

7.3 Install the batteries (4x1.5v AAA/UM-4) correctly into the case.

7.4 If the instrument is not to be used for any extended period, remove batteries.

APPENDIX: Density-Code table (only for reference)

Density Kg/m ³	Code	Materials
(Only for reference)		
200	1	
220	2	
240	3	Foam
320	4	Soft wood,
400	5	Felt
440	6	Peat
480	7	Charcoal
520	8	
560	9	Coke
600	10	White lime
800	11	Veneer
1000	12	Timber, Chipboard
1200	13	Leather, Slag, Kerosene, Alcohol
1400	14	Polyethylene
1600	15	Soft coal, Bamboo, Paraffin
1800	16	ABS
2000	17	Clunch, Organic glass
2200	18	Asphaltum, lime
2500	19	Bakelite, fiberboard
3000	20	Rubber
		Stone, Sand (dry)
		Clayey brick
		Asbestine board
		Vitriol (87%)
		Sand (wet)
		Bricklaying, Firebrick
		Quartz glass
		Concrete, Asbestos, plaster
		China, Glass
		Marble, Granite, Magnetite

oven-drying method is the right code. Write down the code for such material for later uses.

4.3 Moisture measurement

4.3.1 Place the search probe against the surface of the material such as wall, floor etc. at the point of measurement.

4.3.2 Read the moisture level value from the display and note the moisture condition of the material from the colour coded LED.

4.3.3 To hold the max. value during measurements, just depress the ▲/HOLD key till the symbol 'max' appears on the display. To display instant values, just depress the ▲/HOLD key again till the symbol 'max' disappears on the display.

4.4 Zero calibration

The zero feature enable the user to compensate for the effect of changes in both temperature and humidity.

Press the Power key to switch the meter on. Keep the search probe of the meter away from the surface of any material at least 50cm. And then press Minus/Zero key to make the meter display '0' if other digits on the display. The meter is now zeroed.

5. ALARM LIMITS

5.1 There is a coded coloured 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.

MOISTURE METER

(Search type)

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.

Green LED represents a safe, air-dry state.

Yellow LED represents a borderline State.

Red LED represents a damp state.

Measurement Range:

0~80% (when code=cd10)

Induction depth: up to 50mm

Measurement codes:

20 codes for different materials

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

Whichever is the greater

PC interface: RS232C interface

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

Power off: 2 modes

Manual off at any time

Auto power off after 5 minutes from last key operation

Operating conditions:

Temperature: 0-50 °C

Humidity: below 90% RH

Dimensions: 165x62x26mm or

6.5x2.4x1.0 inch

Weight: 119g (not including batteries)

Standard accessories included:

Carrying case 1 pc.

Operation manual 1 pc.

Optional accessory

Cable and software for RS232C

1. FEATURES

- * Be a powerful and versatile instrument for measuring and diagnosing dampness in buildings and building materials. This product enables building surveyors and other practitioners to measure moisture levels of building elements such as walls, floors and other building materials simply in 2 different indicating ways. In such case, a detailed understanding of the moisture condition of the property can be obtained.
- * 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.
- * Alarm values can be set by users.
- * Automatic power off to conserve power.
- * Can communicate with PC computer for statistics and printing by the optional cable and software for RS232C interface.

2. SPECIFICATIONS

Display: 4 digits, 10 mm LCD

With color coded LED indication

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

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

5.2 How to set the alarm limits

5.2.1 Depress Select key and not release it till 'AL1' 'AL2' appears on the Display. It is about 7 or 9 seconds from starting depressing Select key.


5.2.2 Such value can be changed to your intended Value by depressing the plus key or minus key. Depress the Select key to return to the state of measurement. If the second limit AL2 is less 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.

6. CONSIDERATIONS

6.1 Please keep it in a dry, dust proof place.

6.2 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.

7. BATTERY REPLACEMENT

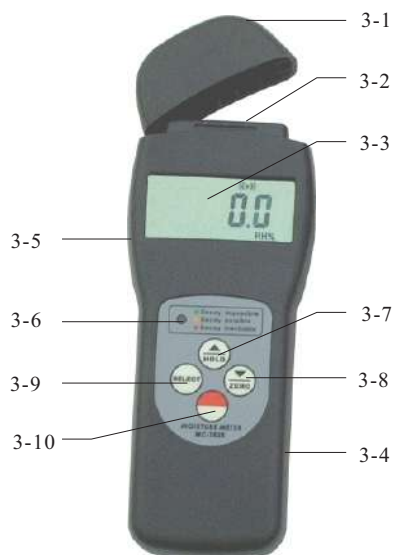
7.1 When it is necessary to replace the battery, the battery symbol '  ' will appear on the Display.

7.2 Slide the Battery Cover (3-4) away from the instrument and remove the batteries.

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3. FRONT PANEL DESCRIPTIONS



- 3-1 Sensor cap
- 3-2 Search probe
- 3-3 Display
- 3-4 Battery compartment/ Cover
- 3-5 RS232C interface
- 3-6 Color coded LED
- 3-7 Plus/Hold key
- 3-8 Minus/Zero key
- 3-9 Select key
- 3-10 Power key

4. MEASURING PROCEDURE

4.1 Depress the power key and release to power on the meter.

4.2 To check if the material code is right by pressing and releasing the Select key. Such code can be changed by the Plus/Hold key or Minus/Zero key when the 'cdxx' is on the display. Here 'cd' is the abbreviation for 'code' and 'xx' is the material no. If keep depressing the Plus/Hold or Minus/Zero key, the material code will step into next code about every second and releasing it till the material code is right.

4.2.1 Code selection

The standard material code for the search mode is 'cd10' which is suitable for measuring the material whose density is like that of pine, fir, oak etc. The user can carry out the accurate measurement by selecting one material code between 'cd01' and 'cd20'. The greater the density of the material to be measured, the larger the material code to be selected. For measuring moisture in concrete wall, the user can select the code around 'cd18'. Please refer the Appendix on page 7 when selecting the code. This code is only for reference due to many uncertain factors for materials to be measured.

4.2.2 Factors affecting the choice of material code

There are many factors to affect the material code, for instance, different places, different soil even if in a same place will lead to different code for a same material. The better way to ascertain the material code is based on standard tests by oven-drying of commercial samples of the material to be measured. The code by which the measuring results are closest to those of

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