Dahec Instrumentacion

APER MOISTURE METER MC-7828PP

s Moisture Meter is small in size, light in ight, easy to carry. Although complex and anced, it is convenient to use and operate. ruggedness will allow many years of use if per operating techniques are followed. ase read the following instructions efully and always keep this manual within y reach.

1.FEATURES

* This instrument uses contact measurement. The moisture of the measured objects is measured by measuring the electrical conductivity between two electrodes.
* This instrument has a variety of measurement codes for users to choose from different materials. By selecting different codes, the measurement results are more accurate. The standard code for measuring paper is Cd00.
* 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.
* It is mainly used for moisture measurement of paper. It can also be widely used for moisture measurement of fibrous substances, such as buildings, building materials, non-metallic materials, bamboo products, Chinese medicinal materials, tobacco, cotton, textiles and soil.
* 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.
* Can store 240 groups of measurements.

2. SPECIFICATIONS

Display: 4 digits, 10 mm LCD With colour 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%
(when code=cd00)
Accuracy: ± (0.5%n+1)
Resolution: 0.1
PC interface: USB interface
The statistics available are:
Last value / Mean value / Max. value / Min. value / Number of Readings
Memory: 240 groups
Power supply:
4x1.5 AA A size (UM-4) battery
Operating conditions:
Temperature : 0-50°C
Humidity : below 90% RH
Dimensions:
Main Unit: 150x65x30mm
Sensor: 265x44x44mm
Length of electrode: 77mm
Cross section size of electrode: 14x1mm
Gap between 2 electrodes: 4mm
Weight: 295g (not including batteries)
Standard accessories included :
Main unit
Sensor
Carrying case
Operation manual
Optional accessory
USB cable and software
Bluetooth adapter ans software

3. OVERALL & DISPLAY DESCRIPTIONS

Fig.1 Overall Descriptions

3-1 Sensor
3-2 Display
3-3 USB cable interface
3-4 Color coded LED
3-5 Measure key
3-6 Read key
3-7 Power key
3-8 Backlit key
3-9 Select key
3-10 Delete key
3-11 Plus key
3-12 Zero/Minus key
3-13 Battery cover
3-14 External power

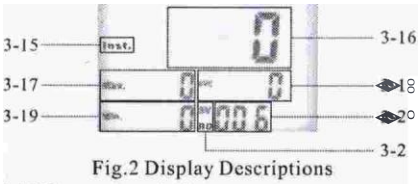

Fig.2 Display Descriptions

3-15 Data storage indicator
3-16 Measurement readings
3-17 The maximum value of statistical data
3-18 The mean value of statistical data
3-19 The minimum value of statistical data
3-20 The amount of statistical data in the statistical measurement mode
The amount of data stored in the storage measurement mode
The ordinal number of current data in the reading mode
3-21 Mode indicator
('SV' represents the measurement mode, 'RD' represents the reading mode)

Dahecinst
contacto@dahecinst.com
dahecinstrumentacion@gmail.com
+52 5586114372
+52 7791340470

4. ZERO CALIBRATION

4.1 Correct zero calibration is an important step to ensure accurate measurement. It can eliminate the additional error caused by the changes in the parameters such as the temperature and humidity of the environment.

Hang the two measuring electrodes of the instrument in the air. The readings at this time on the display should be 0, otherwise the moisture meter need to be calibrated. The method of zero calibration is as follows:

Ensure the two measuring electrodes suspended, press Zero/Minus key in the measurement mode, 0 is shown on the display, the zero calibration is complete.

Every time the moisture meter is powered on, it will be automatically zero calibrated. Please ensure that two measuring electrodes are suspended when it is powered on.

5. MEASUREMENT PROCEDURES

5.1 Press the Power key to power on the meter.

5.2 Selection of material code

Before measuring, check the material code first.

Press the Select key, and a code will appear on the display: 'cdxx'.

Press the Plus key or the Zero/Minus key to change the code.

For the material code and its corresponding material name, see the attached table on page 9. For other fiber materials not listed, it is recommended to apply the standard code 'cd00' or use the drying method to confirm the code.

It should be emphasized that even the same material, such as wood, cement, soil and so on, will be different in proportion and material composition due to the environment such as the origin and so on. Therefore, the selected codes will also be different. To achieve accurate measurement of the moisture content of the material, the correct method is to determine the code according to the oven drying method. The method is as follows:

(1) Sampling. Select a number of representative materials to be measured and divide into two groups. One of the groups first used the oven drying method to measure the moisture content.

(2) Use this instrument to measure another group of samples that are not dried. By selecting the code, the moisture value measured by the instrument is basically the same as that measured by the oven drying method. At this time, the code of the material is correct, and remember that the code for later use.

(3) When measuring the moisture of the same material in the future, the accurate measurement can be achieved by choosing the last code.

5.3 Selection of statistical measurement mode and storage measurement mode

The instrument has two kinds of measurement modes, statistical measurement mode and storage measurement mode.

In the statistical measurement mode, the 'SV' indicator is on the display of instrument. In this mode, the maximum value, minimum value, average value, and statistical number of multiple measured data can be calculated and displayed.

In the storage measurement mode, the 'SV' and the 'Inst.' indicator are on the display of instrument. In this mode, data storage can be done, and the measurement reading can be saved to the instrument. It can be used for immediate viewing (see 5.5 Data reading mode for detail), and is also used for analyzing and processing with software. See

he 5.7 Computer connection for detail.

: The automatic statistics of the data will be also carried out in the storage measurement node, and the maximum, minimum and average value of the measured data are calculated.

Press and hold the Measure key for about 5 seconds, and the conversion between the storage measurement mode and the statistical measurement mode can be realized.

The statistics and storage of data

In the statistical measurement mode, when the measuring electrodes touch the object with moisture more than 0, the measurement readings will be generated on the display. After multiple measurements, statistical data such as the maximum value, minimum value, mean value, the amount of statistic data of current measurement mode will be displayed.

In the storage measurement mode, completely inserted the measuring electrode into the material to be measured. Press the Measure key, the moisture of the measured material and the amount of the stored data will be displayed. Every time the Measure key is pressed, the amount of saved data increases by 1. After many times of measurements, the maximum value, minimum value and average value of current measurement mode will be displayed.

Note: After the mode transformation, the statistical data in the previous measurement mode will be emptied, and the statistics will be recounted.

5.5 Data reading mode

In the reading mode, we can see the data that has been saved to the instrument.

Press the Read key, the 'RD' symbol, the reading and ordinal number of the current browsing data are displayed, the instrument enters the reading mode. Then press Plus key or Zero/Minus key to browse the data stored in the instrument.

To quit reading mode and return to the measurement mode, press the Measure key.

5.6 Deleting data

The instrument can store up to 240 groups of measured data.

When more than 240 groups of data are stored, the earliest measured values will be automatically deleted, then the last measured values are stored automatically, and so on.

There are two ways to delete data: single deletion and all deletion.

In the data read mode, press the Delete key, and the current reading will be deleted.

In either the statistical measurement mode or the storage measurement mode, press and hold the Delete key for about 5 seconds, all the measurement data stored in the instrument will be deleted.

Note: In the statistical measurement mode, press the Delete key, the statistical function will be stopped.

5.7 Computer connection

Using optional USB data cable or Bluetooth adapter, the gauge can communicate with PC to realize data collection, processing, analysis and printing. The detailed method is shown in the demo file in the software disc.

6. AUTOMATIC POWER OFF

This instrument has two ways to power off, that is, manual power off and automatic power off.

6.1 At any time, press the power key for about 1 seconds. Release the key when the 'OFF' appears on the display, the gauge is powered off.

6.2 On the other hand, in storage

mode, if the keys are not pressed in 2 minutes, the gauge will be turned off automatically to save electricity.

7. ALARM LIMITS

7.1 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.

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

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

7.2 How to set the alarm limits

7.2.1 Press and hold the Power key till 'Al1' or 'Al2' appears on the Display. It is about 5 or 7 seconds from starting depressing Power key.

7.2.2 Such value can be changed to your intended value by pressing the Plus key or Zero/Minus key. Press the Select key to return to the state of measurement.

7.2.3 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.

'ONSIDERATIONS

The insertion depth of the measuring electrode will directly affect the result of the measurement. In general, the deeper the depth is, the greater the value of moisture measured. Therefore, please pay attention to the consistency of the depth of insertion.

This instrument is of very high input resistance. Every parts have good insulation. Please keep it in a dry, dustproof place.

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.

ATTERY REPLACEMENT

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

Slide the Battery Cover away from the instrument and remove the batteries.

Install the batteries (4x1.5vAAA/UM-4) correctly into the case.

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

Appendix: Code table for a Pin mode

Code	Materials
	Abies grandis, Acer macrophyllum, Maple, Acer saccharum, Pine(scots), yellow Pine, Dalbergia latifolia, Dipterocarpus zeylanicus, Eucalyptus microcorys, Fraxinus excelsior, Cupressus spp, Pinus contorta, Pterygota bequaertii, Quercus robur, Pinus sylvestris, Balsa, Boxwood (maracaibo), red Gum(American), Gum spotted, Gurjun, Birch, Cypress(African) Karri, Oak (European), Oak(Japanese), black Poplar, Redwood(Baltic European), Rosewood (Indian), Pine(lodgepole), Tallowwood, Walnut (American), Kapur.
	Araucaria bidwilli, Eucalyptus crebra, Eucalyptus saligna, Flindersia brayleyana, Fraxinus Americana, Intsia bijuga, Podocarpus dacrydioides, Sequoia sempervirens, Pinus pinaster, Gum(southern), Mahogany (west Indian), Douglas fir, Maple (queensland), red (light or dark) Meranti, white Meranti, Redwood (Californian), Walnut (new guinea), white Pine (new Zealand), Araucaria angustifolia.
	Distemonanthus benthamianus, Jarrah, Endiandra palmerstonii, Erythrophleum spp, Abies alba, Fagus sylvatica, Grevillea robusta, Juglans regia, Larix deciduas, Larix occidentalis, Podocarpus spicatus, Picea abies, Pinus caribaea, Pinus nigra, Pinus palustris, Pinus ponderosa,

Code	Materials
	Pinus radiata, Taxus baccata, Thuja plicata, Tsuga heterophylla, red Cedar (western), Chestnut, Greenheart, Hemlock (western), Larch (European), Larch (Japanese), Queensland walnut, red Seraya, Spruce, Silky oak(African), Silky oak(Australian), Pine (Corsican), Pine, radiata, Walnut(European), Walnut (queensland), Whitewood, Yew, Pine(ponderosa), Stringybark, Oak (tasmanese)
Cd03	Khaya senegalensis, Podocarpus totara, Quercus cerris, Ulmus American, Ulmus procera, Ulmus thomasii, Afzelia, Kauri(new Zealand), Lime, Elm(English), white Elm, Matai, Oak(Turkey), Pyinkado
Cd04	Acer pseudoplatanus, Carya glabra, Sycamore, Cassipourea elliotii, Dipterocarpus(keruing), Teak, Cordia alliodore, Larix occidentalis, Pterocarpus soyauxii, Hickory, Padauk(African)
Cd05	Afrormosia elata, Diospyros virginiana, Gonystylus macrophyllum, Pterocarpus indicus, Afrormosia, Amboyna, Basswood, Coachwood, Persimmon
Cd06	Calophyllum brasiliense, Guarea cedrata, white Guarea

Code	Materials
Cd07	Abies procera, Agathis robusta, Betula pendula, Croton megalocarpus, Prunus avium, Agba, Birch (European), Cedar(west Indian), black Guarea, Kauri (queensland), Walnut(African), Cherry (european), Utile
	Chipboard, Paper
	Building, Wall, Concrete

Dahecinst
contacto@dahecinst.com
dahecinstrumentacion@gmail.com
+52 5586114372
+52 7791340470