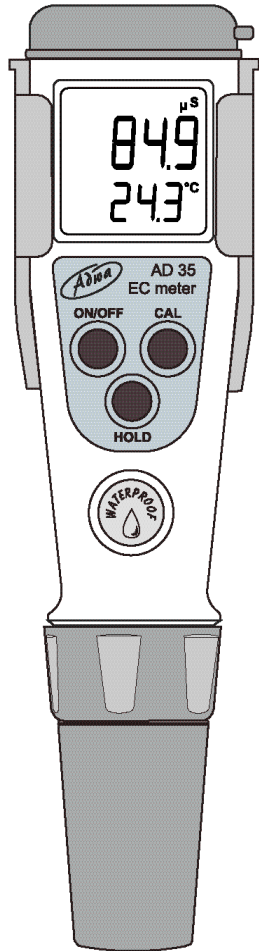




## USER MANUAL

### AD33 • AD35 Waterproof EC Testers



Dear Customer,  
Thank you for choosing an Adwa product.  
Please read carefully this manual before starting operations.

These instruments are in compliance with the EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC for electrical equipments.  
For additional technical information, please e-mail us at [sales@adwainstruments.com](mailto:sales@adwainstruments.com).

## INTRODUCTION

**AD33** and **AD35** are waterproof EC testers. The housing has been completely sealed against humidity.

All EC readings are automatically temperature compensated, and temperature values can be displayed in °C or °F units.

EC calibration is automatic at one point, while temperature range is factory calibrated and can only be adjusted by the user.

The **AD33P** probe supplied with the meters, is interchangeable and can be easily replaced by the user.

The encapsulated temperature sensor allows fast and accurate temperature measurement and compensation.

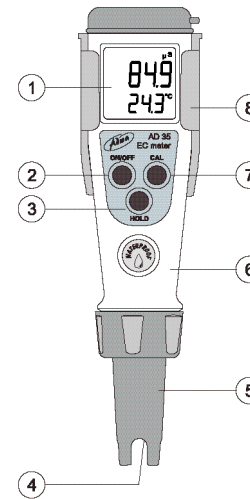
To prolong battery life, these models are provided with an auto-off feature that turns them off after 5 minutes of non-use.

Moreover, when batteries become too weak to ensure reliable readings the meter automatically turns off.

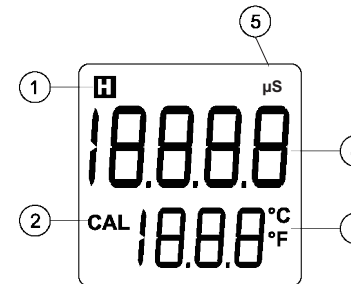
Each meter is supplied complete with:

- **AD33P** EC probe
- 4 x 1.5V batteries, button type
- User manual

## FRONT PANEL & DISPLAY



1. Dual line LCD
2. ON/OFF / MODE button
3. HOLD button
4. EC probe & temperature sensor
5. Probe body
6. Battery compartment (inside)
7. CAL button
8. Clip holder



1. HOLD indicator
2. Calibration mode indicator
3. Secondary LCD level with measure units
4. Primary LCD level
5. Measurement unit for primary LCD level

## TECHNICAL DATA

<b>Range</b>	0.0 to 60.0 °C /
	32.0 to 140.0 °F
	0 to 1999 µS/cm ( <b>AD33</b> )
	0.0 to 199.9 µS/cm ( <b>AD35</b> )
<b>Resolution</b>	0.1 °C / 0.1 °F
	1 µS/cm ( <b>AD33</b> )
	0.1 µS/cm ( <b>AD35</b> )
	<b>Accuracy</b>
	(@ 25 °C / 77 °F) ±2 % f.s. (EC)
<b>Calibration</b>	EC: automatic, 1 point Temperature: adjustment
<b>Probe</b>	<b>AD33P</b> (included)
<b>Battery Type / Life</b>	4 x 1.5V button type Approx. 150 hours of use
<b>Auto-off</b>	After 5 minutes of non-use
<b>Environment</b>	0.0 to 50.0 °C
	(32.0 to 122.0 °F) RH 100 %
<b>Dimensions / Weight</b>	175.5 x 39 x 23 mm / 100 g

## ELECTRODES & SOLUTIONS

<b>AD33P</b>	Spare EC probe for <b>AD33</b> and <b>AD35</b>
<b>AD70031P</b>	1413 µS/cm EC standard solution sachet, 25 x 20 ml
<b>AD7031</b>	1413 µS/cm EC standard solution, 230 mL bottle
<b>AD7033</b>	84 µS/cm EC standard solution, 230 mL bottle

## OPERATIONAL GUIDE

### Turn the meter on

- Press the ON/OFF button. All the used segments will be visible for one second (or as long as the button is pressed), then the meter enter normal measurement mode.

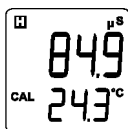
### Taking Measurements

- Submerge the probe in the solution to be tested while stirring it gently.
- The EC value automatically compensated for temperature is shown on the primary LCD level while the secondary one shows the sample temperature.

**Note:** Before taking any measurement, make sure the meter has been calibrated.

### Freeze the display

- From measurement mode, press the HOLD button. The H tag lights up and the reading is frozen on the LCD. Press any button to return to normal mode.



### Change the temperature unit (°C/°F)

- To change the temperature measure unit, press the HOLD button for 2 seconds.

### Turn the meter off

- From measurement mode, press the ON/OFF button.

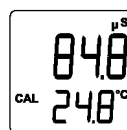
**Note:** If measurements are taken in different samples successively, rinse the probe thoroughly to eliminate cross-contamination. After cleaning, rinse the probe with some of the sample to be measured.

## EC CALIBRATION

For better accuracy, frequent calibration of the tester is recommended. In addition, calibration should be performed whenever the probe is replaced, after testing aggressive chemicals and where high accuracy is required.

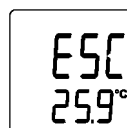
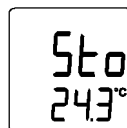
### Calibration Procedure

- From normal measuring mode, press and hold the CAL button for 2 seconds and the CAL message appears on the LCD.
- Release the button and immerse the probe in a proper calibration solution. The CAL tag lights up to indicate that the meter is in calibration mode.



**Note:** The calibration solution value must be within the meter measurement range.

- Wait a few seconds for the reading to stabilize, then use the CAL and HOLD buttons to set the solution value (CAL to increase the value, HOLD to decrease it).
- The calibration will be automatically performed.
- To confirm the calibration, press ON/OFF for 2 seconds. The LCD will show the "Sto" message and then return to normal operation.
- To quit the procedure without saving, press the ON/OFF button. The LCD will show the "ESC" message and then return to normal operation.



## TEMPERATURE ADJUSTMENT

These meters are factory calibrated for temperature readings, and the user can only perform an adjustment using an accurate reference thermometer.

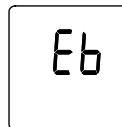
### Procedure

- From normal measuring mode, press for 2 seconds the CAL (first) and HOLD buttons until the CAL message on the LCD is replaced by the temperature reading.
- Release the buttons and immerse the probe and an accurate reference thermometer into the sample solution.
- Read the temperature measured by the reference thermometer.
- Wait for a few seconds, for the reading to stabilize on the tester, then adjust it accordingly with the thermometer, using the CAL and HOLD buttons (CAL to increase the value, HOLD to decrease it).
- To confirm press ON/OFF for 2 seconds. The LCD will show the "Sto" message and then return to normal operation.
- To quit the procedure without saving, press the ON/OFF button. The LCD will show the "ESC" message and then return to normal operation.



## BATTERY REPLACEMENT

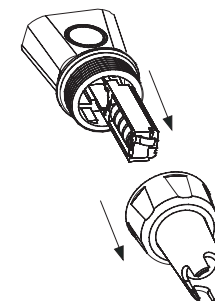
When the batteries become too weak to ensure reliable readings, the "Eb" message appears on the LCD, then the meter turns off.



Batteries must be replaced.

Unscrew and release the probe body. Take out the battery compartment and carefully replace all four batteries while paying attention to their polarity.

Reattach and tighten the probe body properly to ensure a watertight seal.



## PROBE REPLACEMENT

The probe can be easily replaced by unscrewing the body as shown below.

