and press MODE as needed to select mV (or R.mV).

2. Dip the ORP electrode into a solution with a known mV value and stir.

3. Press CAL MEAS when the reading is stable. The primary display shows the relative millivolt value (R.mV) while the secondary display shows the factory default mV value.

4. Adjust the R.mV value using MI or MR. Press ENTER to accept or CAL MEAS to cancel. The meter allows an adjustable maximum value of ± 150 mV from the factory default mV value.

   Note: When an offset has been stored successfully, R.mV replaces mV.

Ion Calibration (Ion 700 Only)

The available ION calibration values are 0.10, 1.0, 10.0, 100.0, and 1000 parts per million (ppm). Choose a minimum of 2 consecutive values for calibration and prepare the corresponding ion calibration solutions. For best results always begin with your lowest standard value, followed by the next lowest standard.

1. Connect the ISE and press MODE as needed to select ppm. Note: The primary reading will show "- - - -" without a stored ion calibration. The secondary value is the corresponding mV reading of the ISE.

2. Dip the ISE into your lowest standard solution value and stir. Press CAL MEAS when the secondary reading is stable.

3. Press MI or MR to match the primary display to your corresponding ion calibration value (0.10, 1.0, 10, etc).

4. Press ENTER to accept or CAL MEAS to abort. The primary display will show the next highest calibration standard value.

5. Rinse the ISE then dip into the corresponding calibration standard and stir.

6. Press ENTER to accept or CAL MEAS to cancel. The mV/decade slope value will be displayed briefly if the calibration is successful. "SLP Err" indicates calibration for the current point was not successful.

7. Revert to step 3 to calibrate additional points or press CAL MEAS as needed to return to measurement mode at any time.

STORING AND RECALLING DATA

The 700 series meters can retain up to 100 points into memory for later retrieval.

1. In the measurement mode, press MI to insert the measured value into memory. The stored memory location value (StO) is briefly displayed.

2. To recall data from memory, press MR. The location of the most recent stored data is displayed first. Press MI or MR to select the location of the desired data, then press ENTER to accept.

3. Press ENTER to return to the stored data location. Press CAL MEAS to return to measurement mode.