

SOIL MOISTURE METER

AM-128SOIL

This Moisture Meter is small in size, light in weight, easy to carry. Although complex and advanced, it is convenient to use and operate. Its ruggedness will allow many years of use if proper operating techniques are followed. Please read the following instructions carefully and always keep this manual within easy reach.

1. FEATURES

- * Soil moisture is an important component of soil, which plays an important role in the growth of crops.
- * The instrument adopts pin type measurement. By measuring the electrical conductivity between the two pins to measure the moisture content of the measured object.
- * Digital display gives exact reading with no guessing or errors while a colour coded light (LED) indicates the moisture condition of the material. This combined presentation of moisture measurement helps the user to map the extent of problems and monitor changes in condition precisely and reliably.
- * Used the exclusive Micro-computer LSI circuit and crystal time base to offer high accuracy measurement. It can obtain automatically the temperature corrected moisture value.
- * Wide measuring range and high resolution.
- * Automatic power off to conserve power.
- * Can communicate with PC computer for statistics and printing by the optional cable and software for USB interface.

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|----------------------|---------------------|
| 3-1 RS-232 Interface | 3-7 Read key |
| 3-2 Display | 3-8 Select key |
| 3-3 Measure key | 3-9 Minus/ZERO key |
| 3-4 Delete key | 3-10 Plus key |
| 3-5 Power/Menu key | 3-11 Color code LED |
| 3-6 Battery cover | 3-12 Pin probe |

4. MEASURING PROCEDURE

4.1 Depress the Power/Menu key and release to power on the meter.

4.2 Moisture measurement

Insert pins into measured material, press Measure key, moisture value displays on the screen.

5. ZERO CALIBRATION

The instrument is automatically calibrated at high, low terminal. The zero feature enable the user to compensate for the effect of changes in both temperature and humidity.

6. STATISTICS

6.1 The meter calculates and displays a statistical analysis of readings as they are taken. The statistics available are:

- * Last value
- * Mean value marked by Ave
- * Highest Reading marked by Max.
- * Lowest Reading marked by Min.
- * Number of Readings taken

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6.2 When there are more than 120 groups of data stored, the latest measurement takes place of the earliest one automatically.

7. STORING AND RECALLING READINGS

7.1 Readings taken are automatically saved to the memory of the meter. The memorized data can be browsed by pressing and releasing the Read key to enter the browsing state marked by 'RD' on the display.

7.2 In the browsing state, all the readings memorized can be recalled on the display by pressing the Plus key or the Minus key.

7.3 To delete singly a memorized value in the memory, just locate the reading to be deleted by the Plus key or Minus key, then press and release the Delete key. If there is an "Err0" on the display, it indicates there is no reading to delete any more.

7.4 To quit to the measurement state, just depress the Measure key.

8. DELETING READINGS

8.1 To delete a reading on the display, just press the Delete key no mater in the measurement state marked by 'SV' or in the browsing state marked by 'RD'. Go into the browsing state by 'RD'. Go into the browsing state by pressing the Read key

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* Can store 99 groups of measurements.

2. SPECIFICATIONS

Display: 4 digits, 10 mm LCD
With color coded LED indication

Green LED represents a safe, air-dry state.

Yellow LED represents a borderline State.

Red LED represents a damp state.

Measurement Range: 0~80%

Accuracy: $\pm (0.5\%n + 1)$

Resolution: 0.1

PC interface: USB interface

Power supply: 4x1.5 AAA size (UM-4) battery

Operating conditions:

Temperature : 0-50°C (32~122°F)

Humidity : <90% RH

Dimensions:

Main Unit: 140x70x31mm

5.5x2.8x1.2inch

Sensor: 320x44x44mm

12.6x1.7x1.7inch

Length of pin: 150mm

Diameter of pin: 3mm

Distance between 2 pins: 18mm

Weight: 280g (not including batteries)
9.88oz

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Standard accessories included :

Carrying case.....1pc.

Operation manual.....1pc.

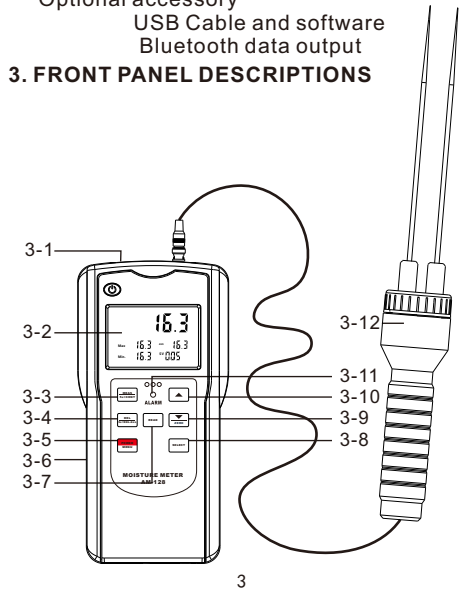
Pin probe.....1pc.

Optional accessory

USB Cable and software

Bluetooth data output

3. FRONT PANEL DESCRIPTIONS



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while entering the measurement state by pressing the Measure key.

8.2 To delete all the readings in the memory, just press the Delete key in the measurement state marked by 'SV' on the display for about 5 seconds till the number of readings memorized becomes 0.

9. ALARM LIMITS

9.1 There is a coded colored LED indicating the status of moisture. It is controlled by 2 alarm limits. The factory settings are as follow.

AL1=13 and AL2=18

If the reading < AL1, the green LED is on.

If the reading > AL2, the red LED is on.

If the reading lies between AL1 and AL2, the yellow LED is on.

Users can change the alarm limits when as per their intention.

9.2 How to set the alarm limits

9.2.1 Press Power/Menu key and not release it till 'AL1' 'AL2' appears on the Display. It is about 7 or 9 seconds from starting pressing Power/Menu key.

9.2.2 Such value can be changed to your intended value by pressing the Plus key or Minus key. If the second limit AL2 is less

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than the first limit AL1, the setting is invalid and the factory settings for AL1 and AL2 are restored to AL1=13 and AL2=18 automatically.

10. CONSIDERATIONS

The measurement result may be different if taking the measurement from different directions of the surface. That is because water in the material is not distributed evenly.

10.1 The inserted depth of pins directly affect the measurement results. In general, the deeper, the greater measured value.

Therefore, please pay attention to the consistency of the inserted depth.

10.2 In order to ensure the accuracy of measurements, it is suggested to pull off the pin probe from the main unit before starting up the meter. The meter will automatically calibrated full scale and zero point. Hold on for 3 second-s. Then plug the pin probe, press the Measure key with the pin touching nothing but air. See if the measured value is zero or not. If not, the pins might have become damp or dirty. In this case, clean or dry the pin probe until the measured value is zero.

10.3 This instrument is of very high input

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resistance. Every parts have good insulation. Please keep it in a dry , dust proof place.

Demo.EXE.

- 10.4 When operating normally, the main unit might issue a 'squeak' sound, which is caused by the relay when self correcting. It is a normal phenomenon.

11. BATTERY REPLACEMENT

- 11.1 When it is necessary to replace the battery, the battery symbol ' ' will appear on the display.
- 11.2 Slide the Battery Cover (3-6) away from the instrument and remove the batteries.
- 11.3 Install the batteries (4x1.5vAAA/UM-4) correctly into the case.
- 11.4 If the instrument is not to be used for any extended period, remove batteries.

12. TRANSFERRING READINGS TO A COMPUTER

- 12.1 Install the RS232 software on your PC, please always click 'the continue' button in the installing process.
- 12.2 Connect your meter to your PC using the optional cable.
- 12.3 Switch on your meter and ensure the Reading Screen is displayed.
- 12.4 Start the software and follow the instructions included with the software