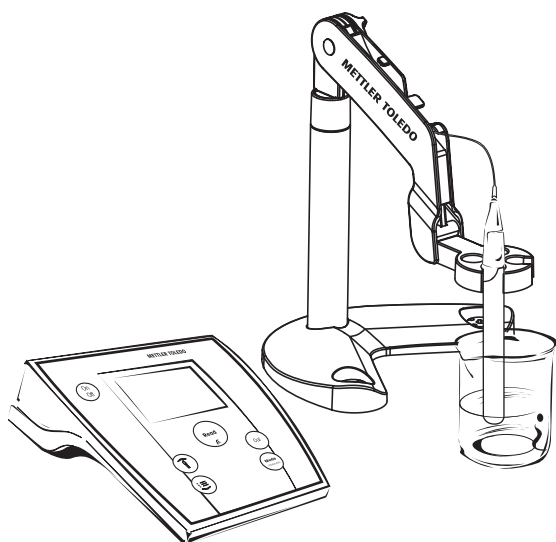

Operating Instructions

Bedienungsanleitung

Mode d'emploi

Instrucciones de manejo

Istruzioni d'uso



SevenEasy
Conductivity

METTLER TOLEDO



Italiano

Español

Français

Deutsch

English

Contents	Page
1. Introduction	3
2. Safety measures	3
3. Description of the instrument	4
3.1 Display	4
3.2 Keypad	5
4. Installation	6
5. Sample Measurement	8
5.1 Conductivity measurement	8
5.2 TDS/salinity/resistivity measurement	8
5.3 Settings	8
6. Calibration	10
6.1 Settings	10
6.2 Calibration	10
7. Self-diagnosis	11
8. Battery operation	11
9. Error messages	12
10. Maintenance	13
11. Accessories	14
12. Technical data	15
13. Quick guide	17
14. Buffer sets	18

1. Introduction

The METTLER TOLEDO SevenEasy conductivity meter is an instrument offering far more than simple conductivity measurements without breaking your budget. It is an instrument with many advantages:

- SevenEasy saves you time. The user interface is designed in such a logical way that you will no longer need to consult your user manual.
- SevenEasy can be battery operated. Thanks to this option you can now easily move your instrument from one working area to another even if no power supply is available.
- SevenEasy has additional advantages. Our Service Option provides regular equipment qualifications that will improve the reliability and accuracy of your instrument.

2. Safety measures

Measures for your protection



- Never work in an environment subject to explosion hazards! The housing of the instrument is not gas tight (explosion hazard due to spark formation, corrosion caused by the ingress of gases).



- When using chemicals and solvents, comply with the instructions of the producer and the general lab safety rules!

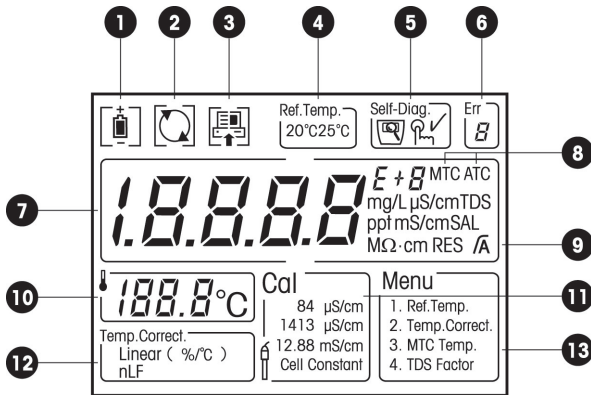
Measures for operational safety



- Have the instrument serviced only by METTLER TOLEDO Service!
- Always wipe off splashed liquids immediately! The instrument is not waterproof.
- Use batteries of the specified type only. Otherwise, proper operation cannot be guaranteed.
- Exclude the following environmental influences:
 - powerful vibrations,
 - direct sunlight,
 - atmospheric humidity greater than 80%,
 - corrosive gases,
 - temperatures below 5 °C and above 40 °C,
 - powerful electric or magnetic fields!

3. Description of the instrument

3.1 Display



1 Battery status

2 Auto-off override during battery operation

3 Data transfer to PC/printer

4 Reference temperature

5 Meter self-diagnosis



Self-diagnosis indicator



Indication to press key



Self-diagnosis passed

6 Error index

7 Conductivity/TDS/SAL/RES reading

8 Auto/manual temperature compensation

9 Endpoint stability/automatic endpoint

Endpoint stability

A Automatic endpoint

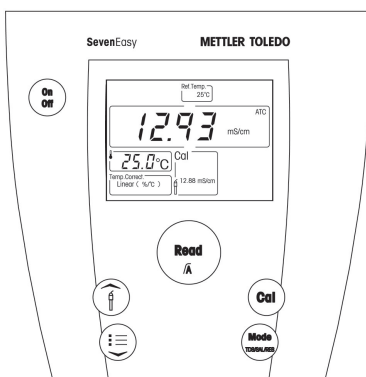
10 Temperature

11 Calibration standards & cell constant

12 Temperature correction method











13 Menu setting

3.2 Keypad



Press & release

Press & hold for 2 seconds

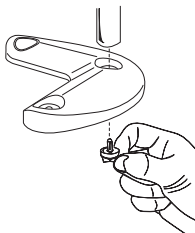
	Meter On/Off.	Auto-off override during battery operation. 
	<ul style="list-style-type: none"> - Start or endpoint measurement - Return to measurement mode - Confirm setting - Store entered value 	Turn autom. endpoint on/off. ⌏ / ⌏
	Start calibration.	
	Switch between conductivity, TDS, salinity and resistivity measurement modes.	Data transfer to PC or printer. 
	Select calibration standard. Increase value during setting.	Display cell constant during measurement.
	Start menu setting. Decrease value during setting.	
	Start meter self-diagnosis. 	

4. Installation

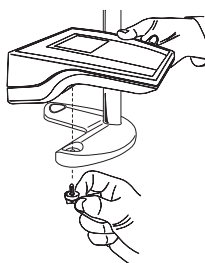
1. Unpack the meter, power adapter, electrode, electrode arm and other accessories according to the enclosed packing list. Keep the calibration certificate in a safe place.
2. Make sure the power adapter matches your local power supply. If not, please contact your vendor.
3. Install the electrode stand:

- The electrode stand can be used in a stand-alone configuration, or it can be attached to the instrument. The electrode arm is placed in one of the three positions on the base. If the electrode stand is used in a stand-alone configuration, it is recommended to use the middle position.

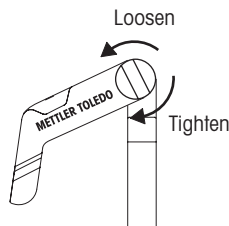
Remove the appropriate lid. Use the supplied fixing screw to tighten the connection. This concludes the installation if the electrode stand is to be used in a stand-alone configuration.

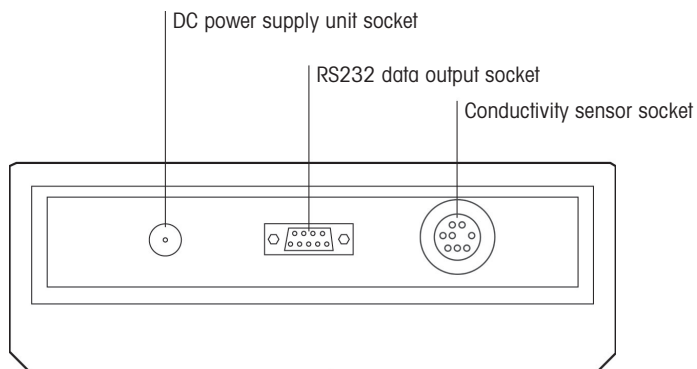


- If the electrode stand is to be attached to the instrument, place the base in front of you so that the base's free wing points away from you. Remove the appropriate lid. The electrode stand can be mounted on the left or right side of the base.



- Adjust the tension knob as required.







4. Connect the conductivity sensor.
5. Connect the power supply unit to the DC socket.




5. Sample Measurement

5.1 Conductivity measurement


Place the conductivity sensor in the sample and press  to start the measurement: The decimal point flashes.

The display shows the conductivity of the sample. The automatic endpoint **A** is the meter's default setting. When the sensor output has stabilized, the display freezes automatically, and  appears.

The automatic endpoint algorithm is as follows: The measured conductivity of the sample may not deviate by more than 0.4% from the measured average conductivity of the probe of over 6 seconds.

By pressing and holding the  key, you can toggle between auto and manual endpoint mode. To manually endpoint a measurement, press , the display freezes, and  appears.

5.2 TDS/salinity/resistivity measurement

To perform a TDS/salinity/resistivity measurement, follow the same procedure as for a conductivity measurement. Press the  key to switch between conductivity, TDS, salinity and resistivity measurement modes.

5.3 Settings

5.3.1 ATC/MTC

Most conductivity sensors have a built-in temperature probe. When a temperature probe is used, the symbol **ATC** and the sample temperature are displayed.




When the meter does not detect a temperature probe, it automatically switches to manual temperature compensation mode, and **MTC** appears.

To set the MTC temperature, see 5.3.2 Menu setting.





5.3.2 Menu setting

Press the  key, the menu's content appears on screen and the first item blinks:

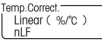



Menu	
1. Ref.Temp.	Set reference temperature
2. Temp.Correct.	Set temperature correction mode
3. MTC Temp.	Set MTC temperatur
4. TDS Factor	Set TDS factor




Use the  or  key to select a menu item. When the desired item blinks, press the  key to start the setting.

Set reference temperature:

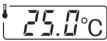



When  appears and the current reference temperature blinks, use the  or  key to toggle between 25 °C and 20 °C. Press the  key to confirm your selection.

Set temperature correction method:

When  appears and the current setting blinks, use the  or  key to toggle between linear and nLF (nonlinear factor compensation). Press the  key to confirm your selection.

If you choose the linear temperature correction method, the current temperature coefficient appears. Use the  and  keys to increase or decrease the value. Press  to confirm your setting.

Set MTC temperature:



When  appears, use the  and  keys to increase or decrease the value of the temperature for your sample. Press the  key to confirm your setting. The default setting is 25 °C.

Set TDS factor:

When the current TDS factor appears, use the  and  keys to increase or decrease the value. Press the  key to confirm your setting.

5.3.3 Data output


If a PC or printer is connected, every endpoint reading is sent to the PC or printed via the RS232 interface.




By pressing and holding the  key,  appears. The meter sends out a reading every second until it endpoints.





6. Calibration

6.1 Settings

When using the SevenEasy conductivity meter, you only need to do a 1-point calibration or enter a cell constant directly.


Press the  key. The current calibration setting starts to blink.

Use the  or  key to select other items either above or below. When the desired option blinks, press  to confirm your selection.

If you choose to set the cell constant, the current setting appears and the first digit blinks. Use the  and  keys to increase or decrease the value. Press the  key to confirm your setting. To finish your setting, follow the same procedure to set the next digits. Press  to confirm your setting. The default setting is 1.000.


6.2 Calibration

Place the conductivity sensor in a calibration standard and press .




The SevenEasy conductivity meter automatically endpoints when calibrating. To manually endpoint, press . The meter displays and freezes the standard value.

To return to sample measurement, press .

Note

- If you have entered the cell constant of your sensor and choose to use it for your measurement, you actually do not need to perform a calibration with a standard. If you press the  key under this circumstance, the instrument shows the currently entered cell constant's value instead of performing a calibration.
- To ensure the most accurate conductivity readings, you need to perform a calibration regularly.


7. Self-diagnosis


Press and hold  and  simultaneously until the meter's self-diagnosis icon  appears.



The meter displays the full screen first, then each icon will blink one after the other. The final step is to check that the keys function. This requires the user's cooperation.



When the icon  blinks, press the corresponding key within 10 seconds.


a. When  flashes, press the  key.

b. When  flashes, press the  key.


c. When  flashes, press the  key.

d. When  flashes, press the  key.



e. When  flashes, press the  key.

When self-diagnosis is completed, a tick  icon appears. If self-diagnosis failed, turn to "9. Error messages" in these Operating Instructions for the proper action(s) to be taken.

8. Battery operation

The SevenEasy conductivity meter offers optional battery operation. Install 4 AA batteries in the rear of the meter. If the power adapter is disconnected, the meter is operated by battery and the  icon appears.

When the batteries lose power, the meter displays .

During battery operation, the meter has an auto-off function. If no key is pressed during the next 10 minutes, the meter will automatically switch off to save battery power. To override the auto-off function, press and hold the  key for 2 seconds until  appears.

9. Error messages

Error 1 - Conductivity measuring value out of range

Check if the sensor is properly connected and placed in a sample solution.

Error 2 - Temperature measuring value out of range (-5...105 °C)

Keep the sample temperature within the range.


Error 3 - The measured calibration standard temperature is out of the range (0...35 °C)

Keep the calibration standard temperature within the range.

Error 4 - In nLF temperature correction mode, temperature measuring value out of range (0...35 °C)

Keep the sample temperature within the range.

Error 5 - Self-diagnosis failed

Repeat self-diagnosis and make sure that you press the correct keys while the  icon is blinking. If Err 5 still appears, call METTLER TOLEDO service.

10. Maintenance

There are no user-replaceable parts in the meter or power supply unit. Do not remove the covers.

The SevenEasy conductivity meter needs no maintenance except for an occasional wipe with a damp cloth. The housing is made of ABS/PC, which is attacked by some organic solvents, such as toluene, xylene and methyl ethyl ketone. It is good laboratory practice to wipe away any spillage immediately.

Note

To prevent static damage to the instrument, always disconnect the conductivity sensor from the meter before cleaning the sensor.

11. Accessories

	Order No.
Electrode arm complete	51302820
Guide to pH measurement	51300047
Guide to conductivity and dissolved oxygen	51724716
Guide to ion selective measurement	51300075
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84 $\mu\text{S}/\text{cm}$ standard solution, 500 mL	51302153
1413 $\mu\text{S}/\text{cm}$ standard solution sachets, 30 x 20 mL	51302049
1413 $\mu\text{S}/\text{cm}$ standard solution, 250 mL	51300138
12.88 mS/cm standard solution sachets, 30 x 20 mL	51302050
12.88 mS/cm standard solution, 250 mL	51300139
<hr/>	
InLab730, conductivity sensor	51302119
InLab740, conductivity sensor	51340260