fisherbrand

Operations Manual

Electrochemistry Meters

accumet AB330 Conductivity Meter User Manual

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Chapter 1 Introduction

Thank you for purchasing the Fisherbrand™ accumet™ AB330 conductivity bench meter. The accumet AB300 meters are designed to provide the important functions needed for routine measurements with simplified, convenient, easy-to-use functionality.

The accumet AB330 conductivity meters are capable of measuring conductivity, salinity, TDS and temperature and offer a large, backlit display for clear viewing with small footprint to conserve laboratory bench space.

Ensure important data is preserved with a 500-point data log with date/time stamp that can also be exported to a printer or computer using the meter communication port.

All accumet AB330 conductivity meters include a meter-attached electrode holder and universal 100-240V power adapter with wall plugs for US/Japan, Euro, UK/Singapore, Australia/New Zealand and China. Additional meter accessories can be viewed at www.fishersci.com.

1.1 Intended Use

1.1.1 Intended Use

This device is a bench laboratory meter intended for use in a typical, indoor, controlled, laboratory environment. This device should only be used for analytical testing in accordance with these instructions.

1.1.2 Non-Intended Use

This device is not a Medical Device. It is not intended to be used to diagnose, treat, cure, or prevent disease.

1.1.3 Safety

CAUTION: This symbol, in the context of a CAUTION, indicates a potentially hazardous situation which if not avoided could result in minor to moderate injury or damage to the equipment.

Note: This symbol, in the context of a Note, indicates to follow the manufacturer specified instructions, notes and requirements set out in the instruction manuals.

CAUTION: Before using or maintaining this product, please be sure to read the manual carefully. Failure to follow these instructions may cause the product to malfunction.

CAUTION: Use this product only in the way described in the product literature and in this manual. Before using it, verify that this product is suitable for its intended use. If the product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.

CAUTION: Do not modify system components. Use OEM exact replacement equipment or parts. Before use, confirm that the product has not been altered in any way.

Note: Unauthorized repair of your meter will invalidate the warranty. Contact accumet Technical Support at 1-888-358-4706 or accumet@fishersci.com for additional information.

1.1.4 Power Connection

See the Universal Power Supply Assembly section for complete instructions on assembling and installing the included meter power supply.

Note: Position the meter so the operator can access the power connection and unplug the power adapter in the event of a fault so the hazard of electrocution can be removed.

1.2 Cleaning Instructions (Meter Only)

Wipe the exterior surfaces (except the display panel) using a lint free cloth dampened in clean water.

Wipe the display panel with a clean microfiber cloth dampened with clean water, taking caution to wipe lightly to avoid scratching the meter display.

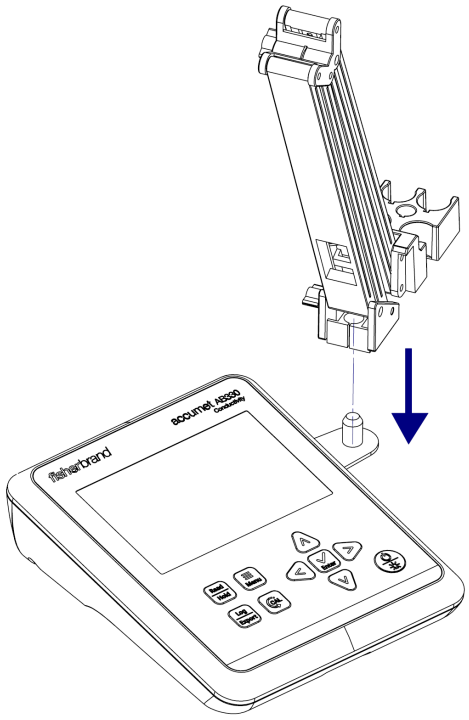
The meter keypad can also be cleaned using a clean microfiber cloth dampened with IPA (isopropyl alcohol) for disinfection purposes.

Chapter 2 Getting Started

2.1 Electrode Holder Installation

The meter-attached electrode holder (Catalog Number 13-637-671) can be installed on either side of the meter.

1. Unpack the base plate and stand with electrode holder from the meter box.
2. Turn the meter over, with the meter display facing down, on a clean dry surface.
3. Identify the side of the meter that the holder will be installed on and remove the screw between the circles on that side of the meter.
4. Align the base plate of the holder with the circles on the meter.
5. Replace the screw from step 3 to attach the base plate to the meter.
6. Turn the meter over, with meter display facing up.
7. Insert the stand with electrode holder into the metal post on the base plate.

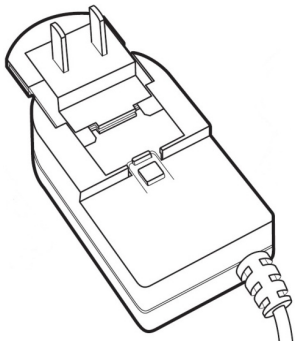


8. Place the electrodes into the electrode holder.

2.2 Universal Power Supply Assembly

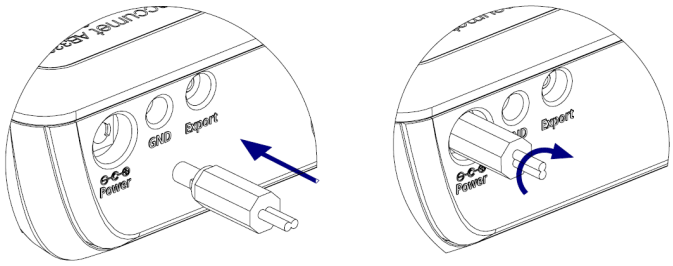
A universal power adapter (Catalog Number 13-637-010) with US/Japan, Euro, UK/Singapore, Australia/New Zealand and China wall plug plates is included with the meter. This universal power adapter is specifically for use with this meter. Use of other power adapters can damage the meter and will void the warranty.

1. Unpack the power supply provided with the meter.
2. Select the appropriate wall plug plate for the power outlet that will be used.
3. Slide the appropriate wall plug plate into the groove on the back of the power adapter.



4. Connect the assembled power adapter to a power outlet and meter input.
   a. To connect the power adapter with the meter, insert the power adapter plug and twist to lock the connection.

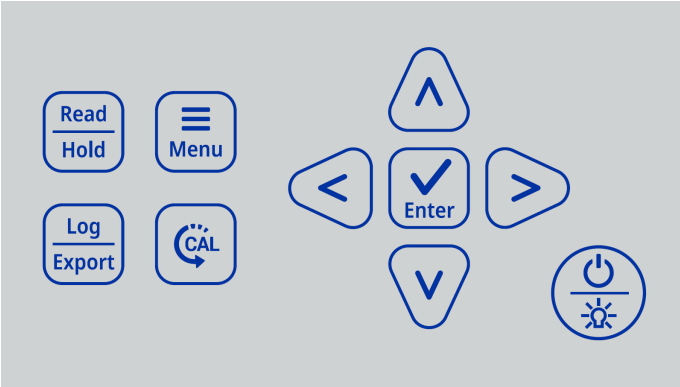
Note: The power adapter plug has two prongs that allow the power adapter to be locked onto the meter. These two prongs must be properly aligned when connecting it to ensure it is fully connected and locked onto the meter.



5. You are now ready to turn on the meter.

CAUTION: Use of a surge protector or uninterrupted power supply (UPS) is recommended, as an unintended power surge of electricity to the meter may damage the meter and void the warranty.

2.3 Keypad Functions



Key	Function
Read Hold	In Continuous measure mode, press to hold a reading on the display and then press again to release a reading on the display. In Auto-Read measure mode, press to start a new reading. Press to escape the Setup Menu and Calibration mode without saving changes.
Log Export	In Continuous measure mode, press to save the reading to the data log and export to an external device if one is connected.
Menu	Press to enter the Setup Menu. Press to exit the Setup Menu.
CAL	Press to enter the Calibration mode. Press while in the Calibration mode to save and end the calibration when performing a one to four point conductivity/TDS calibration.
< >	Press to scroll through menu items in the Setup Menu; the list is cyclical. In the Measure mode, press and hold (long press) for three seconds as a shortcut key to change the measure type from conductivity to TDS to salinity.
∧ ∨	Press to change a setting in the Setup Menu. Press to scroll through a list or change a numeric value. In the Calibration mode, press to manually change the calibration value. In the Measure mode, press and hold (long press) for three seconds as a shortcut key to view current date and time setting.
Enter	Press to save a setting in the Setup Menu. Press to accept a calibration point in the Calibration mode.
⏻	Press to power on the meter. When the meter is on, press to turn the backlight off or on. When the meter is on, press and hold for three seconds to power off the meter.

2.3.1 Setup Menu Scrolling

To scroll through the Setup Menu list:

- Press the “Menu” key to enter the Setup Menu.
- The first Setup Menu item will always be show.
- Press the ▷ key to scroll to the second item or press the ◁ key to scroll to the last item.
- The item list is cyclical and will scroll from the last item to the first item as the ▷ key is pressed.

2.3.2 Setup Menu Value Changes

For all numeric value changes, press the △ or ▽ key to edit a value:

- Press the △ key once to increase the value by one least significant digit/unit.
- Press the ▽ key once to decrease the value by one least significant digit/unit.
- Press and hold the △ key to quickly increase the numeric value.
- Press and hold the ▽ key to quickly decrease the numeric value.

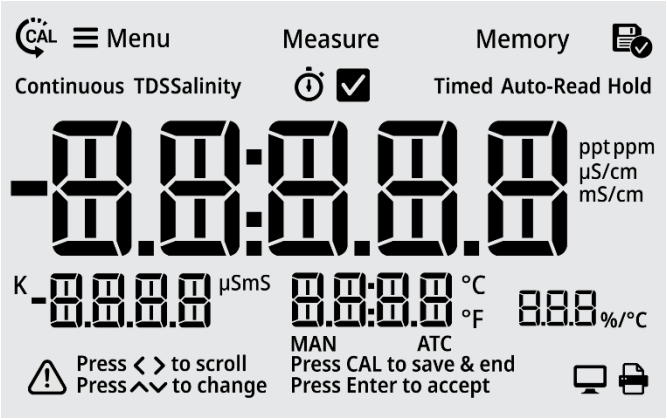
2.3.3 Mode Shortcut Key

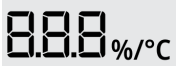
In the main measure mode, press and hold (long press) the ◁ or ▷ key for approximately three seconds to change the main measure mode to conductivity, salinity or TDS.

2.3.4 Date and Time View Shortcut Key

In the main measure mode, press and hold (long press) the △ or ▽ key for approximately three seconds to view the current date and time settings.

2.4 Display Overview

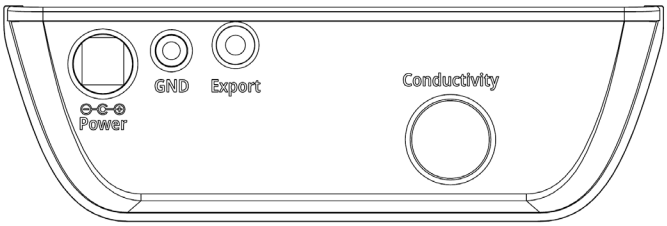


Icon	Description
	Main Measurement Field: Displays conductivity, salinity or TDS readings in Measure mode.
	2nd Measurement Field: Displays nominal cell constant in Measure mode.
	3rd Measurement Field: Displays temperature value as °C or °F in Measure mode.
	**4th Measurement Field:** Displays linear temperature compensation coefficient value in Measure mode.
Press < > to scroll	**Press ◁ ▷to scroll Icon:** On-screen text prompt shown when keys can be used to scroll through a list; for example, scroll through list of Setup Menu options.
Press ∧∨ to change	**Press △ ▽ to change Icon:** On-screen text prompt shown when keys can be used to change a value; for example, to change the temperature value in the Setup Menu.
Press CAL to save & end	**Press CAL to save & end Icon:** On-screen text prompt shown when in calibration mode and calibration can be saved and ended, when one to four points are complete.
Press Enter to accept	**Press Enter to accept Icon:** On-screen text prompt shown when changes must be saved by pressing the "Enter" key on the keypad.

Icon	Description
CAL	**Calibration Icon:** Indicates meter is in the calibration mode; also shown with the Setup Menu Icon and Memory Icon when viewing the calibration log.
Menu	**Setup Menu Icon:** Indicates meter is in the Setup Menu mode.
Measure	**Measure Icon:** Indicates meter is in the Measure mode.
Memory	**Memory Icon:** Indicates meter is in the Setup Menu and viewing the data log or calibration log.
	Log Saved Icon: Indicates meter is actively saving data to the data log or calibration log.
Continuous	**Continuous Icon:** Indicates the current meter read type is Continuous and measurement values are continuously updated on the display.
	Stopwatch Icon: Indicates meter measurement stability criteria for current measurement is stabilizing/not ready and meter is actively reading.
	Checkmark Icon: Indicates meter measurement stability criterial for current measurement is stable/ready and meter has determined the measurement is complete.
Timed	**Timed Icon:** Indicates the current meter read type is Timed, measurement values are continuously updated on the display and logged/exported according to the selected time intervals.
Auto-Read	**Auto-Read Icon:** Indicates the current meter read type is Auto-Read, measurement value is updated on the display until stable and then measurement is logged/exported and locked on display until the "Read" key is pressed again.
Hold	**Hold Icon:** Indicates meter is in Continuous read type, the "Hold" key has been pressed and the measurement is locked on the display until the "Hold" key is pressed again.
MAN	**MAN Icon:** Indicates no temperature probe is connected to the meter, use the Setup Menu to enter the sample temperature.
ATC	**ATC Icon:** Indicates a temperature probe is connected to the meter and actively sending temperature readings.

Icon	Description
	Computer Export Icon: Indicates meter is actively exporting measurement data or calibration data to a computer.
	Printer Export Icon: Indicates meter is actively exporting measurement data or calibration data to a printer.

2.5 Meter Connections



Input	Function
Power	Universal power supply
GND	Ground
Export	Connection to printer or computer
Conductivity	Connection to conductivity electrode

2.6 Electrode Information

The accumet AB330 conductivity meter is compatible with 2-cell and 4-cell conductivity electrodes with a DIN connector. The accumet AB330 conductivity meter can be purchased in a meter only configuration (purchase electrode separately) or kitted with a conductivity electrode.

Refer to the electrode instructions for specific care and maintenance procedures. The following are general recommendations for electrode preparation.

1. Remove the packaging from the electrode and save for storage.
2. Rinse the electrode using distilled water.
3. Connect the electrode to the meter.

2.7 Meter Startup Sequence

When the meter is powered on, it displays a set of startup screens, starting with all segments lit screen, followed by the meter info screen and then the meter self-test screen.

The meter info screen shows the meter model number and current software revision.

After the meter info screen, the meter performs a series of internal self-tests to verify that the meter is operating correctly and then the self-test results are shown.

Finally, the meter proceeds to the main measure mode.

Chapter 3
Setup Menu

3.1 Setup Menu Overview

Use the meter Setup Menu to customize meter settings.

1. In the Measure Mode, press the “Menu” key to access the meter Setup Menu.
2. The first Setup Menu item (View Logs, Data Log) will be shown. To scroll through the Setup Menu list, press the ◁ or ▷ key.
   a. Press the ▷ key to scroll to the second item.
   b. Press the ◁ key to scroll to the last item.
   c. The list is cyclical, so continue to press the ▷ key to scroll from the last item to the first item.
3. To change a setting within a Setup Menu item, press the △ or ▽ key.
   a. For numeric value changes:
      i. Press the △ key once to increase the value by one least significant digit/unit.
      ii. Press the ▽ key once to decrease the value by one least significant digit/unit.
      iii. Press and hold the △ key to quickly increase the value.
      iv. Press and hold the ▽ key to quickly decrease the value.
4. Once a setting is changed, press the “Enter” key to save the change.
5. When viewing data logs or calibration logs, press the “Menu” key to go back to the main Setup Menu list.
6. Press the “Read” key at any time to exit the Setup Menu and return to the main measure mode.

Setup Menu Item

Setting Options for Setup Menu Item

#	Setup Menu Item	Description
1	View Logs	View up to 500 data log points and active conductivity, salinity, TDS and temperature calibrations
2	Log Export Type	Set the export type as computer or printer
3	Export All Logs	Send all saved data logs and calibration logs to the selected export device
4	Temperature Calibration or Manual Temperature Input	When an ATC probe is connected, use the Temp. Calibration menu to perform a temperature offset calibration
		When no ATC probe is connected, use the Manual Temp. Input menu to enter the sample temperature value
5	Measure Mode	Set the main measure mode to conductivity, salinity or TDS
6	Nominal Cell Constant	Set the nominal cell constant for the conductivity electrode in use
7	Temperature Compensation Coefficient	Set temperature compensation off or enter the value of the linear coefficient value used for temperature compensation
8	Reference Temperature	Set the reference temperature for temperature compensation
9	TDS Factor	Enter the TDS factor value
10	Read Type	Set the read type to define how measurements are performed and when measurements are saved and exported
11	Timed Interval	When Timed is set as the Read Type, set the time interval to be used to automatically save and export measurements
12	Calibration Due Alarm	Set the calibration due alarm interval; an alarm is triggered if a calibration is not performed within the specified time interval
13	Temp. Units	Set the temp. units as °C or °F
14	Set Date Format	Set the date format as month-day-year (MM.DD.YYYY) or day-month-year (DD.MM.YYYY)
15	Set Date Value	Set the day, month and year
16	Set Time Value	Set the time in AM/PM format
17	Audio Mode	Set the audible beep on or off
18	Sleep Mode	Set the sleep mode on or off

#	Setup Menu Item	Description
19	Clear Data	Erase all data logs or erase all calibration logs
20	Factory Reset	Erase all data logs, calibration logs and settings and return the meter to its factory default state.

3.2 Setup Menu Items

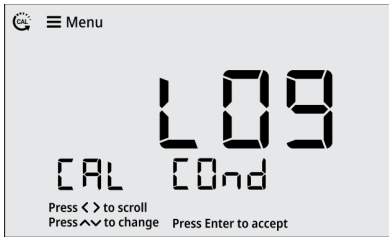
3.2.1 View Logs

View up to 500 data log points and active conductivity, salinity, TDS and temperature calibrations.

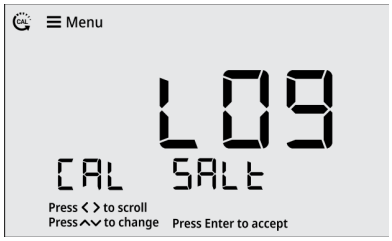
When the “Menu” key is pressed, the View Logs setup menu item is always shown first.

1. Press the △ or ▽ key to scroll through the data and calibration log options.

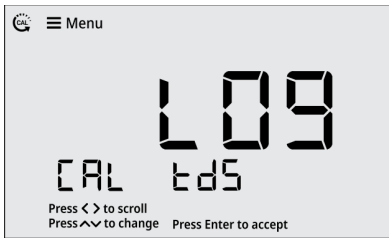
Press ▽ key



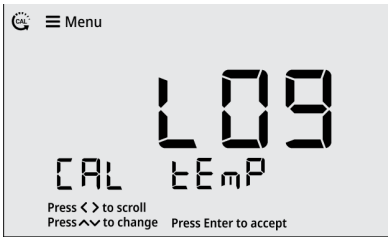
Press ▽ key



Press ▽ key



Press ▽ key



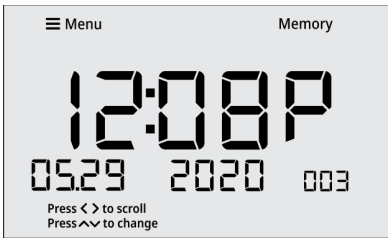
Press ▽ key

2. Press the “Enter” key to view the display log.

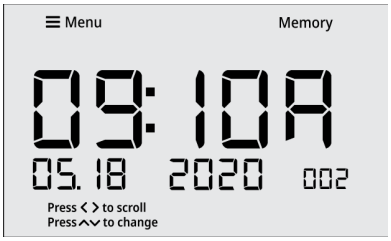
3.2.1a Viewing the Data Log

1. Press the “Enter” key to view the display log.

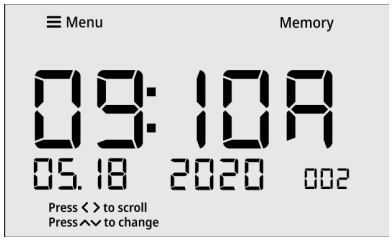
2. For the data log, press the ◁ or ▷ key to scroll through the data log points. Scroll through data log points when viewing the date/time screens or the measurement data screens.



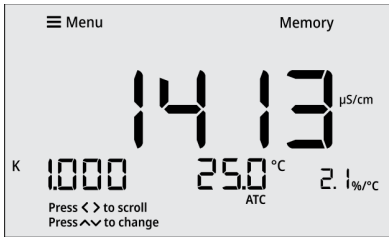
Press ▷ key



3. For the data log, press the △ or ▽ key to change the view from the date/time screen to the measurement data screen.



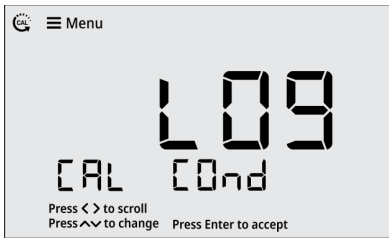
Press △ or ▽ key



4. If desired, press the “Log/Export” key to export the individual data log point being viewed.
5. Press the “Menu” key to return to the main Setup Menu list.

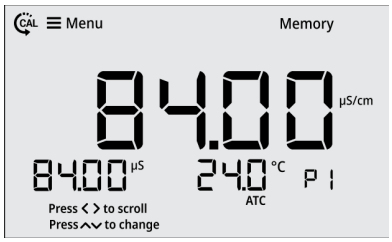
3.2.1b Viewing the Calibration Log

1. Press the “Enter” key to view the display log.

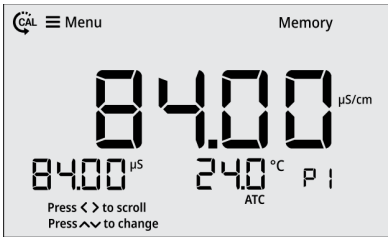


2. For the calibration log, press the △ or ▽ key to change the view from the date/time screen to the calibration data screen.

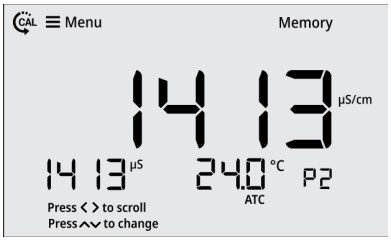
Press △ or ▽ key



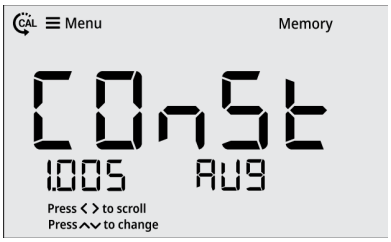
3. For the calibration log, press the ◁ or ▷ key to scroll through the calibration log data.



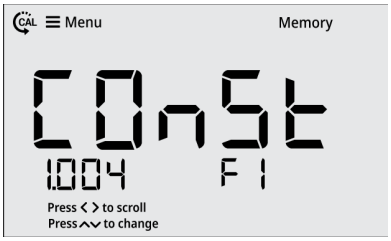
Press ▷ key



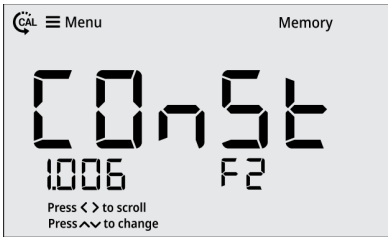
Press ▷ key



Press ▷ key



Press ▷ key

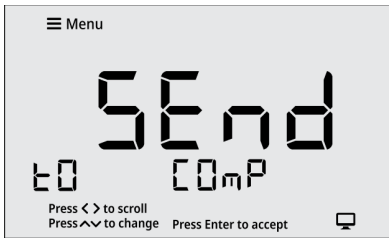


4. If desired, press the “Log/Export” key to export the individual calibration log being viewed.
5. Press the “Menu” key to return to the main Setup Menu list.

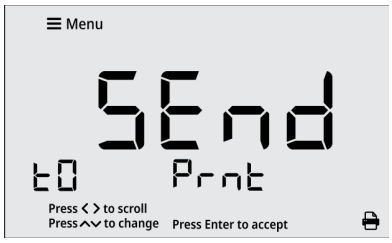
3.2.2 Log Export Type

Set the log export type as computer or printer. If computer is selected, the logs are exported in CSV format. If printer is selected, the logs are exported in list format.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Log Export Type item is shown.



2. Press the △ or ▽ key to change the setting to computer or printer.



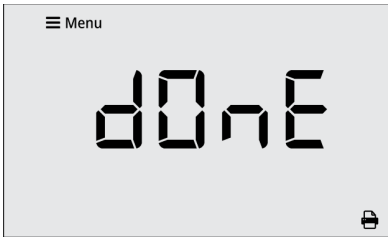
3. Press the “Enter” key to save the change.

3.2.3 Export All Logs

Send all saved data logs and calibration logs to the selected export device.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Export All Logs item is shown.

2. Press the “Enter” key to export all saved logs to the selected export device.

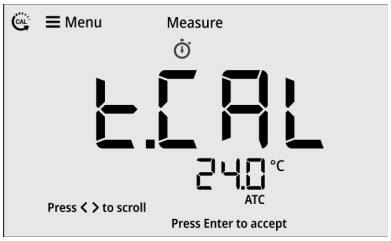


3.2.4 Temperature Calibration or Manual Temperature Input

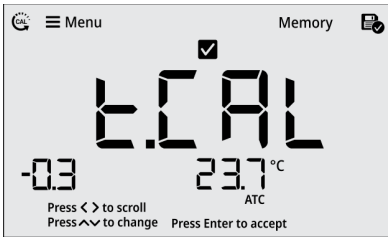
3.2.4a Temperature Calibration

When an ATC probe is connected, use the Temperature Calibration menu to perform a one-point temperature offset calibration, up to ±5.0 °C.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Temp. Calibration item is shown.



2. The temperature value will blink, indicating the reading from the ATC probe is being measured.
3. Once the reading is stable, the value will stop blinking and the checkmark icon will be shown.
4. Press the △ or ▽ key to adjust the temperature value in the 3rd field. The temperature offset value will be shown in the 2nd field.
   a. Press the △ key to increase the value by 0.1°. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease the value by 0.1°. Press and hold the ▽ key to quickly decrease.

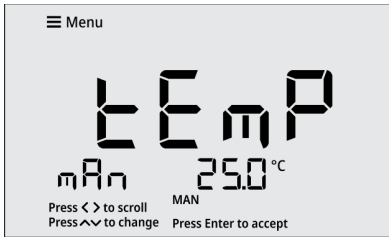


5. Press the “Enter” key to save the change.

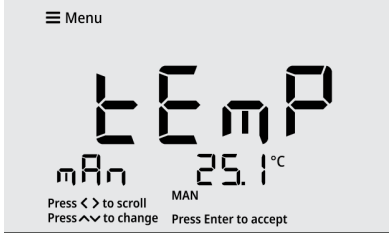
3.2.4b Manual Temperature Input

When no ATC probe is connected, use the Manual Temperature Input menu to enter the sample temperature value, from -5.0 °C to 105.0 °C.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Manual Temperature Input item is shown.



2. Press the △ or ▽ key to adjust the temperature value.
   a. Press the △ key to increase the value by 0.1°. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease the value by 0.1°. Press and hold the ▽ key to quickly decrease.

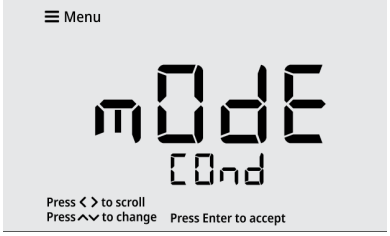


3. Press the "Enter" key to save the change.

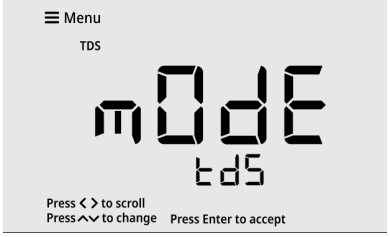
3.2.5 Measure Mode

Set the measure mode to conductivity, salinity or TDS.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Measure Mode item is shown.



2. Press the △ or ▽ key to set the measure mode.



3. Press the "Enter" key to save the change.

3.2.6 Nominal Cell Constant

Set the nominal value for the cell constant (K) of the conductivity electrode being used.

The entered nominal cell constant (K) is used to determine conductivity, salinity and TDS measurement values from the conductance reading. Once a calibration is performed, the entered nominal cell constant (K) multiplied by the calculated calibration factor is used to determine conductivity, salinity and TDS measurement values from the conductance reading.

The entered nominal cell constant (K) is also used for automatic conductivity standard recognition during conductivity calibrations.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Nominal Cell Constant item is shown.

2. Press the △ or ▽ key to set the cell constant (K) value.

a. Press the △ key to increase the value by 0.001. Press and hold the △ key to quickly increase.

b. Press the ▽ key to decrease the value by 0.001. Press and hold the ▽ key to quickly decrease.

3. Press the “Enter” key to save the change.

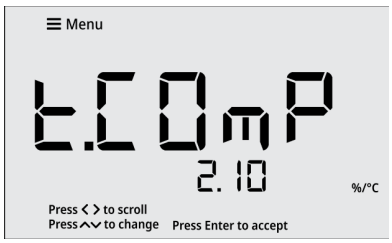
3.2.7 Temperature Compensation Coefficient

Set temperature compensation off or enter the value of the linear coefficient value for temperature compensation to apply a constant percent correction factor to every degree change in temperature.

To set the temperature compensation off, set the value to 0.0 %/°C.

To set a linear temperature compensation value, enter a value of 0.0 to 10.0 %/°C.

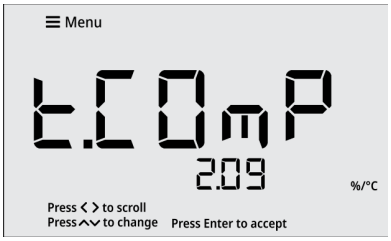
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Temperature Compensation Coefficient item is shown.

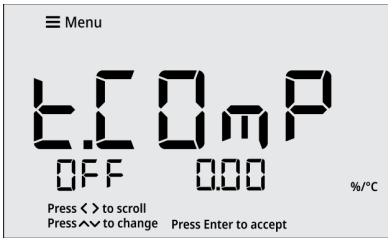


1. Press the △ or ▽ key to set the coefficient value.

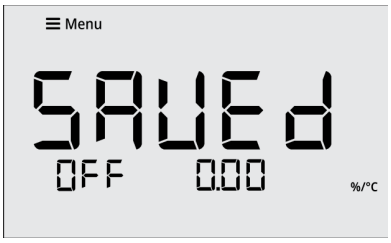
   a. Press the △ key to increase the value by 0.01. Press and hold the △ key to quickly increase.

   b. Press the ▽ key to decrease the value by 0.01. Press and hold the ▽ key to quickly decrease.





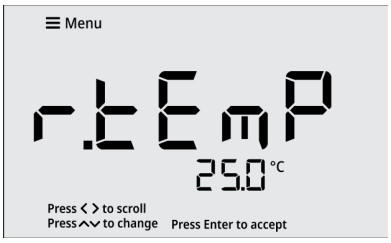
2. Press the “Enter” key to save the change.



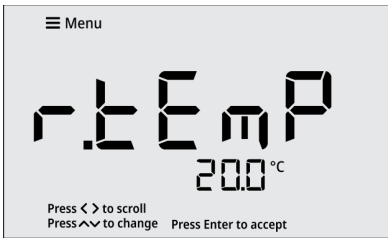
3.2.8 Reference Temperature

Set the reference temperature for temperature compensation to 15°C, 20°C, 25°C or 30°C.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Reference Temperature item is shown.



2. Press the △ or ▽ key to set the reference temperature value.



3. Press the “Enter” key to save the change.

3.2.9 TDS Factor

Enter the TDS factor value used to calculate the TDS (total dissolved solids) value shown in the main measure mode.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the TDS Factor item is shown.

2. Press the △ or ▽ key to set the TDF factor value.
   a. Press the △ key to increase the value by 0.01. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease the value by 0.01. Press and hold the ▽ key to quickly decrease.

3. Press the “Enter” key to save the change.

3.2.10 Read Type

Set the Read Type as Continuous, Auto-Read or Timed to define how measurements are performed and when measurements are saved and exported.

Continuous:

In the Continuous measure mode, measurements are continuously updated on the display and the stopwatch (stabilizing) or checkmark (stable) icon indicates the measurement stability status. Press the “Log/Export” key to save a measurement to the data log and export.

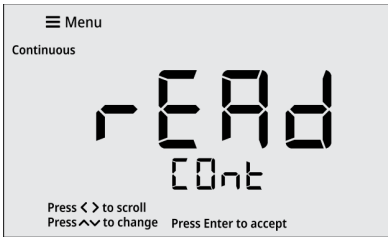
Auto-Read:

In the Auto-Read measure mode, press the “Read” key to start a measurement. When the measurement is stable, the checkmark (stable) icon is shown and the measurement is locked on the display until the “Read” key is pressed again. The stable measurement is automatically saved to the data log and exported.

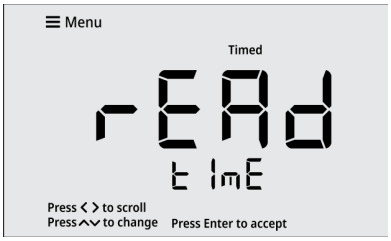
Timed:

In the Timed measure mode, the measurement values are continuously updated on the display. Measurements are automatically saved to the data log and exported at the selected time intervals, from 5 seconds to 60 minutes, the entire time the meter is in the measurement mode.

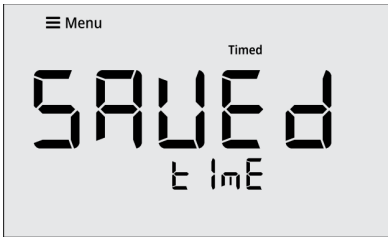
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Read Type item is shown.



2. Press the △ or ▽ key to set the read type.



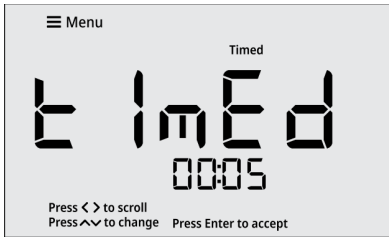
3. Press the “Enter” key to save the change.



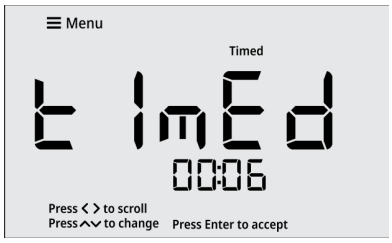
3.2.11 Timed Interval

When Timed is set as the Read Type, set the time interval from 5 seconds to 60 minutes. This time interval is used to automatically save and export measurements.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Timed Interval item is shown.



2. Press the △ or ▽ key to adjust the time value.
   a. Press the △ key to increase the time value by one second. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease the time value by one second. Press and hold the ▽ key to quickly decrease.

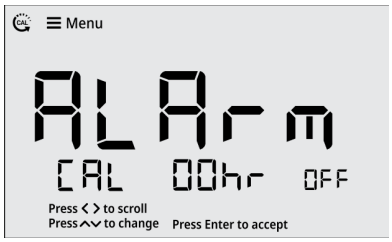


3. Press the "Enter" key to save the change.

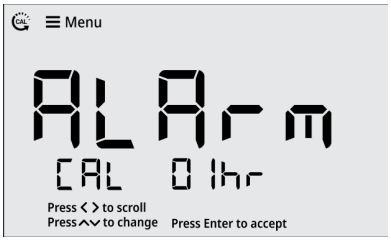
3.2.12 Calibration Due Alarm

Set the calibration due alarm interval from 0 hours (off) to 60 hours. An alarm is triggered if a calibration is not performed within the specified time interval.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Calibration Due Alarm item is shown.



2. Press the △ or ▽ key to adjust the alarm value.
   a. Press the △ key to increase the alarm value by one hour. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease the alarm value by one hour. Press and hold the ▽ key to quickly decrease.

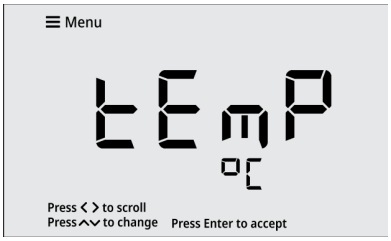


3. Press the "Enter" key to save the change.

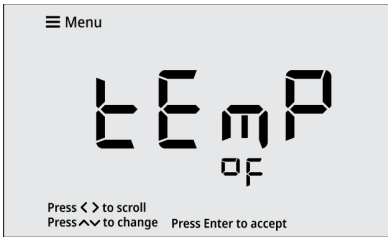
3.2.13 Temperature Units

Set the temperature units as °C (Celsius) or °F (Fahrenheit).

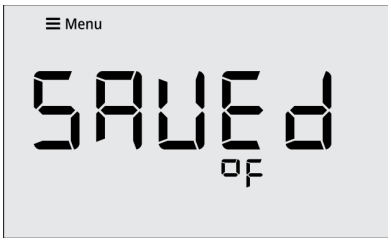
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Temperature Units item is shown.



2. Press the △ or ▽ key to set the temperature units.



3. Press the "Enter" key to save the change.



3.2.14 Set Date Format

Set the date format as month-day-year (MM.DD.YYYY) or day-month-year (DD.MM.YYYY).

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Set Date Format item is shown.

2. Press the △ or ▽ key to set the date format.

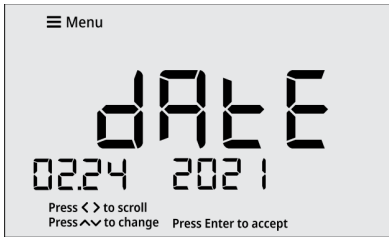
3. Press the “Enter” key to save the change.

3.2.15 Set Date Value

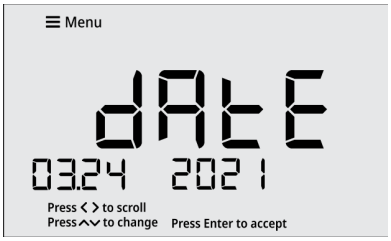
Set the month, day and year values.

The date format used for this Setup Menu item will match the setting in the Set Date Format item. For this example, the month-day-year (MM.DD.YYYY) format is shown.

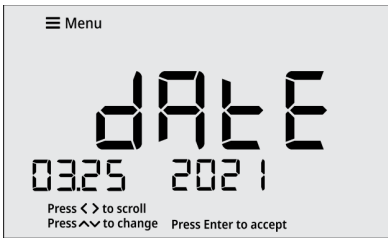
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Set Date Value item is shown.



2. The month value will flash. Press the △ or ▽ key to adjust the month.
   a. Press the △ key to increase by one month. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease by one month. Press and hold the ▽ key to quickly decrease.
3. Press the “Enter” key to save the change.



4. The day value will flash. Press the △ or ▽ key to adjust the day.
   a. Press the △ key to increase by one day. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease by one day. Press and hold the ▽ key to quickly decrease.
5. Press the “Enter” key to save the change.

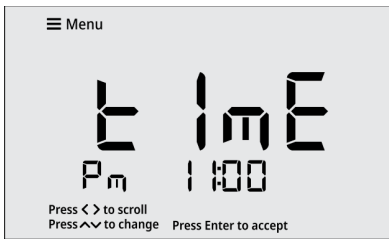


6. The year value will flash. Press the △ or ▽ key to adjust the year.
   a. Press the △ key to increase by one year. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease by one year. Press and hold the ▽ key to quickly decrease.
7. Press the “Enter” key to save the change.

3.2.16 Set Time Value

Set the time in AM/PM format.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Set Time Value item is shown.

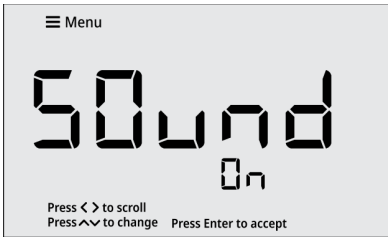


2. The AM/PM setting will flash. Press the △ or ▽ key to set the AM or PM time.
3. Press the “Enter” key to save the change.
4. The hour value will flash. Press the △ or ▽ key to adjust the hours.
   a. Press the △ key to increase by one hour. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease by one hour. Press and hold the ▽ key to quickly decrease.
5. Press the “Enter” key to save the change.
6. The minutes value will flash. Press the △ or ▽ key to adjust the minutes.
   a. Press the △ key to increase by one minute. Press and hold the △ key to quickly increase.
   b. Press the ▽ key to decrease by one minute. Press and hold the ▽ key to quickly decrease.
7. Press the “Enter” key to save the change.

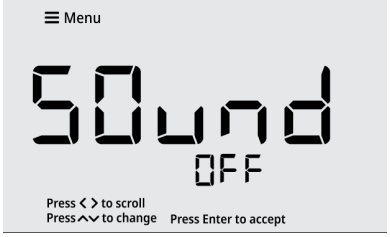
3.2.17 Audio Mode

Set the audible beep on or off. The audible beep is used each time a meter key is pressed, when a measurement stabilizes and when an alarm is triggered.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Audio Mode item is shown.



2. Press the △ or ▽ key to set the audio mode.

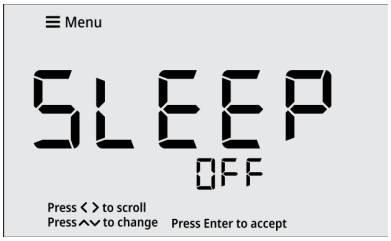


3. Press the “Enter” key to save the change.

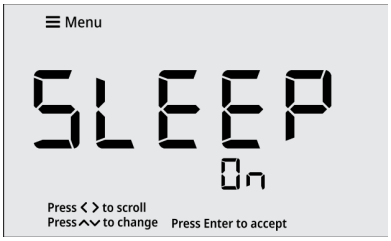
3.2.18 Sleep Mode

Set the sleep mode on or off. When the meter sleep mode is on, the meter will enter sleep mode when no keys are pressed for 20 minutes. Once the meter is in sleep mode, press the “Power” key to resume using the meter. Make sure sleep mode is off when taking timed measurements.

1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Sleep Mode item is shown.



2. Press the △ or ▽ key to set the sleep mode.

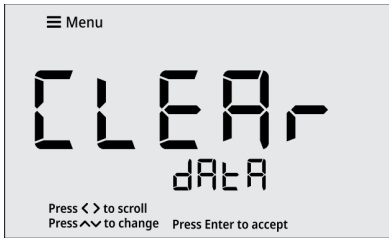


3. Press the “Enter” key to save the change.

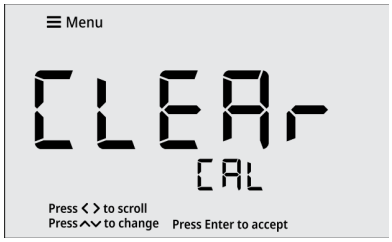
3.2.19 Clear Data

Erase all data logs or erase all calibration logs

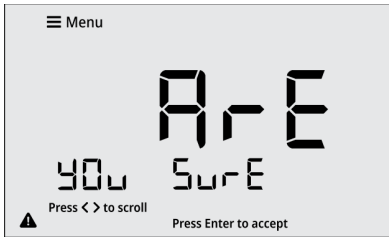
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Clear Data item is shown.



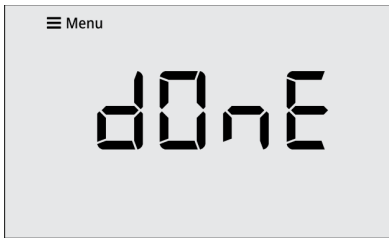
2. Press the △ or ▽ key to select the data log (dAtA) or calibration log (CAL) to be cleared.



3. Press the “Enter” key to confirm the selection.



4. Press the “Enter” key again to ensure the selected log is not accidentally erased.
5. The meter will confirm when the selected log is fully erased.

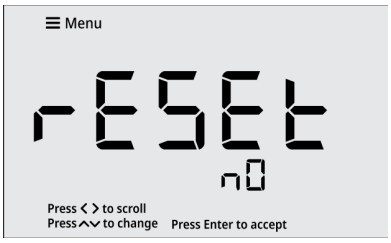


6. The meter will return to the measurement screen.

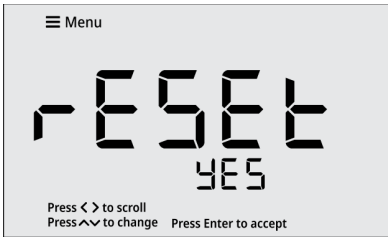
3.2.20 Factory Reset

Erase all data logs, calibration logs and settings and return the meter to its factory default state.

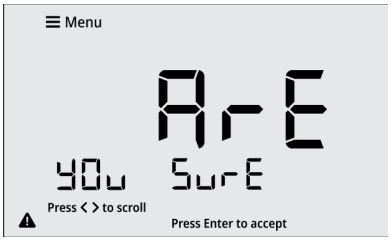
1. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Factory Reset item is shown.



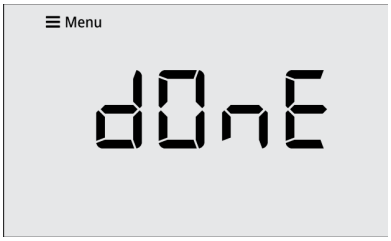
2. Press the △ or ▽ key to select YES to start the factory reset.



3. Press the “Enter” key to confirm the selection.



4. Press the “Enter” key again to ensure all meter data is not accidentally erased.
5. The meter will confirm when the factory reset is fully complete.



6. The meter will restart and then return to the measurement screen.

Chapter 4 Calibration

When the conductivity calibration is the only calibration performed, it will be applied to all measurement modes. When a TDS calibration is performed, it will only be applied to TDS measurements. When a salinity calibration is performed, it will only be applied to salinity measurements.

The non-volatile meter memory retains the most recent, active calibration data when powered off.

Perform a calibration with one to five conductivity standards, one to five TDS standards and one salinity standard. A maximum of one calibration point per range can be performed for conductivity and TDS calibrations.

#	Conductivity Range	Automatic Calibration Value			
		Reference Temperature:			
		15°C	20°C	25°C	30°C
r 1	0.00 - 20.00 µS	none	none	none	none
r 2	20.01 - 300.0 µS	68.00µS	76.00µS	**84.00µS**	92.00µS
r 3	300.1 - 9999 µS	1147µS	1278µS	**1413µS**	1548µS
r 4	1.000 - 99.99 mS	10.48mS	11.67mS	**12.88mS**	14.12mS
r 5	100.0 - 200.0 mS	92.5mS	102.1mS	**111.8mS**	121.8mS

#	TDS Range
r 1	0.00 - 10.00 ppm
r 2	10.01 - 200.0 ppm
r 3	200.1 - 9999 ppm
r 4	1.00 - 99.99 ppt
r 5	100.0 - 500.0 ppt

When the conductivity electrode is replaced, it is best to clear the calibration log. Refer to the Clear Data section for detailed instructions.

4.1 Conductivity Calibration

4.1.1 Conductivity Calibration Overview

For best results, periodic calibration with known, accurate and fresh conductivity standards is recommended. Always use fresh conductivity standards. Select a conductivity standard or standards that are closest to the expected sample conductivity value or values. Thoroughly rinse the conductivity electrode before calibration and between samples with deionized water.

During the conductivity calibration, the meter will automatically recognize conductivity standard values of 84 µS, 1413 µS, 12.88 mS and 111.8 mS (values at 25°C). The Temperature Compensation Coefficient setting in the Setup Menu will determine how the conductivity calibration standards are displayed during the calibration.

- If temperature compensation is set to Off: Once the calibration reading is stable, the meter will display the conductivity standard value at its measured temperature (conductance).
- If temperature compensation is set to On: Once the calibration reading is stable, the meter will display the temperature compensated conductivity standard value, based on the Reference Temperature selected in the Setup Menu (15, 20, 25 or 30°C).

If the conductivity reading does not correspond with an automatically recognized conductivity standard value (within ±40% window), once the conductivity reading is stable, the meter will display the theoretical value of the conductivity standard according to the Nominal Cell Constant value entered in the Setup Menu. The operator must manually enter the conductivity standard value at the measured temperature (conductance).

During calibration, each conductivity standard value can be accepted or edited as needed. If the conductivity standard value needs to be manually adjusted, use the △ or ▽ key to edit the value of the conductivity standard at its measured temperature.

After performing a one point conductivity calibration, the meter will apply the resulting calibration factor across all conductivity ranges. After performing a two, three, four or five point conductivity calibration, the meter will apply the resulting calibration factor of each conductivity standard to its applicable conductivity range and apply the most relevant calibration factor to any conductivity ranges for which a standard was not used during calibration.

During the conductivity calibration, press the “Cal” key to save and end the calibration after accepting the last desired calibration point. For example, to perform a two point calibration, press the “Cal” key after accepting the second calibration point. This allows the operator to perform a conductivity calibration using one to five points for each calibration without having to program the number of calibration points prior to the calibration.

4.1.2 Conductivity Calibration Procedure

1. Ensure the active measure mode is conductivity.
2. Press the “Cal” key to start the calibration.
3. Rinse the conductivity electrode and place into the conductivity standard.
4. Wait for the conductivity value to stabilize. While the reading is stabilizing, the stopwatch icon is shown and the reading flashes. When the reading is stable, the checkmark icon is shown, and the reading is solid.
5. Once the reading is stable, press the “Enter” key to accept the conductivity standard value or press the △ or ▽ key to edit the value.
   a. Press the “Enter” key to accept the conductivity standard value and proceed to the next calibration point.

   or

   b. Press the △ or ▽ key to edit the value. Once the desired conductivity value is shown, press the “Enter” key to accept the conductivity standard value and proceed to the next calibration point.
6. To calibrate with another conductivity standard, repeat steps 3-5, or to save and end the calibration, press the “Cal” key.
7. The meter will display the calculated calibration factor value and then proceed to the main measure mode.

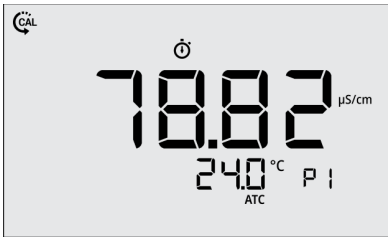
Note: *Press the “Read” key at any time to abort the calibration and return to the main measure mode.*

4.1.3 Conductivity Calibration Example

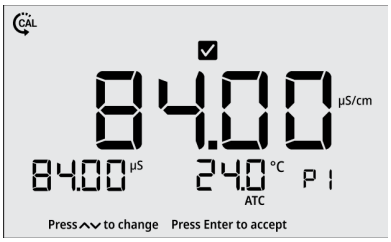
The following is an example of a two point conductivity calibration using auto-recognized 84 µS and 1413 µS conductivity standards.

1. Press the “Cal” key to start the conductivity calibration. The nominal cell constant value is shown.

2. Rinse the conductivity electrode and place into the 84 µS conductivity standard.

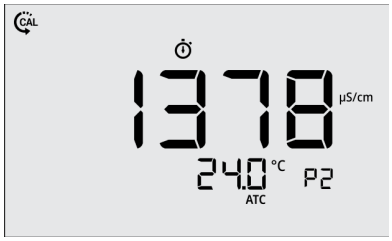


3. Wait for the conductivity value to stabilize.

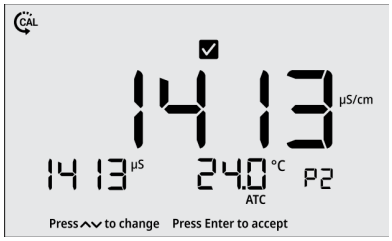


4. Once the reading is stable, press the “Enter” key.

5. Rinse the conductivity electrode and place into the 1413 µS conductivity standard.



6. Wait for the conductivity value to stabilize.



7. Once the reading is stable, press the “Enter” key.

8. Press the “Cal” key to save and end the calibration. The “Cal” key can be pressed when either the “SAVEd” or “3rdPt” screens is shown.

9. The average calibration factor value is shown.

10. The meter proceeds to the main measure mode.

4.2 TDS Calibration

1. Ensure the active measure mode is TDS.
2. Press the “Cal” key to start the calibration.
3. Rinse the conductivity electrode and place into the TDS standard.
4. Wait for the TDS value to stabilize. While the reading is stabilizing, the stopwatch icon is shown and the reading flashes. When the reading is stable, the checkmark icon is shown, and the reading is solid.
5. Once the reading is stable, press the △ or ▽ key to edit the value.
6. Once the desired TDS value is shown, press the “Enter” key to accept the TDS standard value.
7. To calibrate with another TDS standard, repeat steps 3-6, or to save and end the calibration, press the “Cal” key.
8. The meter will display the calculated calibration factor value and then proceed to the main measure mode.

Note: Press the “Read” key at any time to abort the calibration and return to the main measure mode.

4.3 Salinity Calibration

1. Ensure the active measure mode is salinity.
2. Press the “Cal” key to start the calibration.
3. Rinse the conductivity electrode and place into the salinity standard.
4. Wait for the salinity value to stabilize. While the reading is stabilizing, the stopwatch icon is shown and the reading flashes. When the reading is stable, the checkmark icon is shown, and the reading is solid.
5. Once the reading is stable, press the △ or ▽ key to edit the value.
6. Once the desired salinity value is shown, press the “Enter” key to accept the salinity standard value and save and end the calibration.
7. The meter will display the calculated calibration factor value and then proceed to the main measure mode.

4.4 Temperature Calibration

The thermistor sensor used for automatic temperature compensation and measurement is both accurate and stable, so frequent calibration is not required.

When an ATC probe is connected to the meter, use the Temperature Calibration item within the Setup Menu to perform a one-point offset calibration, up to ±5.0 °C.

Use the Temperature Units item in the meter Setup Menu to select the displayed temperature units as degrees Celsius or Fahrenheit.

1. Place the ATC probe into a solution with a stable temperature and NIST traceable thermometer.
2. Press the “Menu” key to enter the Setup Menu.
3. Press the ◁ or ▷ key to scroll through the Setup Menu list until the Temp. Calibration item is shown.
4. The temperature value will blink, indicating the reading from the ATC probe is being measured.
5. Once the reading is stable, the value will stop blinking and the checkmark icon will be shown.
6. Press the △ or ▽ key to adjust the temperature value. The temperature offset value will be shown in the 2nd field.
   c. Press the △ key to increase the value by 0.1°. Press and hold the △ key to quickly increase.
   d. Press the ▽ key to decrease the value by 0.1°. Press and hold the ▽ key to quickly decrease.
7. Press the “Enter” key to save the change.

Note: *Press the “Read” key at any time to abort the calibration and return to the main measure mode.*

Chapter 5 Measurements

5.1 Read Types

The Read Type selected in the meter Setup Menu will determine how measurements are performed and when measurements are saved to the data log and exported to an external device. Set the Read Type as Continuous, Auto-Read or Timed to define.

5.1.1 Continuous

In the Continuous measure mode, measurements are continuously updated on the display and the stopwatch (stabilizing) or checkmark (stable) icon indicates the measurement stability status.

Press the “Log/Export” key to save a measurement to the data log and export.

At any time during the measurement, press the “Hold” key to lock the measurement on the display (Hold icon will be shown on the display) and then press the Hold key a second time to release the hold and view live measurements again.

5.1.2 Auto-Read

In the Auto-Read measure mode, press the “Read” key to start a measurement.

When the measurement is stable, the checkmark (stable) icon is shown and the measurement is locked on the display until the “Read” key is pressed again.

The stable measurement is automatically saved to the data log and exported.

5.1.3 Timed

In the Timed measure mode, the measurement values are continuously updated on the display.

Measurements are automatically saved to the data log and exported at the selected time intervals, from 5 seconds to 60 minutes, the entire time the meter is in the measurement mode.

5.2 Conductivity, Salinity and TDS Measurements

1. Rinse the electrode with distilled water or appropriate solution and blot gently with a lint-free tissue to remove excess water.
2. Place the electrode into the sample, submerging the measurement plates and temperature sensor.
3. Allow time for the reading to stabilize.
   a. The meter displays the stopwatch icon while the reading is stabilizing.
   b. The meter displays the checkmark icon when the reading is stable.
4. Note the displayed measurements as required.
5. Remove the electrode from the sample.
6. Repeat steps 1-5 for all samples.
7. When all samples have been measured, store the electrode per instructions in the electrode manual.

5.3 Calculating TDS Factor

To determine the conductivity-to-TDS conversion factor, the following formula can be used:

Factor = Actual TDS ÷ Actual Conductivity @ 25ºC

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

  ppm = milligram of salt per liter of water = mg/L

  ppt = gram of salt(s) per liter of water = g/L
- Actual Conductivity: Value measured using a properly calibrated Conductivity/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 is in ppm the conductivity value must be in µS; if the TDS value is in ppt the conductivity value must be in mS.

Check the factor by multiplying the conductivity reading by the factor in the above formula. The result should be in TDS value.

When the TDS factor is set to 1.0, Conductivity = TDS.

5.4 Calculating Temperature Coefficients

To determine the temperature coefficient of your sample solution, use this formula:

$$tc = 100 \times \frac{C_{T2} - C_{T1}}{C_{T1}(T_2 - 25) - C_{T2}(T_1 - 25)}$$

Where:

tc = Temperature coefficient

25 = 25ºC

C_{T1} = Conductivity at Temperature 1

C_{T2} = Conductivity at Temperature 2

T_1 = Temperature 1

T_2 = Temperature 2

Note: A controlled temperature water bath is ideal for this procedure.

1. Immerse the conductivity electrode into a sample solution and adjust the temperature coefficient to zero (no compensation). Refer to the Temperature Compensation Coefficient section for instructions.
2. Wait for 5 minutes. Record T_1 and C_{T1} (conductivity at T_1).
3. Condition the sample solution and conductivity electrode to a temperature (T_2) that is about 5 ºC to 10 ºC different from T_1, and record the conductivity reading C_{T2}.

Note: Record your results for future reference. Ideally T_1 and T_2 should bracket your measurement temperature and should not differ by more than 5 ºC.

4. Calculate the temperature coefficient of your solution according to the formula shown above.
5. Enter the calculated temperature coefficient into the meter.

The calculated temperature coefficient will now be applied to all the meter readings.

5.5 Data Viewing

Store up to 500 data points in the meter memory. Use the View Logs item in the meter Setup Menu to view the data log points, active conductivity calibration log, active TDS calibration log, active salinity calibration log and active temperature calibration log.

The data log shows the most recent data log point first. The meter will save up to 500 data log points and then automatically overwrite the oldest data log point with the newest data log point when the limit is reached. Each data log point is saved with its associated date and time stamp. To view the time stamp with seconds included, the data log must be exported to a computer or printer.

The conductivity calibration log and TDS calibration log shows each calibration point and the calculated calibration factor value. Two, three, four and five point calibrations will display the average calibration factor value and then the appropriate number of individual calibration factor values. The salinity calibration log shows the calibration point and the calculated calibration factor value. The temperature calibration log shows the temperature and offset value. Each calibration log is saved with its associated date and time stamp. To view the time stamp with seconds included, the calibration log must be exported to a computer or printer.

Note: If desired, when in the View Logs item in the meter Setup Menu, press the "Log/Export" key to export the individual data log point or calibration log being viewed.

5.6 Data Exporting

Export data from the meter to a computer or printer. Use the Log Export Type item in the meter Setup Menu to set the export type as computer or printer. If computer is selected, logs are exported in CSV format. If printer is selected, logs are exported in list format. Meter serial communication protocol:

Computer Setting	Printer Setting
Baud Rate : 9600 bps Data bits: 8 Parity: None Stop bits: 1 Flow Control: None	Baud Rate : 9600 bps Data bits: 8 Parity: None Stop bits: 1 Flow Control: None

5.6.1 Remote Commands

Remote commands allow the meter to be interfaced with computer software like LIMs and HyperTerminal. The remote engine receives input from the serial port and processes it. Commands sent to the remote interface will be in the form of "OPCODE <OPERAND> CR".

- Only one command can be executed at a time. A new command cannot be issued until the previous command is done and prompt is given, shown as the greater than symbol (">") followed by a space.

- Empty commands (i.e. just a <CR>) will be ignored and a new prompt will be issued.
- <CR> (Carriage Return, ASCII 13) is used to terminate a command. Whenever this character is received, the internal buffer will be processed.
- Remote commands are not case sensitive.

Remote Command: GETMEAS <CR>

Prints the current measurement immediately.

Remote Command: GETMEAS Data Count <CR>

Example: GETMEAS 2. Prints the current measurement for a set number of times.

Remote Command: GETCAL <CR>

Prints all current calibration data. If no calibration is saved, returns “>” to receive next command.

Remote Command: GETCAL MODE <CR>

Example: GETCAL COND. Prints the calibration data for specific mode. MODE: COND or SALT or TDS

Remote Command: GETLOG <CR>

Prints all logged measurement data. If no data is logged, returns “>” to receive next command. Output format is based on the Log Export Type setting.

Remote Command: SYSTEM <CR>

Prints the system information including meter model, serial number, software version, date and time.

Remote Command: SETCSV <CR>

Sets the output format to Comma Separated Values (CSV).

Remote Command: SETKEYLOCK NUMBER <CR>

Example: SETKEYLOCK 1. Locks or unlocks the meter keypad. NUMBER = 1 (lock) or 0 (unlock).

Remote Command: SETRTC YYYY-MM-DD-HH-MM-SS-TIMEMODE <CR>

Example: SETRTC 2021-08-19-01-32-00-1. Sets the date (YYYY-MM-DD format) and time (12 hour format) for the meter. TIME MODE = 1 (PM) or 2 (AM).

Remote Command: SETMODE MODE <CR>

Example: SETMODE COND. Sets the meter measurement mode. MODE: COND or SAL or TDS

Remote Command: GETMODE <CR>

Prints the active measurement mode.

Chapter 6 Troubleshooting

6.1 Meter Troubleshooting

Meter display not powering on:

- Verify that power cord is fully plugged into meter and wall outlet
- The power adapter plug has two prongs used to lock it onto the meter; ensure the prongs are properly aligned when connecting it with the meter
- Check that the wall outlet is functional
- Press the “Power” key on the meter

Meter not responding to any key presses:

- Verify that the meter is not in the HOLD mode, if the HOLD icon is shown on the display, press the “Read/Hold” key to release the measure display
- Check that the key being pressed is active in the current meter mode
- Unplug and reconnect the meter power supply
- Contact accumet Technical Support

Meter error shown:

- Conductivity Out of Range, TDS Out of Range, Salinity Out of Range, Temperature Out of Range:
    - Ensure electrode is connected to meter
    - Check that electrode does not have any damage or cracks
    - Ensure the electrode is properly immersed in the sample solution, with the electrode sensing plates and temperature sensor submerged below the top of the sample solution
    - Verify cables do not have any damage
    - Perform a factor reset on the meter

6.2 Measurement Troubleshooting

Reading is unstable, slow to stabilize

- Clean electrode to remove build-up or contaminants, 0.1M HCl is recommended and adding pepsin is helpful if protein build-up occurs
- Check electrode for damage, cracks or breaks
- Check cables for damage or breaks
- Remove any interfering devices from area
- Replace old electrode with new electrode
- If sample temperature is changing, allow temperature to stabilize

Reading freezes on display

- Check meter Read Type setting
    - If meter Read Type is set to Continuous, check that the Hold function is not enabled – the Hold icon will be shown on the display when the Hold function is enabled – press the “Read/Hold” key to disable
    - If meter Read Type is set to Auto-Read, press the “Read” key to start a new measurement
- Check electrode for damage, cracks or breaks
- Check cables for damage or breaks
- Replace old electrode with new electrode

6.3 Technical Support

Contact our accumet Technical Support team at 1-888-358-4706 or accumet@fishersci.com

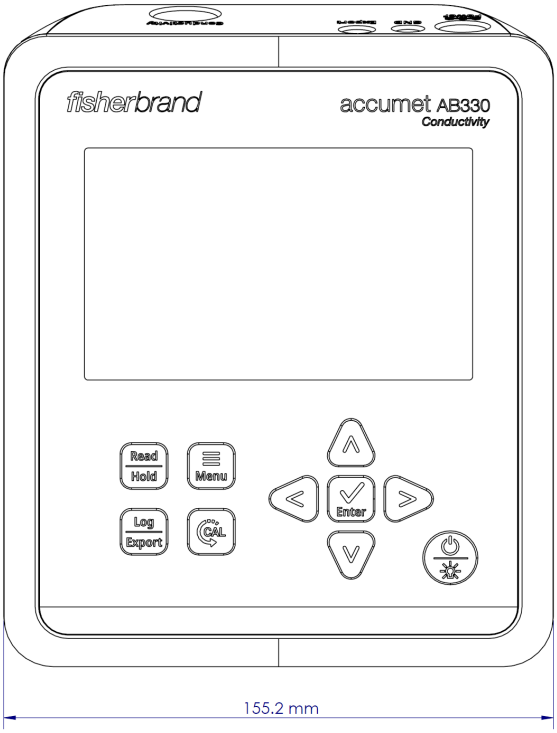
Distributed by:
Fisher Scientific
300 Industry Drive
Pittsburgh, PA 15275

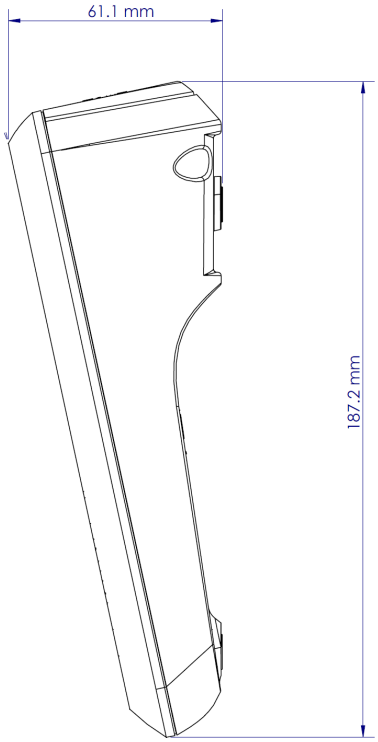
Chapter 7
Meter Info

7.1 Meter Specifications

Conductivity	
Range	0.00 µS to 500.0 mS
Resolution	0.01, 0.1, 1 µS; 0.01, 0.1 mS
Relative Accuracy	±1% full scale
Calibration Points	1 to 5 points
Temperature Compensation	Linear (0 to 10 %/°C) or off
Reference Temperature	15.0, 20.0, 25.0 or 30.0 °C
TDS	
Range	0.00 ppm to 500.0 ppt (for TDS factor of 1.00)
Resolution	0.01, 0.1, 1 ppm; 0.01, 0.1 ppt
Relative Accuracy	±1% full scale
Calibration Points	1 to 5 points
TDS Factor	0.40 to 1.00
Salinity	
Range	0.00 to 80.0 ppt
Resolution	0.01, 0.1 ppt
Relative Accuracy	±1% full scale
Calibration Points	1 point
Temperature	
Range	-5.0 to 105.0 ºC, 23.0 to 221.0 ºF
Resolution	0.1 ºC, 0.1 ºF
Relative Accuracy	±0.3 ºC, ±0.5 ºF
Calibration Points	1 point
Offset Adjustment	Up to ±5 ºC, up to ±9 ºF
Features	
Display	5” backlit LCD
Time and Date	Yes
Read Types	Continuous, Auto-Read, Timed
Timed Interval	5 seconds to 60 minutes
Hold Function	Yes
Data Log	500 data sets with time and date
Calibration Log	Active conductivity, salinity, TDS, temperature
Calibration Alarm	Yes
Sleep Mode	Yes
Memory	Non-volatile
Input	DIN
Data Output	Computer or printer
Data Output Format	CSV or print
Warranty	3 years
Certifications	CE, TUV 3-1, FCC Class A
Enclosure	IP-54
Power	100-240 VAC, 50-60Hz, 9 DC adapter, 1.3A
Dimensions (L x W x H)	187.2 mm x 155.2 mm x 61.1 mm, 7.37” x 6.11” x 2.41”
Weight	700 grams, 1.54 lbs.
Environmental Conditions	
Environmental Conditions	Indoors
Altitude	Up to 2,000 Meters
Operating Temperature	5°C to 45°C
Operating Relative Humidity	5 to 85%, non-condensing
Storage Temperature	-20°C to 60°C
Storage Relative Humidity	5 to 85%, non-condensing
Mains Fluctuation	±10% of range (100-240VAC)
Installation Category	II
Pollution Degree	2
Protection Class	III

7.2 Meter Dimensions





7.3 Warranty

This meter is supplied with a warranty against significant deviations in material and workmanship for a period of three (3) years from date of purchase. Electrode warranties are separate from the meter and differ based on the selected electrode.

If meter repair or adjustment is necessary within the designated warranty period and has not been the result of abuse or misuse, please contact the Technical Support Team for return authorization and a correction will be made without charge. The manufacturer will determine if the meter problem is due to deviations or customer misuse.

Out of warranty products will be repaired on a charged basis.

The warranty on your meter shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer
- Unauthorized modification or misuse
- Operation outside of the environment specifications of the products

7.3.1 Return of Items

Authorization must be obtained from our Technical Support Team or authorized distributor before returning items for any reason. 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. The manufacturer will not be responsible for damage resulting from careless or insufficient packing. A restocking charge will be made on all unauthorized returns.

Note: *The manufacturer reserves the right to make improvements in design, construction, and appearance of products without notice.*

Chapter 8 Regulatory Compliance

8.1 European Union

The European voltage models of this product meet all the applicable requirements of the European Directives and therefore display the CE Marking. These Directives include those captured in the EU Declaration of Conformity. The most current EU Declaration of Conformity may be obtained from the manufacturer.

8.2 Product Safety

This product family has been tested to applicable product standards by TUV SUD a Nationally Recognized Test Laboratory (NRTL).

8.3 Electromagnetic Compatibility

8.3.1 FCC Statement (USA)

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

8.4 Canadian ISED IC Notice

This ISM digital apparatus complies with Canadian ICES-001.

Cet appareil ISM est conforme á la norme NMB-001 du Canada.

8.5 Environmental Compliance

8.5.1 REACH - Europe

We are committed to meeting all compliance obligations to evaluate, communicate, and register any Substances of Very High Concern (SVHC), substances of authorization and finding alternates where appropriate.

8.5.2 RoHS - Europe

We are determined to reduce the impact we have on the environment, and so can declare that this product fully complies with the European Parliament's RoHS2 and RoHS2 amendment (Restriction of Hazardous Substances) Directive 2011/65/EU and 2015/863/EU, with respect to all the following substances:

- Lead (0,1 %)
- Mercury (0,1 %)
- Cadmium (0,01 %)
- Hexavalent chromium (0,1 %)
- Polybrominated biphenyls (PBB) (0,1 %)
- Polybrominated diphenyl ethers (PBDE) (0,1 %)

- Bis(2-ethylhexyl) phthalate (DEHP) (0,1%)
- Butyl benzyl phthalate (BBP) (0,1%)
- Dibutyl phthalate (DBP) (0,1%)
- Diisobutyl phthalate (DIBP) (0,1%)

Our compliance relies on declarations from our suppliers, testing and evaluations per the assessment requirements defined in standard EN 63000:2018. This confirms that any potential trace contamination levels of the substances listed above are below the maximum level set by the latest regulations or are exempt due to their application.

8.6 WEEE Compliance

WEEE Compliance. This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with the following symbol. Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on our compliance with these Directives, the recyclers in your country, and information on Thermo Scientific products which may assist the detection of substances subject to the RoHS Directive are available at www.thermofisher.com/

WEEE Konformittät. Dieses Produkt muss die EU Waste Electrical & ElectronicEquipment (WEEE) Richtlinie 2012/19/EU erfüllen. Das Produkt ist durch folgendes Symbol gekennzeichnet. Thermo Fisher Scientific hat Vereinbarungen getroffen mit Verwertungs-/Entsorgungsanlagen in allen EU-Mitgliederstaaten und dieses Produkt muss durch diese Firmen widerverwetet oder entsorgt werden. Mehr Informationen über die Einhaltung dieser Anweisungen durch Thermo Scientific, dieVerwerter und Hinweise die Ihnen nützlich sein können, die Thermo Fisher Scientific Produkte zu identizfizieren, die unter diese RoHS. Anweisungfallen, finden Sie unter www.thermofisher.com/

Conformità WEEE. Questo prodotto deve rispondere alla direttiva dell' Unione Europea 2012/19/EU in merito ai Rifiuti degli Apparecchi Elettrici ed Elettronici (WEEE). marcato col seguente simbolo.Thermo Fischer Scientific ha stipulato contratti con una o diverse società di riciclaggio/smaltimento in ognuno degli Stati Membri Europei. Questo prodotto verrà smaltito o riciclato tramite queste medesime. Ulteriori informazioni sulla conformità di Thermo Fisher Scientific con queste Direttive, l'elenco delle ditte di riciclaggio nel Vostro paese e informazioni sui prodotti Thermo Scientific che possono essere utili alla rilevazione di sostanze soggette alla Direttiva RoHS sono disponibili sul sito http://www.thermofisher.com/

Conformité WEEE. Ce produit doit être conforme à la directive euro-péenne (2012/19/EU) des Déchets d'Equipements Electriques et Electroniques (DEEE). Il est marqué par le symbole suivant. Thermo Fisher Scientific s'est associé avec une ou plusieurs compagnies de recyclage dans chaque état membre de l'union européenne et ce produit devraitêtre collecté ou recyclé par celles-ci. Davantage d'informations sur laconformité de Thermo Fisher Scientific à ces directives, les recycleurs dans votre pays et les informations sur les produits Thermo Fisher Scientific qui peuvent aider le détection des substances sujettes à la directive RoHS sont disponibles sur http://www.thermofisher.com/

Chapter 9
User Notes

Chapter 10
Ordering Info

Description	Catalog Number
accumet AB330 conductivity bench meter with electrode stand, universal 110-240V power supply	13-636-AB330
accumet AB330 conductivity bench meter kit with conductivity/ATC K=1.0 epoxy-body 2-cell electrode, electrode stand, universal 110-240V power supply	13-636-AB330A
Conductivity/ATC K=1.0 epoxy-body 4-cell electrode	13-620-165
Conductivity/ATC K=0.1 epoxy-body 2-cell electrode	13-620-101
Conductivity/ATC K=1.0 glass-body 4-cell electrode	13-620-163
Conductivity/ATC K=10 epoxy-body 4-cell electrode	13-620-166
accumet meter-attached electrode stand	13-637-671
accumet AB315 and AB330 meter replacement universal power cord, 110-240V	13-637-010
accumet AB315 and AB330 meter computer cable	13-637-011
accumet AB315 and AB330 meter dust cover	13-637-012
accumet compact thermal printer, 100-240V	13-637-690
accumet RS232 cable for thermal compact printer	13-637-681
accumet paper for compact printer, 2-pack	13-637-691

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