Thank you for selecting the Fisher Scientific accumet AB series benchtop meter.

	to initialize and complete standardization (calibration) of displayed parameter
	to toggle between available measurement modes

Connections:

	Power supply, 110/230 VAC, 9 VDC, 18 W, center positive. (included).
	RS-232 serial communication output, 2.5 mm jack. For use with RS-232 cable 13-637-681 (included).
	USB communication for field software upgrades (cable included) and data output.
	8-pin DIN connection for 2-cell or 4-cell Con/TDS/Resistivity/Salinity/Temperature electrodes.

Use the System Setup to customize operation of your AB series meter.
Press from the measurement screen and then press
when

When either printing or datalog is ON, the option to select readings or appears. Select “ ” to automatically print or save data at selectable intervals. Select “ ” to save data manually using the key.

(MM:SS) (Minutes:Seconds). When timed reading is , you must select an interval at which the data will be sent to the Printer and/or Datalog memory. Choose from 3 seconds to 60 minutes. Data will be collected until the data limit is reached or the option is turned “OFF”. This feature is useful for gathering data from a single sample over time. Note that “ ” is not available during TIMED setting. To view the stored data, use “ ” key.

COMM SETUP (Communication Setup)

To send data as a comma separated value, choose – best for exporting data into spreadsheet software. Choose to send the data in an easily viewable format – best for printing.

Choose (9600 or 19200 baud rate) or .

When RS-232 is selected, choose (9600 or 19200)

DATE & TIME

Setting the correct date and time is required for GLP and will apply to power on, measurement, data log, and print functions. Factory reset will not apply to date and time setting once it has been set. Changes related to daylight savings time must be manually entered.

Select (MM DD YY) or (DD MM YY)

Select 12Hrs (AM/PM) or 24Hrs

PASSWORD

Select “ ” to restrict access to Calibration and Setup modes. When password protection is enabled, password entry is required before performing any calibration, or making changes to the setup mode. Setup parameters can be viewed, but not changed without correct password entry. The password is a user selectable number from 1 to 99999.

Select “ ” if password protection is not desired.

The meter does not allow you to edit setup parameters or perform a new calibration unless you enter the correct password. If an incorrect password is entered 3 consecutive times, the meter returns to measurement mode.

If a password has been but cannot be recovered, a password can be provided via a written request. The instrument serial number and your contact information are required.

FACT RESET

Select “ ” to reset the to the factory default settings except; Date & Time setting, and data stored into memory.

CONTRAST

Optimize the contrast setting of your display for best visibility in your surrounding lighting conditions. Test various contrast settings for best results. This setting will be applied to both backlight and non-backlight conditions.

STIRRER

Set the stirring speed of the 13-620-BSP Benchtop Stirring Probe (optional accessory) when stirrer is on. Choose from 5 different speeds.

SAMPLE ID

This is a user selectable number from 1 to 99999. Incorporating a sample ID to identify one or more data points is useful to distinguish data that is saved into memory or sent to a PC or printer. Use the ▲/▼

Use Setup pH or mV mode to customize these parameters. Note: mV setup offers Alarm setting only.

Press from the measurement screen and then press

For best results, periodic standardization (calibration) with known accurate standards is recommended prior to measurement. Use standards that bracket your intended measuring range while including a neutral point (7.00, 6.86, or 6.79). For example, if you expect to measure samples from pH 6.2 to 9.5, calibration with 4.01, 7.00, and 10.01 will work well.

The following pH calibration buffers in the groups listed below are automatically

The thermistor sensor used for automatic temperature compensation and measurement is both accurate and stable, so require frequent calibration isn't required. Temperature calibration is recommended upon electrode replacement, whenever the temperature reading is suspect, or if matching against a certified thermometer is desired.

Use Setup mode to customize Conductivity, TDS, Salinity, & Resistivity parameters.

Press from the measurement screen and then press when , , , or is selected.

STD METHOD (Conductivity Mode Only)

Choose automatic or manual standardization for conductivity, and manual standardization for TDS, Salinity, and Resistivity. This option allows you to select (automatic) or conductivity calibration.

In the automatic calibration mode, the meter will automatically select one of (4) conductivity calibration standard values depending on the range and normalization temperature being used (see table below).

PURE WAT COEF (Pure Water Coefficient)

Choose to automatically apply pure water temperature correction for measurements below 2 µS/cm (ultra pure water).

Note: this option does not apply to Salinity mode.

TEMP COEFFICIENT (Linear)

The temperature coefficient is the amount of change in conductivity per degree temperature (% per ºC). The factory default setting is a temperature coefficient of 2.1 % per ºC. For most applications this will provide good results. The meter allows adjustment from 0.0 to 10.0.

Note: this option does not apply to Salinity mode.

Select 0.0 % for uncompensated measurements.
The temperature will be measured by the electrode and displayed in measurement mode – but without compensation.

NORMALIZATION TEMPERATURE (ºC)

When Automatic Temperature Compensation is used, measurements are adjusted by the temperature coefficient %, to the normalization temperature. This value is adjustable from 15.0 to 35.0 ºC.

Use the normalization temperature that is referenced on your calibration standard(s) – usually 25 ºC.

TDS FACTOR (TDS Mode Only)

The TDS conversion factor is a multiplication factor used to convert from conductivity to TDS. The TDS conversion factor automatically adjusts the reading. Select the desired TDS factor from 0.400 to 1.000.

CELL CONST (Cell Constant)

The AB200 kit includes a probe with a nominal cell constant (k) of 1.0. Use probes with k = 0.1 and 10 (sold separately) for improved performance in extreme sample ranges. The factory default is 1.0 to match the included probe. Cell constant can be adjusted from 0.010 to 10.000.

k = 0.1 ideal for low measurements <20 µS (<10 ppm).
k = 1.0 ideal for mid-range measurements
k = 10 ideal for high measurements >20 mS (>10 ppt).

ALARM

Use a visual and audible alarm to alert you when High or Low values that have been set from this menu are exceeded. “High” or “Low” will blink on the display if the values are exceeded while simultaneously, a loud, intermittent beeping sound is heard. The alarms will continue until the conditions are no longer met, and will only be active during measurement mode.

STD DUE

When enabled, the “Std Due” indicator blinks if the number of days since the last calibration has been exceeded. Set the time from 8 hours, 16 hours, or from 1 to 31 days.

[redacted]

For best results, periodic standardizati

The upper display is the active reading while the lower display is the factory default value. Use the ▲ ▼ keys to adjust the upper display to match the desired value.
Press after ‘Stable’ appears to confirm the value. The calibrated value, Range ( ) that was calibrated and the calculated cell constant are now shown.
For multi-point calibration repeat steps 2 thru 5 with additional standards. Calibrate one point per range, up to 5.

Use Setup ISE mode to customize this parameter. Press from the measurement screen and then press when is selected.

MEASURE UNIT

Select ppm, molar, or mg/L ion concentration units.

ALARM

The AB250 offers a visual and audible alarm to alert you when the High or Low values that have been set from this menu are exceeded. “High Alarm” or “Low Alarm” will blink on the display if the values are exceeded while simultaneously, a loud, intermittent beeping sound is heard. The alarms will continue until the

The AB250 can measure ion concentration such as ammonia or fluoride when using an ion selective electrode (ISE) for the specific ion of interest.

Ion standardization is required with at least two calibration standards in order for the instrument to calculate the measurement.

Prepare ion standards that bracket your measurement range. Follow the ion selective electrode instruction manual for the appropriate ionic strength adjustment and sample preparation.

For best results always begin with your

To send data directly to a printer or PC you will require the appropriate RS-232 or USB cable.

Press key to view calibration or stored data directly on the display.

Press soft key to view calibration data directly on the display.

Press key to print/export stored data manually to a dedicated printer or computer.

Press key to print/export calibration data manually to a dedicated printer or computer.

Use the function to print/export live data automatically at intervals to a dedicated printer or computer (3 second minimum rate). See within the to use this setting

Choose the " " format option to transfer the data in an easily viewable format – best for printing.

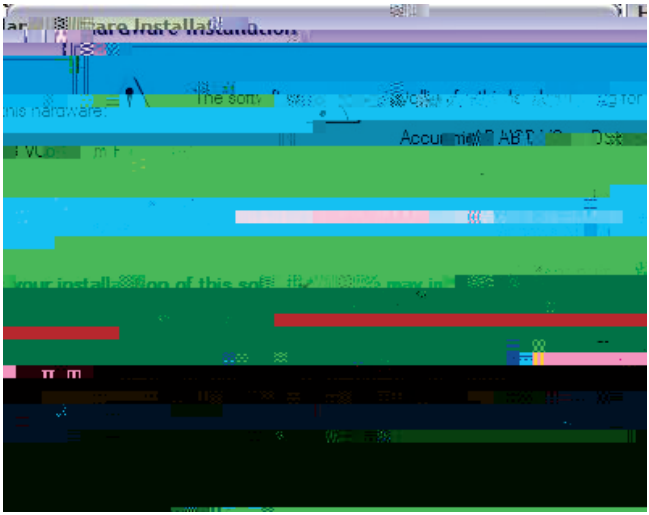
Choose the " " format option to send the data as a comma separated value – best for exporting data into software

Press and select

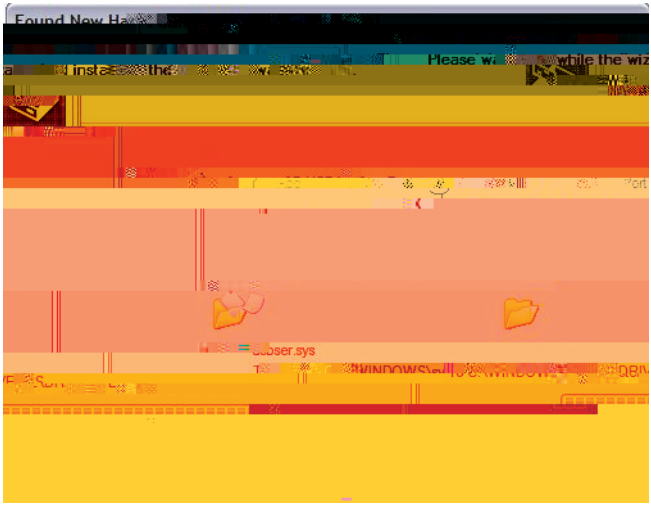
		password will be provided.
ALL	My problem is not listed here.	

Select “Install from a list or specific location (Advanced)” as shown in figure above and then click .
Select “Search for the best driver in these locations” and enter the file path in the combo-box (“C:\Accumet_AB_USB_Driver” as in figure below) or browse to it by clicking the browse button. Once the file path has been entered in the box, Click to proceed.

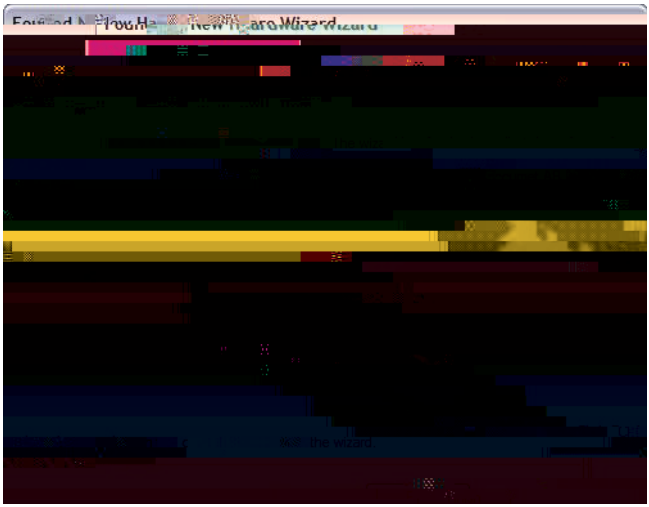
If Windows XP is configured to warn when unsigned (non-WQHL certified) drivers are about to be installed, the message dialogue shown in figure below will be displayed unless installing a Microsoft WHQL certified driver. Click on “Continue Anyway” to continue with the installation.



The screen shown in the figure below will be displayed as Windows XP copies the required driver files.



Once the installation is successful as shown in the figure below. Click “Finish” to complete.



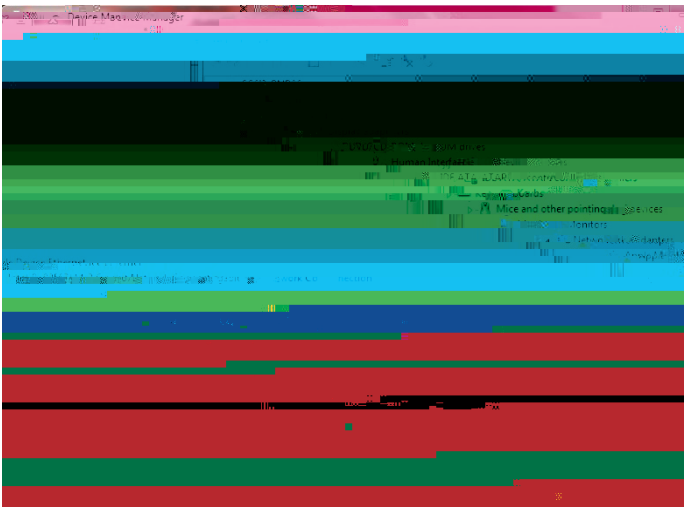
To install the USB device driver under Windows 7, follow the instructions below. This will allow your computer to recognize the instrument.

Obtain the USB driver file (via web download, disc, email, etc.) and save on your computer in a location that can be easily found.
Connect the meter to a spare USB port on your PC using the USB cable provided with the instrument.
Open the Device Manager:

In the Device Manager window there will be a device under Other Devices with a yellow warning symbol to indicate a problem i.e. no driver installed with text .

Right click on the other devices (USB VCOM Port) to bring up a menu as shown below. From the Displayed menu, select “

”.



Select “ ” and enter the file path in the combo-box or browse to it by clicking the browse button.

Once the file path has been entered in the box, check “
” box and click “ ” to proceed.

If necessary, click on “ ” to continue with the installation if you receive Windows 7 security pop up window.

The following window appears when installation is in progress.

When the installation has finished completion screen is displayed as shown below.

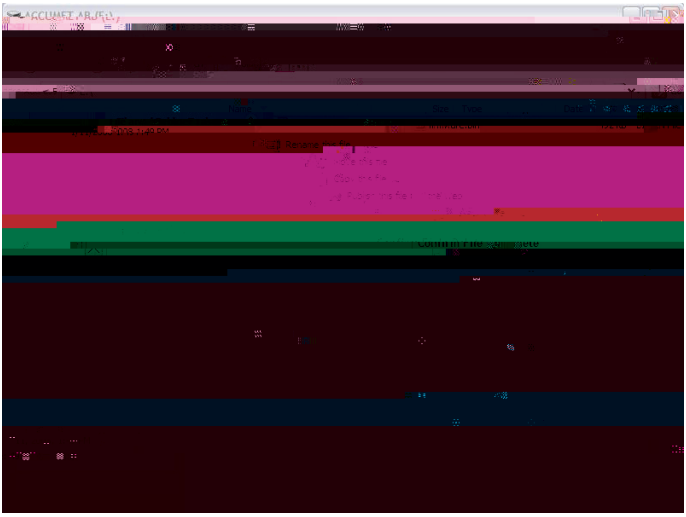
Click “Close” and go back to the Device Manager Window.
The below figure shows the successful installation of USB Driver for Accumet AB meter.

The software version of your instrument is displayed on the screen during power on. Check www.fishersci.com/accumet or email accumet@fishersci.com to see if new software is available. As new releases become available, the boot loading procedure described here is the process by which you can upgrade your Fisher Scientific accumet® , , and series meter to have the latest firmware. This procedure applies to both Windows XP and Windows 7. Please read the entire procedure before starting.

Obtain the latest firmware via web download, disc, email, etc. and save on your computer in a location that can be easily found or retrieved.
Remove the power cord from the instrument.
Plug in the USB cable.
Press and hold the left soft key (see image below) as you plug in the power cord.

The instrument will beep twice and a pop-up window will appear showing contents of a new drive named “ACCUMET AB” on your computer similar to the one seen below. This folder represents the hard drive of the instrument. The left soft key can be released as soon as this window is visible.

Similar to the method for replacing a file that resided on a thumb drive, you will need to delete the _____file as seen in the pop-up window and replace it with the new file. Highlight “firmware.bin” and delete this file.



Locate the new firmware file _____ and copy & paste or drag & drop it into the pop-up window.

Once the file is successfully transferred, close the window.
Remove the power cord and restart the meter as you would normally.

Range	0.001 to 19999 (±2000 mV)
Resolution	0.001 / 0.01 / 0.1 / 1 (automatic)
Units	ppm, mg/L, molar
Accuracy	0.5 % full scale (monovalent ion) 1 % full scale (divalent ion)
Cal Points	2 to 6 points from one of following groups; 0.001, 0.01, 0.1, 1, 10, 100 0.01, 0.1, 1, 10, 100, 1000 0.02, 0.2, 2, 20, 200, 2000 0.1, 1, 10, 100, 1000, 10000 0.05, 0.5, 5, 50, 500, 5000
Resolution	0.1 ºC / 0.1 ºF
Accuracy	±0.3 ºC / ±0.5 ºF
Calibration	Offset in 0.1 º increments; Offset range: ±5 ºC / 9 ºF
Range	0.00 µS to 500.0 mS
Resolution	0.01 / 0.1 µS; 0.001 / 0.01 / 0.1 mS
Accuracy	±1 % full scale
Cal. Points	Automatic (4 points); maximum 1 per range Manual (5 points); maximum 1 per range
Cell Constant	0.010 to 10.000
Cell Types	2 or 4 cell with ATC
Coefficient (Per ºC)	Linear & pure; adjustable 0.000 to 10.000 %
Normalization	15.0 to 30.0 ºC / 59.0 to 86.0 ºF
Compensation	Automatic with supplied cell or manual
Temp Compensation	0.0 to 100 ºC / 32.0 to 212.0 ºF (0.0 to 80 ºC / 32.0 to 176.0 ºF with supplied cell)
Range	0.00 ppm to 500 ppt (@ TDS factor 1.00)
Resolution	0.01 / 0.1 ppm ; 0.001 / 0.01 / 0.1 ppt
Accuracy	±1 % full scale
Cal. Points	Up to 5
TDS Factor	0.400 to 1.000

Range	0 to 80.0 ppt
Resolution	0.01 / 0.1 ppm; 0.001 / 0.01 / 0.1 ppt
Accuracy	±1 % full scale
Range	2.000 Ω to 20.0 MΩ
Resolution	0.01 / 0.1Ω; 0.001 / 0.1 kΩ; 0.01 MΩ
Accuracy	±1 % full scale
Display	Monogram graphics LCD
Backlight	Yes, adjustable
Output	RS-232 (phono plug), mini-B USB, stirrer
Adjustable Stirrer Speed	Yes
Language selection	English, Deutsch, è , Français, Italiano, & Español
Contrast Adjustment	Yes
Memory	500 data sets, viewable
Datalogging	Manual, timed (selectable every 3 to 3600 seconds) Printer or CSV format
Cal Due Alarm	Yes, user selectable from 8 hr, 16 hrs, & 1-31 days
High / Low Alarms	Yes, user selectable, visual & audible

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Weight	Benchtop: 720 g (without electrode plate)
Size	Benchtop: 7 cm (H) x 18.5 cm (W) x 17.6 cm (D)
Regulatory and Safety	CE, TUV 3-1, FCC Class A
Power Rating	DC Input: 9 VDC 2A
Shock and Vibration	Vibration: shipping/handling per ISTA #1A Shock: drop test in packaging per ISTA #1A
Enclosure (Designed to Meet)	Benchtop: IP54
Operating Ambient Temperature	0 to 50 °C
Operating Relative Humidity	0 to 90 %, non-condensing
Storage Temperature	-20 to +75 °C
Storage Relative Humidity	0 to 90 %, non-condensing
Pollution	Degree 2
Overvoltage	Category II

AB150 pH meter only	13-636-AB150A
AB150 pH KIT includes 13-620-631 pH electrode	13-636-AB150

AB150 pH BIO KIT includes 13-620-183A pH electrode and 13-620-19 ATC electrode

AB200 pH/CON meter only	13-636-AB200A
AB200 pH/CON KIT, includes 13-620-631 pH electrode and 13-620-100 conductivity cell	13-636-AB200
Fisher Scientific accumet® benchtop stirring probe	13-620-BSP
Replacement paddle for 13-620-BSP	13-620-RP
pH/ATC electrode, double junction, plastic body, refillable	13-620-631
pH electrode, double junction, glass body, refillable	13-620-183A
pH electrode, single junction, glass body, refillable	13-620-285
Temperature probe, stainless steel with 3-ft cable	13-620-19
ORP electrode, glass body, refillable	13-620-81
Conductivity cell, 2-cell, epoxy body, k=0.1	13-620-101
Conductivity cell, 2-cell, epoxy body, k=1	13-620-100
Conductivity cell, 2-cell, epoxy body, k=10	13-620-102
Conductivity cell, 4-cell, glass body, k=1	13-620-163
Conductivity cell, 4-cell, glass body, k=10	13-620-164
Conductivity cell, 4-cell, epoxy body, k=1	13-620-165
Conductivity cell, 4-cell, epoxy body, k=10	13-620-166
Fisher Scientific accumet® conductivity calibration kit	13-637-674
Fisher Scientific accuflex® electrode support arm and bracket	13-637-671
Replacement power supply, 100/240 V	13-636-104
Compact printer, 100-240 V. Includes 1 roll of paper	13-637-690
Replacement paper for 13-637-690 printer, pack of 2 rolls	13-637-691

The Fisher Scientific Company (“Fisher”) warrants to the direct purchaser that the accumet meters and accumet, accuTupH, and accupHast, electrodes will be free from defects in material or workmanship for a specified warranty period. During that period, Fisher will repair or replace the product or provide credit, at its sole option, upon prompt notification and compliance with its instructions. For accumet meter, that specified period is 36 months from delivery date. For electrodes, that specified period is 12 months.

Unless otherwise agreed, the warranty is limited to the country in which the product is sold.

No Fisher employee, agent or representative has the authority to bind Fisher to any oral representation or warranty concerning any product sold. Any oral representation or warranty made prior to

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

Manufacturer: Thermo Fisher Scientific, Inc.
Address: Ayer Rajah Crescent
Blk 55 #04-16/24
Singapore 139949
Singapore

Hereby declares that the following products rated 100-240 VAC, 50/60 Hz, 2A:

Equipment Class: Measurement, control and laboratory, EMC Class A

Conforms to the following directives and standards:

Electrical equipment for measurement, control and laboratory use – EMC requirements

For technical assistance contact your Fisher Scientific representative or visit:

or email