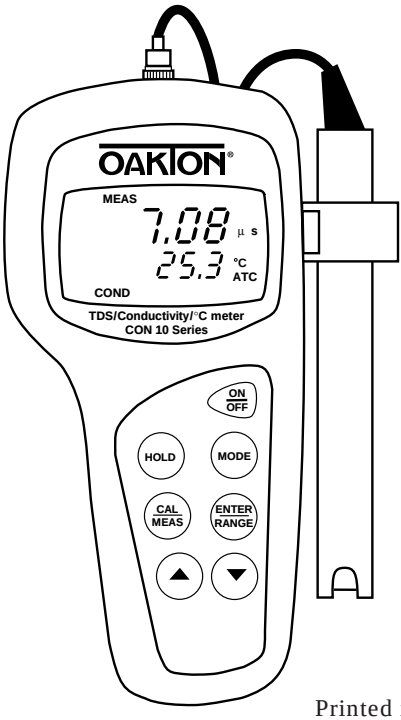
OPERATING INSTRUCTIONS

OAKTON® 35607-00

CON 10

Basic Conductivity/TDS Meter



Printed in Singapore 08/00 R2

OAKTON®

Table of Contents

1. Introduction 3

2. Display and Keypad Functions 4-5
   - 2.1 LCD display 4
   - 2.2 Keypad 5

3. Preparation 6-9
   - 3.1 Inserting the batteries 6
   - 3.2 Connecting the probe and temperature sensor 7
   - 3.3 Attaching the probe holder to the meter 8
   - 3.4 Inserting the probe into the probe holder 8
   - 3.5 Connecting the AC adapter 9

4. Calibration 10-13
   - 4.1 Preparing for calibration 10
   - 4.2 Calibrating for Conductivity 11
   - 4.3 Calibrating for TDS 12-13

5. Temperature Calibration 14
   - 5.1 One-point temperature compensation 14

6. Measurement 15-16
   - 6.1 Range Selection 15
   - 6.2 Measurement using Automatic Temperature Compensation 15
   - 6.3 Measurement using Manual Temperature Compensation 16

7. HOLD 17

8. Probe Care and Maintenance 18

9. Probe Replacement 19
   - 9.1 Zero calibration 19
   - 9.1 Two point temperature calibration 20

10. Troubleshooting 21

11. Error Messages 22

12. Specifications 23

13. Accessories 24

14. Addendum 1: Conductivity to TDS Conversion Factors 25

15. Addendum 2: Calculating TDS Conversion Factors 26

16. Warranty 28

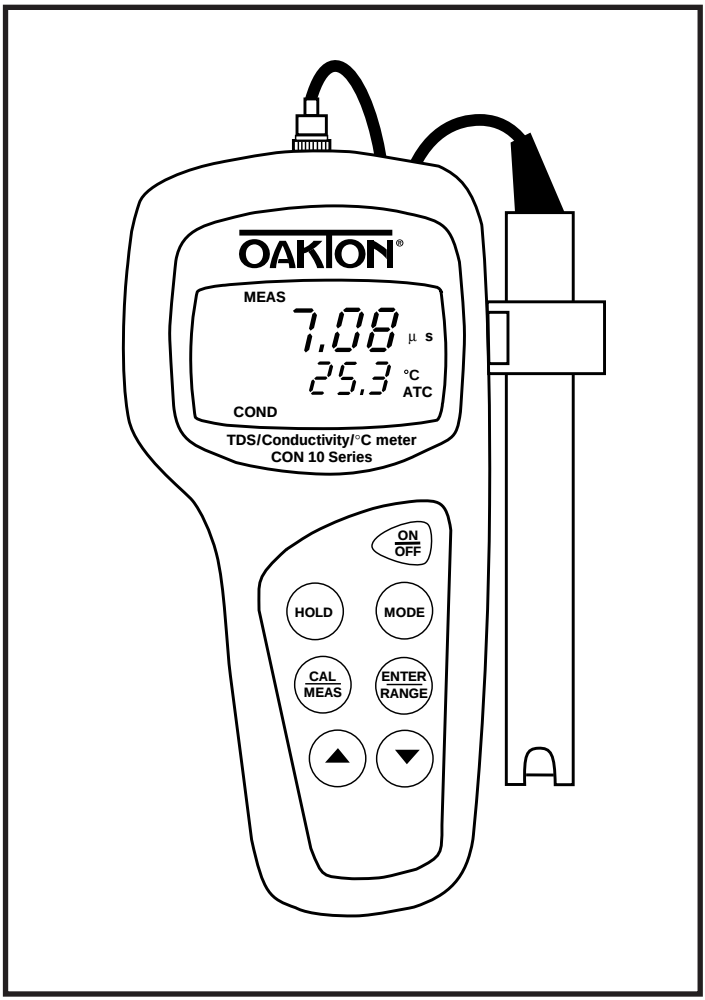
17. Return of Items 28

1. Introduction

Thank you for selecting the Oakton® 35607-00 conductivity / TDS meter. Included with your meter is an epoxy-body stainless steel probe with built-in temperature sensor and cable, a built-in four position probe attachment and a built-in meter stand.

Your meter includes electrode holders and batteries.

Please read this manual thoroughly before operating your meter.



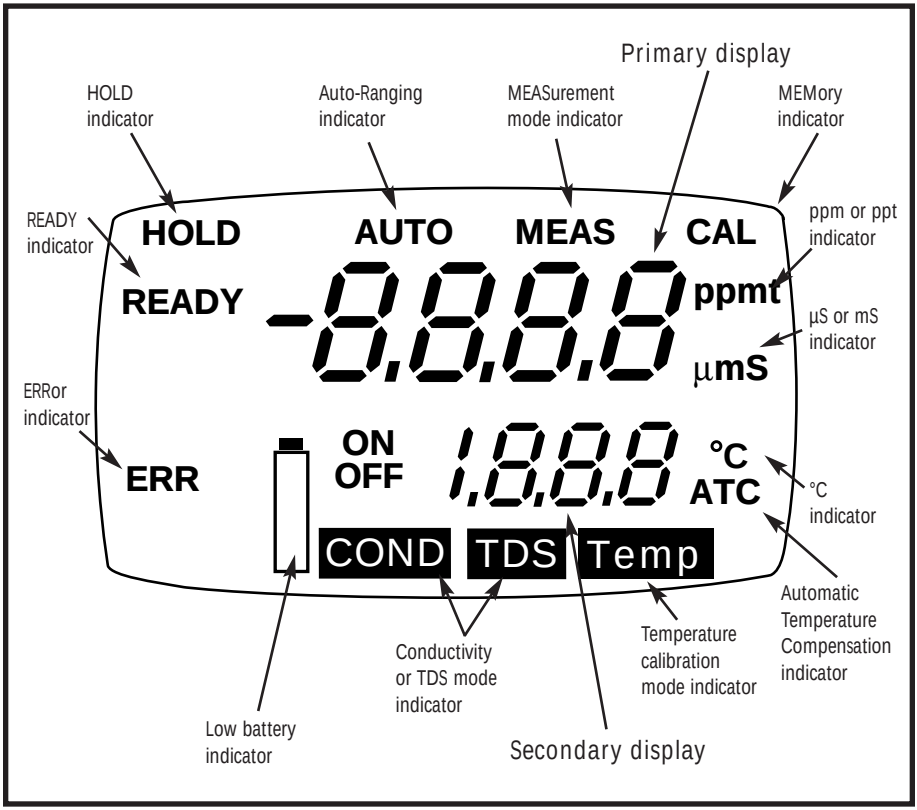
2. Display and Keypad Functions

2.1 Display

The LCD has a primary and secondary display.

- The primary display shows the measured Conductivity or TDS reading.
- The secondary display shows the temperature of the reading in °C.

The display also shows error messages, keypad functions and program functions.



2.2 Keypad

The large membrane keypad makes the instrument easy to use. Each button, when pressed, has a corresponding graphic indicator on the LCD.

ON/OFF .....Powers and shuts off the meter.

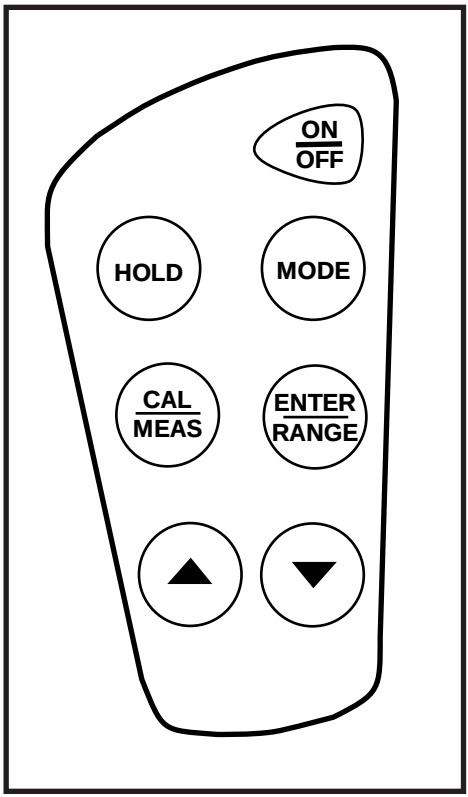
HOLD .....Freezes the measured reading. To activate, press **HOLD** while in measurement mode. To release, press **HOLD** again

MODE.....Selects the measurement parameter: COND (Conductivity), TDS (total dissolved solids) or TEMP .

CAL/MEAS .....Toggles user between Calibration and Measurement mode.

ENTER/RANGE ..Confirms your values. Switches to manual ranging and can scroll to your selected measurement range for conductivity or TDS

▲ /▼.....scrolls values up and down to the values you want

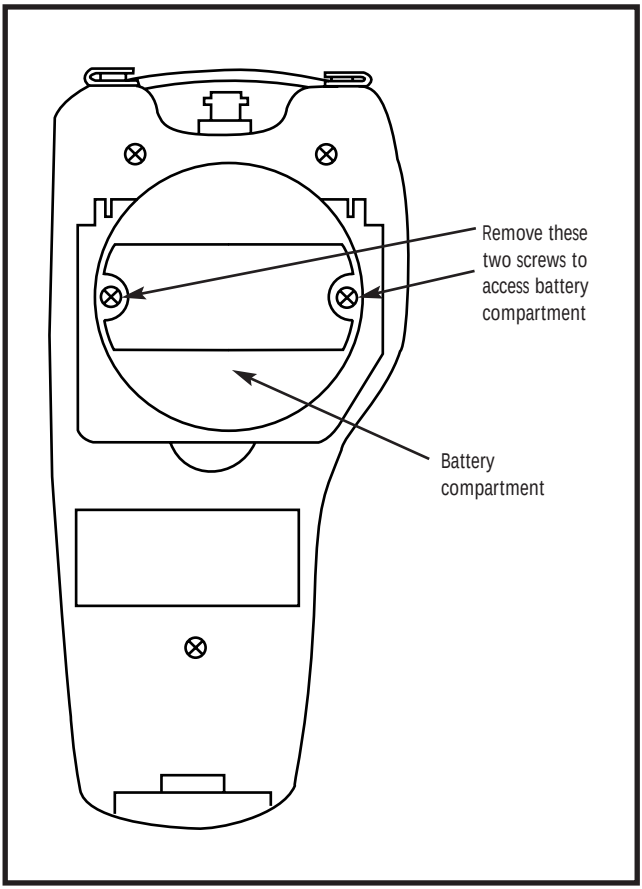


3. Preparation

3.1 Inserting the Batteries

Four AAA batteries are included with your meter.

1. Use a Phillips screwdriver to remove the two screws holding the battery cover. See Figure below.
2. Lift meter stand to expose battery cover. Remove battery cover.
3. Insert batteries. Follow the diagram inside the cover for correct polarity.
4. Replace the battery cover into its original position using the two screws removed earlier.



3.2 Connecting the Probe and Temperature Sensor

NOTE: Keep connector dry and clean. Do not touch connector with soiled hands.

1. Slide the BNC connector of the probe over the BNC connector socket on the meter. Make sure the slots of the connector are in line with the posts of the socket. Rotate and push the connector clockwise until it locks

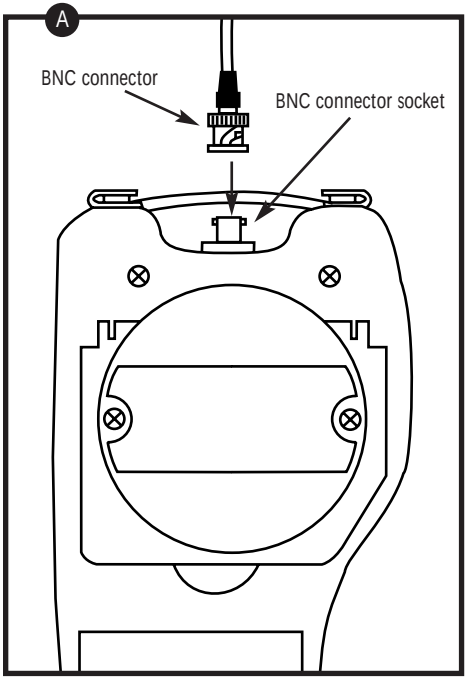
See figure A

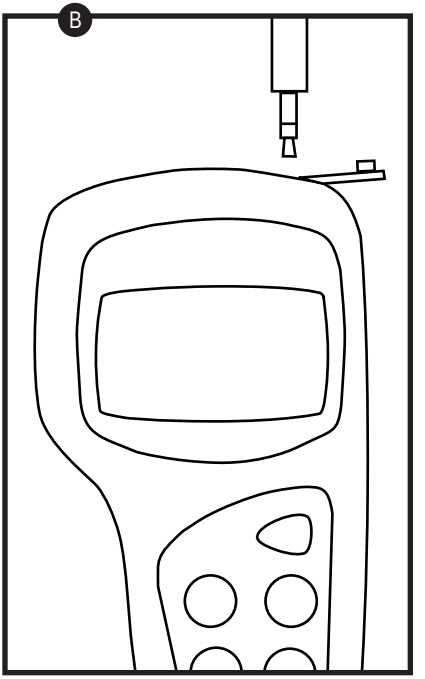
2. To remove probe, push and rotate the connector counter clockwise . While holding onto the metal part of the connector, pull probe away from the meter.

CAUTION: Do not pull on the probe cord or the probe wires might disconnect.

Temperature Sensor

The temperature sensor uses a phono jack to connect with the socket on the meter. Insert the jack into the socket as shown in figure B



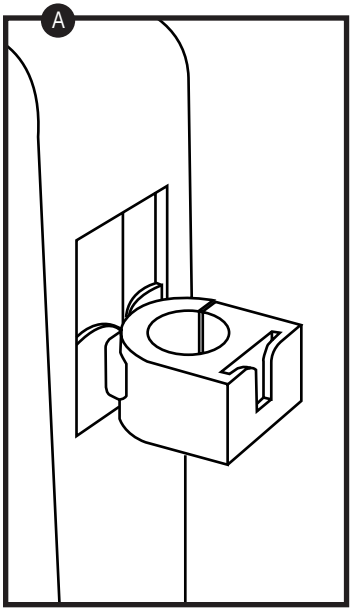


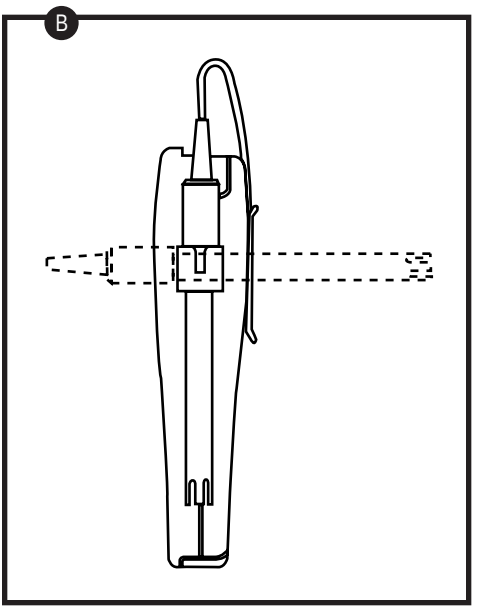
3.3 Attaching the Probe Holder to the Meter

1. Place the probe holder with the flange facing the slot on the meter. See Figure A
2. Gently slide the flange of the holder into the slot on the meter. Make sure the holder is secured properly into the slot.

You can attach the probe holder in different positions.
See figure B

This flexibility facilitates one-handed operation.





3.4 Inserting the Probe into the Probe Holder

One probe holder is included with your meter.

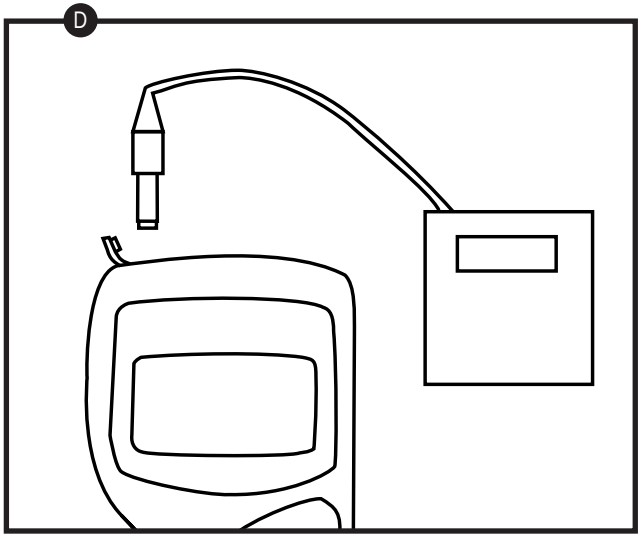
NOTE: Do not use excessive force when inserting probe into holder.

1. Insert the probe into the opening of the holder until the top housing of the probe touches the top of the holder.

3.5 Connecting the AC Adapter

The AC adapter is not included with your meter; order separately on page 24.

1. Insert the AC jack as shown in figure D below.
2. **Switch off the meter before plugging the adapter into the power source.** This safety precaution protects the software in your meter.
3. Press the ON / OFF button to switch meter on.



4. Conductivity/TDS Calibration

4.1 Preparing for calibration

Selecting a calibration standard

For best results, select a conductivity or TDS standard near the sample value you are measuring. Alternatively, use a calibration solution value that is approximately 2/3 the full scale (F.S.) value of the measurement range you plan to use. For example, in the 0 to 1999 µS range, use a 1413 µS solution for calibration.

Calibrating the meter in conductivity range(s) also calibrates the corresponding TDS range. A calibration value in the TDS mode of a particular range replaces a prior calibration value in the corresponding conductivity mode if both fall in the same range, and vice versa. The following table lists the corresponding ranges:

Conductivity range	TDS range
0.00 to 19.99 µS	0.00 to 9.99 ppm
0.0 to 199.9 µS	10.0 to 99.9 ppm
0 to 1999 µS	100 to 999 ppm
0.00 to 19.99 mS	1.00 to 9.99 ppt

You only need one calibration for measurement of the entire range of the meter. If a range is not calibrated, the meter automatically detects the closest range calibrated and uses that calibration information. **However, only the ranges that have been calibrated have maximum accuracy.**

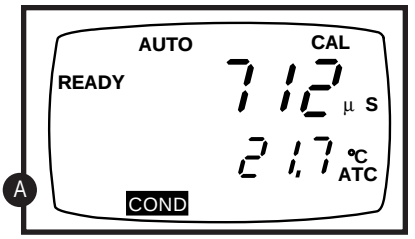
When to calibrate

If you are measuring in solutions with conductivity lower than 100 µS, or TDS lower than 50 ppm, calibrate the meter at least once a week to get specified ±1% F.S. accuracy. If you are measuring in the mid ranges, calibrate the meter at least once a month. If you make measurements at extreme temperatures, calibrate at least once a week.

4.2 Conductivity calibration

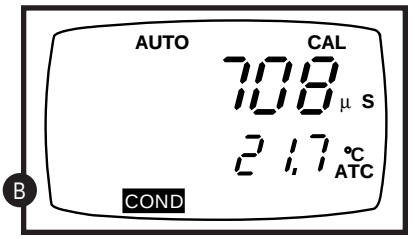
1. **Select the conductivity standard for calibration.** Select a standard with a value closest to the expected value of measurements in the sample.
2. **Pour 3 cm of the standard into two separate clean containers.**
3. **Turn the meter on.** All the LCD segments display for a few seconds. The LCD then switches into the conductivity measurement mode.
4. **Rinse the probe in one of the containers.** Gently stir the probe. Rinsing removes contaminants that offset the calibration, and prevents error.
5. **Dip the rinsed probe into the other container.** Tap probe on bottom of container to remove air bubbles. Let the probe stabilize to the solution temperature.
6. **Press MODE to select conductivity mode.** The COND indicator should show at the bottom of the display.
7. **Press CAL to begin calibration.** The CAL annunciator blinks showing the calibration mode is on. Example: the display shows 712 µS for 708 µS calibrating solution.

See figure A



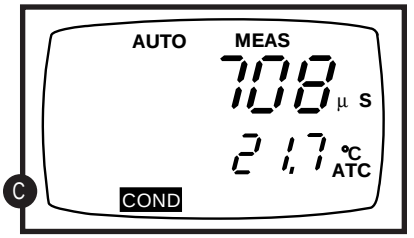
8. **Press the ▲ or ▼ keys** to scroll to the calibration standard value of 708 µS.

See figure B



9. **Press ENTER/RANGE to confirm calibration.** The CAL indicator stops flashing and remains on the screen for 3 seconds. The meter than switches back to measurement mode.

See figure C



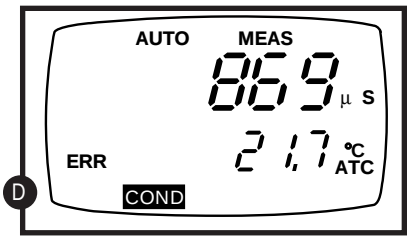
10. **Repeat for other ranges** if desired.

NOTE: At any time during the calibration, you may exit the Calibration mode and return to Measurement mode by pressing the CAL/MEAS key. The meter will keep the old calibration data and be unharmed.

Calibration error

For conductivity calibration, ERR on the display shows whenever the calibration value input into the meter is different from the initial value displayed by more than 20%. ERR displayed warns you of improper probe use or bad calibration technique.

See figure D

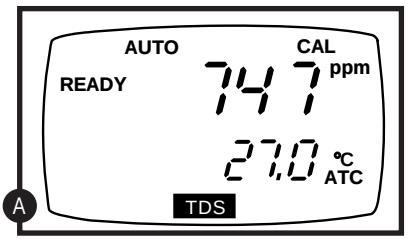


4.3 TDS calibration

Option 1: TDS calibration using TDS standards

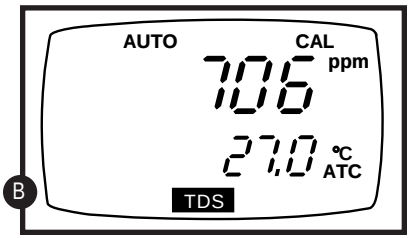
1. **Select the TDS standard for calibration.** Our OAKTON calibration solutions have TDS values on the labels. For conversion factors other than those listed, see Addenda 1 and 2, pages 25-26.
2. **Pour 3 cm of the standard into two separate clean containers.**
3. **Turn the meter on.** All the LCD segments display for a few seconds. The LCD then switches into the conductivity measurement mode.
4. **Rinse the probe in one of the containers.** Gently stir the probe. Rinsing removes contaminants that offset the calibration, and prevents error.
5. **Dip the rinsed probe into the other container.** Tap probe on bottom of container to remove air bubbles. Let the probe stabilize to the solution temperature.
6. **Press MODE to select TDS mode.** The TDS indicator should show at the bottom of the display.
7. **Press CAL to begin calibration.** CAL annunciator blinks showing the calibration mode is on. Example: display shows 747 ppm for 706 ppm (or 1413 µS) calibrating solution.

See figure A



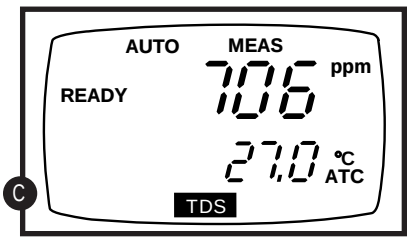
8. **Press the ▲ or ▼ keys** to scroll to the calibration standard value of 706 ppm

See figure B



9. **Press ENTER/RANGE to confirm calibration.** The CAL indicator stops flashing and remains on the screen for 3 seconds. The meter than switches back to measurement mode.

See figure C



10. **Repeat for other ranges** if desired.

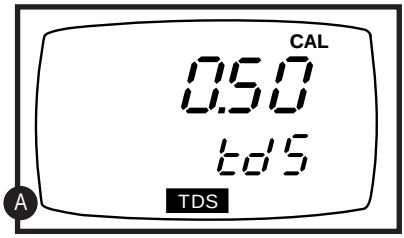
NOTE: At any time during the calibration, you may exit the Calibration mode and return to Measurement mode by pressing the CAL/MEAS key. The meter will keep the old calibration data and be unharmed.

Confirmation error

An error message means the meter does not allow the slope adjustment to the calibration procedure given the value of Conductivity-to-TDS conversion factor. See Option 2 for another TDS calibration method for adjusting the Conductivity-to-TDS conversion factor. Press CAL/MEAS to escape the ERR message and abort the calibration attempt.

Option 2: TDS calibration using conversion factors

TDS values are related to conductivity. You can calibrate the meter using conductivity standards as described above and then program the meter with a given conversion factor.



1. **Perform the conductivity calibration procedure** on page 11.
2. **Select the correct Conductivity-to-TDS conversion factor.** Addendum 1 on page 25 lists some commonly used conversion factors. You can calculate the TDS conversion factor for other solutions using the formula show in Addendum 2, page 26.
3. **Turn the meter off if necessary; then hold down the CAL/MEAS key and press ON/OFF.** Release ON / OFF before releasing CAL / MEAS.
4. **Press the ENTER key three times.** The TDS factor displays.

See figure A

5. **Press the ▲ or ▼ keys** to adjust the value of the primary display until it is the same or close to the selected / calculated value.
6. **Press ENTER to confirm selected value.**
7. **Turn the meter off, then turn meter back on.**
   The meter is now ready for measurement.

5. Temperature Calibration

The built-in temperature sensor included in the probe is factory calibrated. Over time, the temperature sensor response may vary. If you suspect temperature errors, calibrate your sensor using the following one-point calibration procedure.

If you purchase a replacement probe, you must complete a two-point temperature calibration. See section 8, Probe Replacement, for details (pages 19-20).

5.1 1-point temperature calibration

1. **Press the MODE key and select temperature mode (TEMP).** (Make sure you are in MEAS before you begin calibration

See figure A

2. Press CAL. This brings you into the calibration mode. The primary display shows the measured Conductivity value and the secondary display shows the temperature at factory calibration value.

See figure B

3. **Compare the displayed temperature** to that of an NIST thermometer or other thermometer known to be accurate.

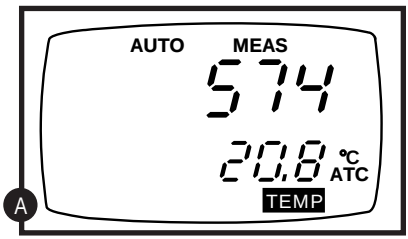
4. **Press the ▲ or ▼ keys** to adjust the reading to agree with your temperature standard. In the figure at right, the desired temperature is 22.0. Use the ▲ key to increase the temperature reading to 22.0°C.

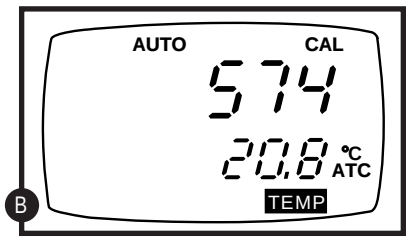
See Figure C

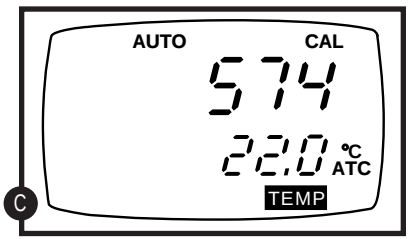
NOTE: Temperature calibration with the probe is restricted to ±5°C from the initial value displayed during calibration. Attempts to adjust reading beyond this range will result in ERR displaying on the LCD.

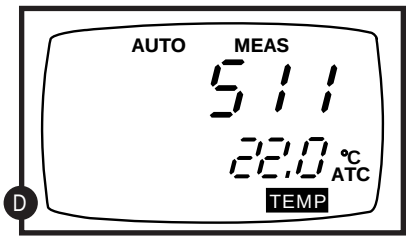
4. Press ENTER/RANGE to confirm your selected correct temperature. The meter reverts to the measurement mode. The meter is now calibrated for temperature compensation.

See Figure D









6. Measurement

6.1 Range Selection

The 35607-series meters will default to the auto-ranging mode. Auto-ranging determines and selects the range that gives you the greatest resolution and accuracy. Alternatively, you can manually select one of four ranges using the range key. For example, if you prefer the meter to display a reading as 0.50 mS rather than 500 µS, while in measurement mode, select the 0 to 19.99 mS range using the range key.

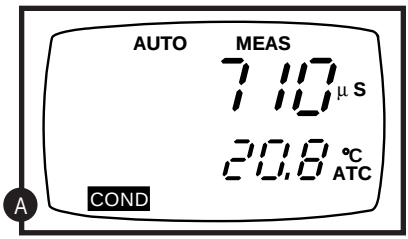
NOTE: Accuracy is a percent of full-scale, so using your meter in the lowest range that will display your measurement will result in the greatest accuracy.

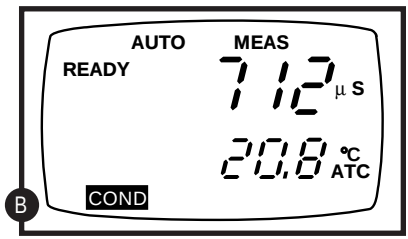
6.2 Measurement with Automatic Temperature Compensation

1. **Switch on the meter.** The MEAS annunciator and the AUTO (Auto-ranging) annunciator display on the top center of the LCD.

See figure A

2. **Rinse the probe** with deionized or distilled water before use to remove any impurities adhering to the electrode body.
3. **Dip the probe into the sample.** Make sure there are no air bubbles trapped in the slot of the probe. To remove air bubbles, give the probe a gentle shake, making sure the electrode tip is submerged.
4. **Stir the probe gently in the sample** to create a homogenous sample. Allow a few seconds for the temperature reading to reach solution temperature.
5. **Take readings.** When the reading is stable, a READY annunciator displays.



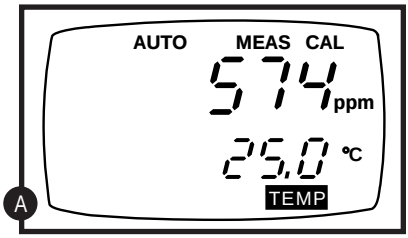


See figure B

The READY annunciator appears when the reading stabilizes within a range of ±1 unit / 15 seconds. The reading holds until the measured value exceeds the specified range and the READY annunciator turns off.

6.3 Measurement with Manual Temperature Compensation

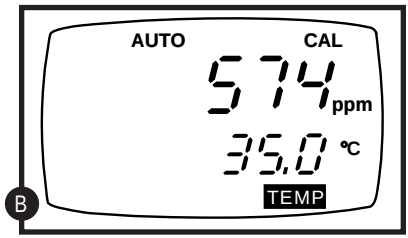
1. **Leave the temperature sensor phono jack unplugged from the meter.** Attach the probe with only the BNC connector.
2. **Switch on the meter.** The MEAS annunciator and the AUTO (Auto-ranging) annunciator display on the top center of the LCD.
3. **Press MODE and select temperature mode (TEMP).** Make sure you are in MEAS.
4. **Press CAL** to enter the calibration mode. The primary display shows the measured Conductivity value and the secondary display shows the temperature previously set for manual temperature compensation (factory default of 25.°C).



A

See figure A

5. **Press the ▲ or ▼ keys** to adjust your temperature readings, in this example: 35.0°C.



B

See figure B

6. **Press ENTER to confirm settings.** The meter reverts to measurement mode. You may now take measurements following steps 2-5 in the section “Measurement with Automatic Temperature Compensation” (page 15).

7. HOLD function

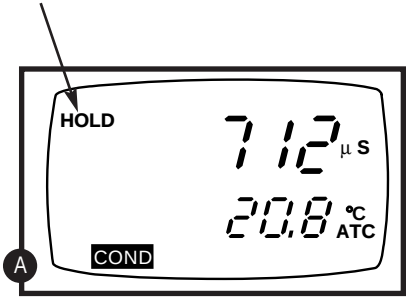
This feature lets you freeze the value of the Conductivity or TDS and temperature readings for a delayed observation. **HOLD** can be used any time when in **MEAS** mode.

1. To hold a measurement, press the **HOLD** key while in measurement mode. "**HOLD**" will appear on the display.

See Figure A

2. To release the held value, press **HOLD** again. Continue to take measurements.

NOTE: This meter will hold a reading for up to 20 minutes, because it features automatic shutoff after 20 minutes to conserve batteries.



8. Probe Care and Maintenance

Keep the conductivity probe clean. Rinse the probe twice, and gently swirl it while you take readings. For best accuracy, soak a dry probe for at least 5 to 10 minutes or longer before calibration or taking readings. Wash the probe with deionized or tap water before storing it. Never scratch the stainless steel portions with a hard substance. Do not strike the probe against any hard surface.

Do not make continuous contact with your solutions. Readings rise over a continuous period of time if you soak your probe.

Do not immerse the probe in oily solutions. Clean the electrode thoroughly by immersing it in an agitated mild detergent bath. Wipe the probe with a soft tissue paper. Wash thoroughly in tap water and then in deionized water. Recalibrate the meter after cleaning the probe.

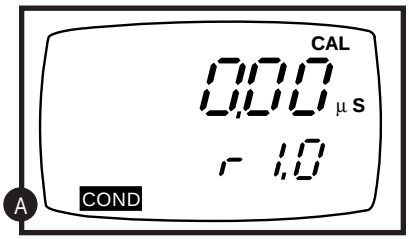
9. Probe Replacement

Your meter and probe have been factory calibrated to each other for maximum accuracy. If you notice a reduction in accuracy after replacing your probe, perform a zero calibration and two-point temperature calibration.

9.1 Zero calibration

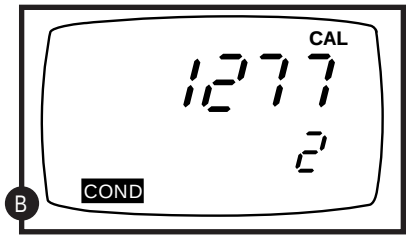
NOTE: the probe must be dry and in air for zero adjustment.

1. **Connect the BNC and phone jacks** of the probe to the conductivity meter.
2. **Turn the meter off.**
3. **Press CAL/MEAS and then press ON/OFF, while still holding down CAL/MEAS.** Release ON / OFF before releasing CAL / MEAS.
4. **Press ENTER three times, and then press CAL/MEAS one time.** The LCD shows r1.0 on the secondary display and 0.00 µS on the primary display. The r1.0 indicates that you are in the first, or lowest range.



See figure A

5. **Press ENTER to calibrate the range** or CAL / MEAS to skip calibration of the range.
6. **At each of the measurement ranges, press ENTER if zero adjustment is required.** Once ENTER is pressed, a value displays on the LCD. Wait until the value is low and as stable as it can be before pressing ENTER again. This step adjusts zero for the selected range.



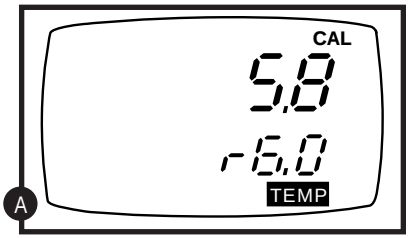
See figure B

7. **Repeat step 6 for the other ranges if necessary.** If you do not want to repeat this step, press CAL / MEAS to skip to the next range.

9.2 Two point temperature calibration

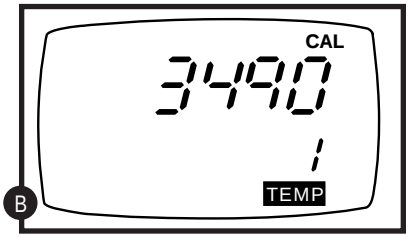
After zero calibration, the meter proceeds to program 6.0, for temperature calibration of the probe. The temperature in °C shows in the primary display and "r6.0" shows in the secondary display.

See figure A



1. **Press CAL/MEAS until the meter automatically switches off to skip this section of the calibration.** Do **NOT** press ENTER unless you have completed the steps below. Pressing ENTER replaces current temperature calibration data and causes measurement errors.
2. **Prepare two constant temperature baths,** one at a temperature below 5°C (low temperature bath) and the other at between 50°C to 60°C (high temperature bath).
3. **Dip the probe into the low temperature bath.** Allow 5 to 10 minutes for the probe to stabilize.
4. **Press the ▲ or ▼ keys** to fine tune temperature reading to match bath temperature.
5. **Press ENTER.** The screen now shows the A-to-D count corresponding to your low temperature calibration point. This is a five digit number with the first digit appearing in the secondary display and the rest of the digits in the primary display. In our example at right, the A-to-D count is 13490.

See figure B



6. **Let the count stabilize, then press ENTER again.** This confirms your low temperature calibration point, and moves you into high temperature calibration ("r6.1) If you do not want to confirm your calibration, press CAL/MEAS.
7. **Repeat steps 4-6 with high temperature bath.**

To exit from the hardware calibration at any point, press ON/OFF to switch off the meter and abort the calibration. Only calibration points that have been confirmed by pressing ENTER will be retained.

10. Troubleshooting

Problem	Cause	Solution
No display	a) Batteries not in place.	a) Check that batteries are in place and making good contact.
	b) Batteries not in correct polarity (+ and –).	b) Reinsert batteries with correct polarity.
	c) Weak batteries.	c) Replace batteries or attach optional AC adapter.
Unstable readings	a) Air bubbles in probe.	a) Tap probe to remove bubbles.
	b) Dirty probe.	b) Clean the probe and recalibrate.
	c) Low conductivity	c) Avoid atmospheric contact with solution.
	d) Probe not deep enough in sample.	d) Make sure sample entirely covers the probe sensors.
	e) External noise pickup or induction caused by nearby electric motor.	e) Move or switch off interfering motor.
	f) Broken probe.	f) Replace probe. See page 19.
Slow response	a) Dirty / Oily probe.	a) Clean probe. See "Probe Care & Maintenance", page 18.
Not able to calibrate	a) Dirty / Oily probe.	a) Clean probe. See "Probe Care & Maintenance", page 18.
	b) Incorrect probe cell constant	b) Replace probe. See page 19.
	c) Poor calibration standards	c) Use fresh calibration standards

11. Error Messages

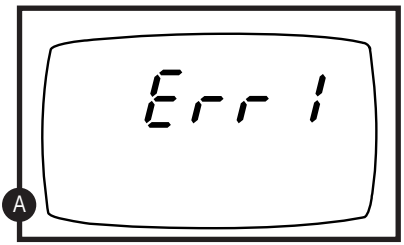
LCD Display	Indicates	Cause	Solution
Err annunciator	Unrecognized input from keypad	Wrong input in selected mode.	Release key. Select valid operations depending on mode.
CAL & Err annunciators blink	Calibration error	Wrong value input at calibration. Dirty probe.	Check value, clean probe See Probe Maintenance section, page 18.
Battery indicator blinks	Low battery level	Need new batteries or battery connection is bad	Clean battery contacts. Replace batteries with fresh ones, noting polarity
Err. 1 (in primary display)	Memory write error	Hardware failure	Turn meter on and off again. If message persists, return unit*
Err. 2 (in primary display)	Memory checksum error	Batteries too weak. Hardware failure.	Press ENTER, then turn off meter. Change batteries. Recalibrate. If message persists, return unit*
Err. 3 (in primary display)	ACD converter error	Hardware failure.	Turn meter on and off again. If message persists, return unit*
Err. 4 (in primary display)	Keypad error	Fault in keypad	Turn meter on and off again. If message persists, return unit*

* See "Warranty" and "Return of Items" on page 28

If an error message appears in the primary display (the upper row of larger digits), switching off the meter and switching it on again may eliminate the error message.

See figure A

If error persists, or the meter shows incorrect values, return the meter.



ERR 1 in primary display

12. Specifications

Mode	Conductivity	TDS	Temperature
Range	0.00 to 19.99 µS 0.0 to 199.9 µS 0 to 1999 µS 0.00 to 19.99 mS	0.00 to 9.99 ppm 10.0 to 99.9 ppm 100 to 999 ppm 1.00 to 9.99 ppm	0 to 80°C (epoxy body probe) 0 to 100°C (glass body probe)
Resolution	0.01 µS 0.1 µS 1 µS 0.01 mS	0.01 ppm 0.1 ppm 1 ppm 0.01 ppt	0.1 °C

Accuracy: ±1% F.S.

Cell constant: 1

Temperature compensation: automatic (ATC) or manual

Reference temperature: factory set at 25°C.

Temperature coefficient: factory set at 2% per °C.

Operating temperature: 0 to 50°C

Power: four 1.5 V AAA batteries (included), approx. 60 hours or AC adapter (optional; order separately on page 24)

Dimensions:
Meter: 7.5"L x 3.5"W x 1.75"H
(19.1 cm x 8.9 cm x 4.5 cm)
Boxed: 9.2"L x 8.5"W x 2.75"H
(23.3 cm x 21.6 cm x 7 cm)

Shipping weight:
Meter: 1 lb (0.5 kg)
Probe: 0.35 lb (0.2 kg)
Complete: 2 lbs (0.9 kg)

13. Accessories

Replacement probes and accessories

WD-35607-02 Replacement probe for CON 10

WD-35615-07 AC adapter, 9 VDC to 110 VAC.

WD-35615-08 AC adapter, 9 VDC to 220 VAC.

WD-35615-06 Replacement probe holder.

WD-35615-75 Belt loop portable meter carrying case. Soft case with clear plastic front panel protects your meter while allowing you to take measurements. Top and side openings let probe and probe connections remain accessible.

OAKTON calibration solutions (in pint bottles)

Conductivity solutions have ±1% accuracy at 25°C

WD-00653-23 Conductivity standard solution 23 µS

WD-00653-16 Conductivity standard solution 84 µS

WD-00653-47 Conductivity standard solution 447 µS

WD-00653-18 Conductivity standard solution 1413 µS

WD-00653-15 Conductivity standard solution 1500 µS

WD-00653-27 Conductivity standard solution 2070 µS

WD-00653-20 Conductivity standard solution 2764 µS

WD-00653-89 Conductivity standard solution 8974 µS

WD-00606-10 Conductivity standard solution 12,880 µS

WD-00653-50 Conductivity standard solution 15,000 µS

WD-00653-32 Conductivity standard solution 80 mS

OAKTON "Singles" calibration solutions

OAKTON "Singles" are convenient go-anywhere solution pouches filled with fresh, premixed calibration standard solutions. ±1% accuracy at 25°C.

WD-35653-10 "Singles" Conductivity standard solution pouches 447 µS

WD-35653-11 "Singles" Conductivity standard solution pouches 1413 µS

WD-35653-12 "Singles" Conductivity standard solution pouches 2764 µS

WD-35653-13 "Singles" Conductivity standard solution pouches 15,000 µS

WD-35653-00 "Singles" solution pouches, rinse water

To order OAKTON accessories, contact your OAKTON distributor.

14. Addendum 1: Conductivity-to-TDS conversion factors

1. **Factor**—the conductivity-to-ppm TDS conversion factor. Multiply conductivity by this factor to get ppm TDS for the type of TDS reading needed.
2. **442**—a formulation that most closely represents the conductivity-to-ppm relationship, on average, for naturally occurring fresh water.
3. **TDS Your Material**—these columns are for you to write in your application-specific conductivity-to-ppm values and conversion factors for future reference.

Conductivity at 25°C	TDS KCl		TDS NaCl		TDS 442[2]		TDS Your Material[3]	
	ppm Value	Factor[1]	ppm Value	Factor[1]	ppm Value	Factor[1]	ppm Value	Factor[1]
23 µS	11.60	0.5044	10.69	0.4652	14.74	0.6409		
84 µS	40.38	0.5048	38.04	0.4755	50.50	0.6563		
447 µS	225.6	0.5047	215.5	0.4822	300.0	0.6712		
1413 µS	744.7	0.5270	702.1	0.4969	1000	0.7078		
1500 µS	757.1	0.5047	737.1	0.4914	1050	0.7000		
2070 µS	1045	0.5047	1041	0.5030	1500	0.7246		
2764 µS	1382	0.5000	1415	0.5119	2063	0.7463		
8974 µS	5101	0.5685	4487	0.5000	7608	0.8478		
12880 µS	7447	0.5782	7230	0.5613	11,367	0.8825		
15000 µS	8759	0.5839	8532	0.5688	13,455	0.8970		
80 mS	52,168	0.6521	48,384	0.6048	79,688	0.9961		

15. Addendum 2: Calculating TDS conversion factors

The meter can be calibrated using TDS calibration standard solutions. The calibration standard only needs to give the TDS value at a standard temperature such as 25°C. To determine the Conductivity-to-TDS conversion factor use the following formula:

Factor = Actual TDS ÷ Actual Conductivity @ 25°C

Definitions:

Actual TDS: Value from the solution bottle label or as a standard you make using high purity water and precisely weighed salts.

Actual Conductivity: Value measured using a properly calibration Conductivity / TDS / Temperature meter.

Both the actual TDS and the actual conductivity values must be in the same magnitude of units. For example, if the TDS value in is ppm, the conductivity value must be in µS; if the TDS value is in ppt, the conductivity value must be in mS.

Check this number by multiplying the conductivity reading by the factor in the above formula and the result is the TDS in ppm.

NOTES:

16. Warranty

OAKTON warrants this meter to be free from significant deviations in material and workmanship for a period of one year from date of purchase. OAKTON warrants this probe to be free from significant deviations in material and workmanship for a period of six months from date of purchase. If repair or adjustment is necessary and has not been the result of abuse or misuse within the warrantied time period, please return—freight prepaid—and correction will be made without charge. OAKTON alone will determine if the product problem is due to deviations or customer misuse.

Out-of-warranty products will be repaired on a charge basis.

17. Return of items

Authorization must be obtained from our Customer Service Department before returning items for any reason. When applying for authorization, please include data regarding the reason the items are to be returned. For your protection, items must be carefully packed to prevent damage in shipment and insured against possible damage or loss. We will not be responsible for damage resulting from careless or insufficient packing. A restocking charge will be made on all unauthorized returns.

NOTE: We reserve the right to make improvements in design, construction, and appearance of products without notice.

OAKTON®