Measure what you see.

BYK m200
Moisture Meter

Manual

A member of ALTANA

BYK

BYK m200 **Manual**

Moisture Meter November 2019

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CAUTION!
Read Instruction Manual before using this instrument.

WARNING!
This manual cannot address all of the safety considerations associated with its use. It is the responsibility of the user to consult this manual and establish appropriate safety practices for use with this equipment and the individual material being tested.

WARNING!
The BYK m200 Moisture Meter is designed and intended for the use described in this manual. Using the Moisture Meter for other purposes for which it was not designed may reduce or eliminate the protection offered by the features of the instrument. Serious injury may result.

WARNING!
Ultimate disposal of this product should be handled according to all national laws and regulations.

Please note the following points:

- Familiarize yourself with the layout and operation of the controls.

2 Preparations

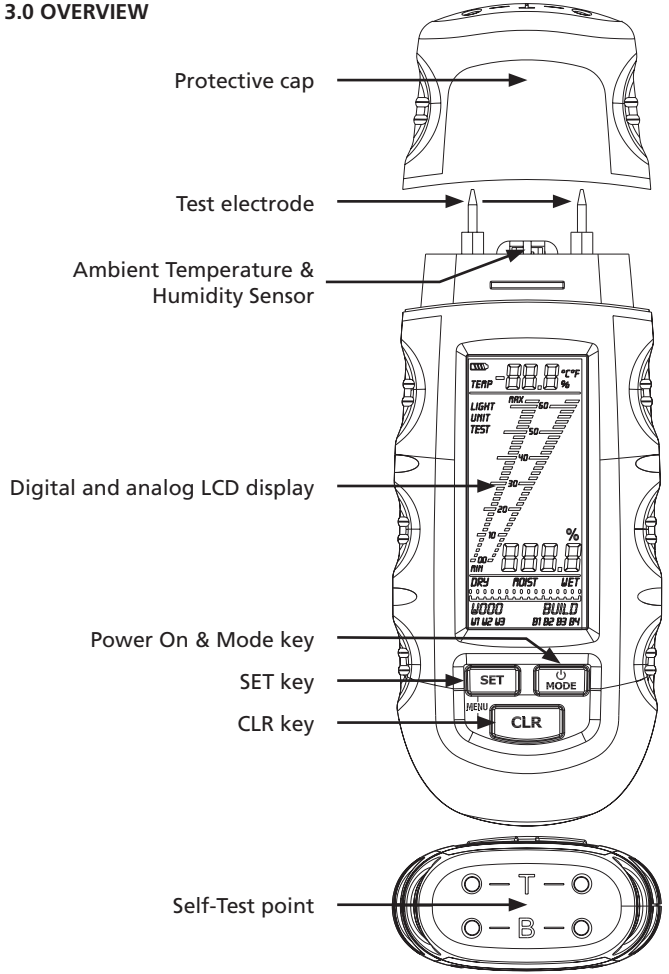
Moisture meter for wood and building materials. The BYK m200 measures the moisture level for a variety of wood and building materials. The meter also measures the ambient temperature & humidity. The displayed value is material moisture in % with respect to dry mass.

Example:
100% material moisture for 1 kg of wet wood = 500g water.)

IMPORTANT!

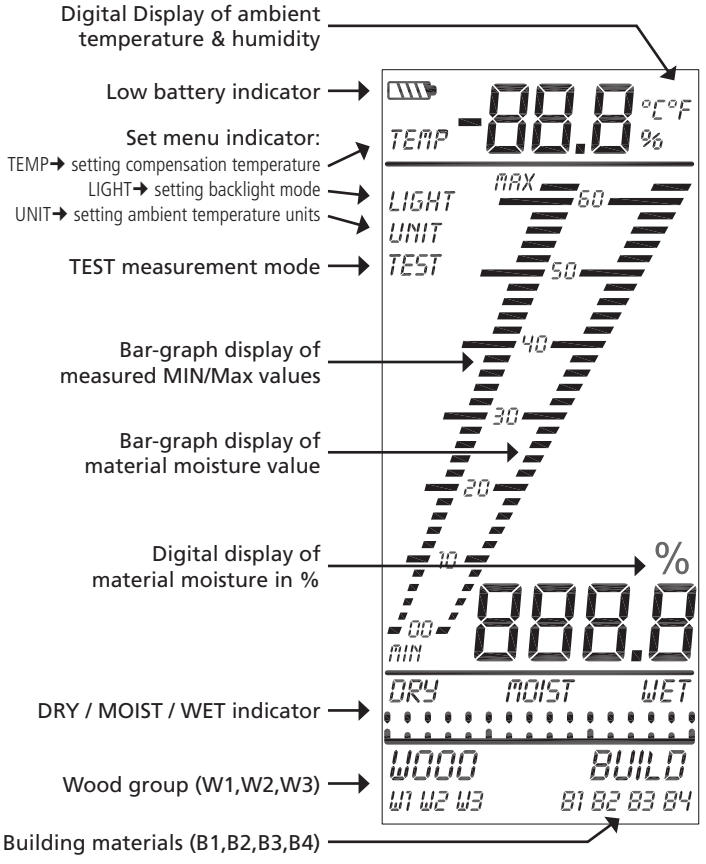
- Always keep the instrument dry
- Pay attention to the electrodes whenever the protective cap is removed. They are sharp!
- Clean dirt and debris from the measuring electrodes
- Replace batteries when the battery warning symbol appears

3.0 OVERVIEW


Protective cap
Test electrode
Ambient Temperature & Humidity Sensor
Digital and analog LCD display
Power On & Mode key
SET key
CLR key
Self-Test point
TEMP
°C °F
%
LIGHT
UNIT
TEST
MAX
DRY
MOIST
WET
WOOD
BUILD
SET
MODE
MENU
CLR
T
B

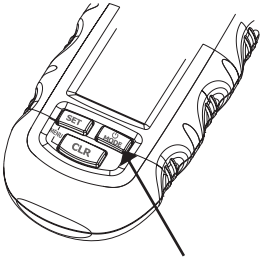
3 System Description

3.1 DISPLAY

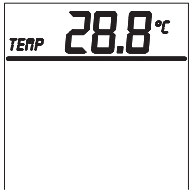


4.0 POWER ON/OFF

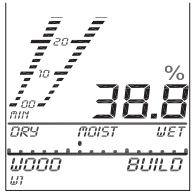
Press the "MODE" key for about 2 seconds, the device will power on, when the device is activated, the display will show the ambient temperature for 2 seconds. Press the "MODE" key for about 2 seconds, the device will power off. If not being used, the device will auto power off after 3 minutes.



(1) Power on (Press about 2s)



(2) Initial Display

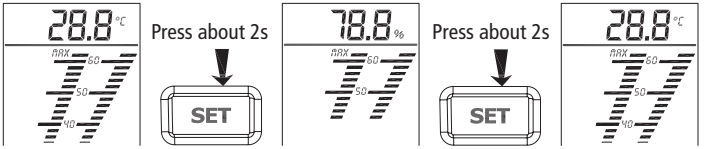


(3) Start Measuring

5 Measurement

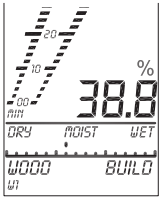
5.0 MEASURING AMBIENT TEMPERATURE & HUMIDITY

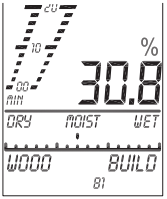
The device measures the ambient temperature & relative humidity. The ambient temperature is used as a temperature compensation to increase the moisture accuracy. Press the "**SET**" key for about 2 seconds, the display will switch between temperature and humidity. To can change the temperature units from °C to °F in the settings menu, please refer to chapter 7.4.

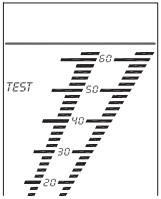


6.0 MOISTURE MEASUREMENT MODE MENU

There are three measuring modes; you can switch among them by pressing the **"MODE"** key.







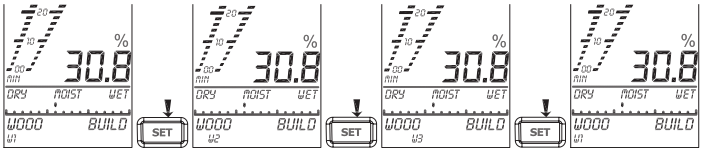
Wood Mode:
W1, W2, W3

Building Mode:
B1, B2, B3, B4

Self-Test Mode

6.1 SELECT WOOD GROUP IN WOOD MODE (W1,W2,W3)

When the meter is turned on the Wood Mode is the default position. There are three wood groups. You can switch among them by pressing the **"SET"** key. To select the correct wood group(W1, W2 or W3), find the wood you are measuring in Table 1.



Once you have selected the wood group proceed with the measurement by inserting the pins into the sample. The % Moisture is displayed. The two bar graphs also display the measured value. The left side bar graph shows the maximum % moisture measurement. The maximum measurement is retained on the display until the **"CLR"** key is pressed or the instrument is powered off. The right side bar graph is a graphical version of the digital % moisture value.

6 Moisture Measurement

TABLE 1: Wood Group

Wood		
W1		
Abachi	Elm	Rosewood
Abura	Emien	Southern yellow pine
Agba	English Durmast Oak	Teak
Aiele	Guanandi	Tree Health
Alder	Hickory	Willow
Andiroba	Hornbeam	Yellow heart
Ash	Ilomba	
Aspen	Ipe	
Balsa	Iroko	
Basralocus	Izombe	
Beech	Jarrah	
Beech-European hornbeam	Juniper	
Birch	Kapok	
Black Afara	Karri	
Campeachy	Lime	
Cedar	Longwood	
Chestnut-sweet, red African	Maple	
Cypress-C.Lusit Board	Niangon	
Cypress-Patagonian	Niove	
Dabema	Oak	
Douglas Fir	Okoume	
Douka	Parana pine	
Ebiara	Pear wood	
Ebony	Purpleheart	

Wood		
W2		W3
Cherry mahogany	White birch	Afrormosia
Cherry wood	White maple	Cork
Cypress, red	White poplar	Imbuia
Damson wood	White Tola	Kokrodua
English Oak	Wood fiber hard board	Melamine Particle board
Fiber Board	Wood fiber insulating board	Niove Bidinkala
Kauramin particle board		Phenolic resin particle board
Kosipo		Rubber tree
Larch		Tola – real red
Limba		
Mahogany		
Maritime pine		
Meleze		
Paper		
Pine		
Plum wood		
Poplar		
Red sandlewood		
Swiss pine		
Textile		
Tola		
Walnut		
Western red		
White beech		

6 Moisture Measurement

6.2 SELECT MATERIALS IN BUILDING MODE (B1,B2,B3,B4)

After you turn on the meter push the **"MODE"** key one time to select the building mode. There are four building material groups, you can switch among them by pressing the **"SET"** key. To select the correct building group use Table 2 to find the material you are measuring

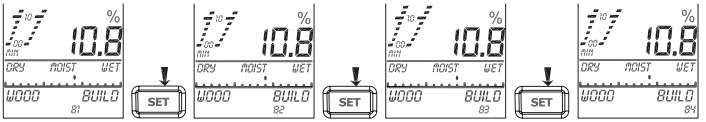


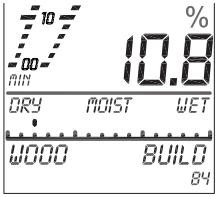
TABLE 2: Building materials detail

Building materials			
B1	**B2**	**B3**	**B4**
Wall Board	Aerated concrete	Freshly poured concrete	Concrete
B05	**B06**	**B07**	**B08**
Anhydrite concrete	Ardurapid cement	B25 cement	B35 cement
B09	**B10**	**B11**	**B12**
Elastizell concrete	Gypsum concrete	Wood fiber composite concrete	Lime mortar
B13	**B14**	**B15**	
Concrete with bitumen additive	Concrete with plastic additive	Cement mortar	

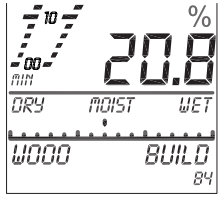
For building materials from group B05 through B15 the Wet/Moist/ Dry indicator function has to be used to measure the % moisture (refer to section 6.3).

6.3 WET/MOIST/DRY INDICATOR

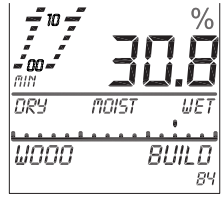
The wet/moist/dry indicator is displayed for evaluating the moisture of materials B05 through B15 in Table 2. The moisture level is divided into DRY, MOIST, WET grades. You can set the wet and dry threshold values in the setting menu (refer to section 7.2). When measuring a sample the indicator dot moves along the Dry/Moist/Wet scale. To interpret the dot location to a % moisture value use Table 3. For example, if the dot location is in the moist region and your building material is a B06, the material moisture is between 0.9 – 1.2%.



Almost Dry



In Moist area



In Wet area

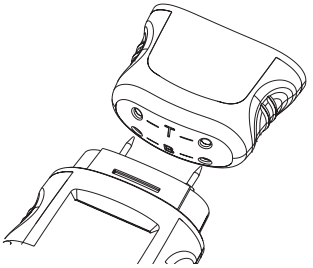
TABLE 3: Material Moisture % Values per Building Material Group

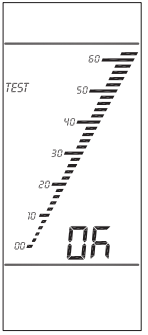
Group #	B05	B06	B07	B08	B09	B10	B11	B12	B13	B14	B15
DRY	<0.5	<0.9	<1.4	<1.8	<1.6	<0.6	<6.2	<1.6	<3.2	<2.8	<1.5
MOIST	0.5-0.9	0.9-1.2	1.4-1.8	1.8-2.3	1.6-2.8	0.6-1.2	6.2-10	1.6-2.5	3.2-3.6	2.8-3.2	1.5-2.8
WET	>0.9	>1.2	>1.8	>2.3	>2.8	>1.2	>10	>2.5	>3.6	>3.2	>2.8

6.4 SELF –TEST/FUNCTION CHECK

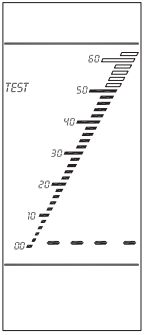
Press the "**MODE**" key until the test screen shown below is displayed.

(1) Connect electrodes with "**B**" contacts located on the protective cap.



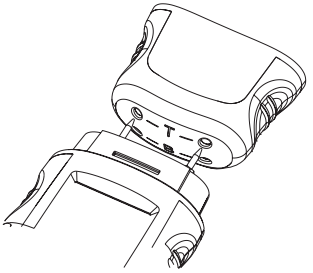


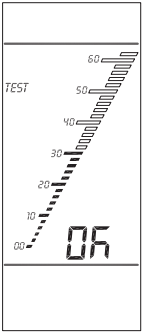
Test approved



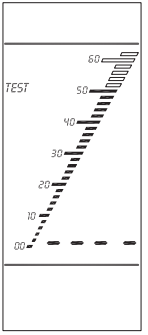
Test not approved

(2) Connect electrodes with "**T**" contacts located on the protective cap.





Test approved

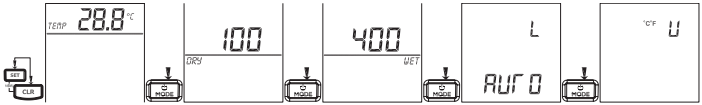


Test not approved

If the test is not approved – check the electrode pins for dirt or damage. If the pins are damaged, replace the pins with new pins. Please contact your BYK-Gardner representive if you need additional assistance.

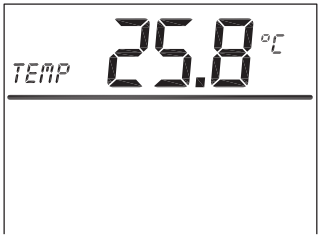
7.0 SETTING MENU

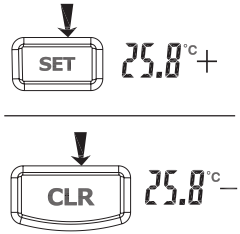
By pressing the **"SET"** and **"CLR"** keys simultaneously, the device will enter the parameter setting menu. There are five setting menus, you can switch among them by pressing the **"MODE"** key.



Set Temperature | **Set Dry index** | **Set Wet index** | **Set Light mode** | **Set Temp unit**

7.1 SET MATERIAL TEMPERATURE COMPENSATION

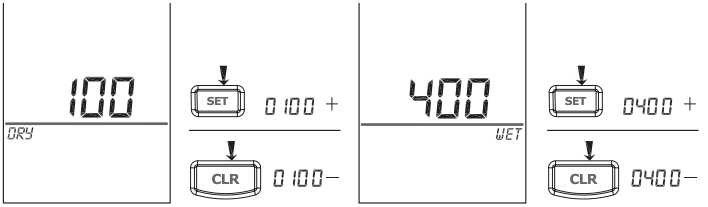




Relative material moisture is dependent on the temperature of the material. The meter automatically compensates for material's temperature. The ambient temperature value is used for the compensation calculation.

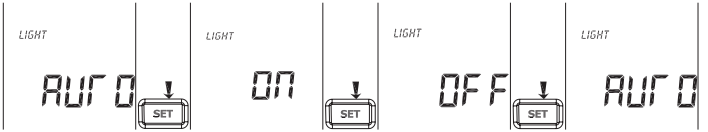
The ambient temperature can be manually adjusted to increase the measurement accuracy. This value is not stored and must be re-set each time the device is switched on. Press the **"SET"** key to increase the value; the **"CLR"** key decreases the value. The value is saved when the **"MODE"** key is pressed.

7.2 SET DRY/WET INDICATOR



The dry/moist/wet indicator is programmed from defined values. The values may be changed as follows. The default "dry" threshold value is 70 and the "wet" threshold value is 850. Press the "**SET**" key to increase the value; the "**CLR**" key decreases the value. Press the "**MODE**" key to sequence from the "Dry" setting screen to the "Wet" screen. The values are saved by pressing the "**MODE**" key.

7.3 SET LCD BACKLIGHT MODE



The LED display illumination can be changed to:

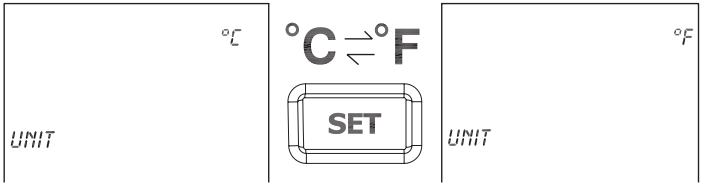
AUTO: Display illumination switches off during periods of inactivity and switches on automatically when in use.

ON: Display illumination remains on during use.

OFF: Display illumination remains off during use.

The ON/OFF settings are not stored when the meter is turned off. The default is set to "AUTO" mode each time the device is switched on. Press the "**MODE**" key to save the setting and sequence to the "Set Temperature Units"

7.4 SET TEMPERATURE UNITS



The ambient temperature can be set to either °C or °F by pressing the "**SET**" key. The setting is stored until it is changed manually. Press the "**MODE**" key to save the change and sequence to the main display.

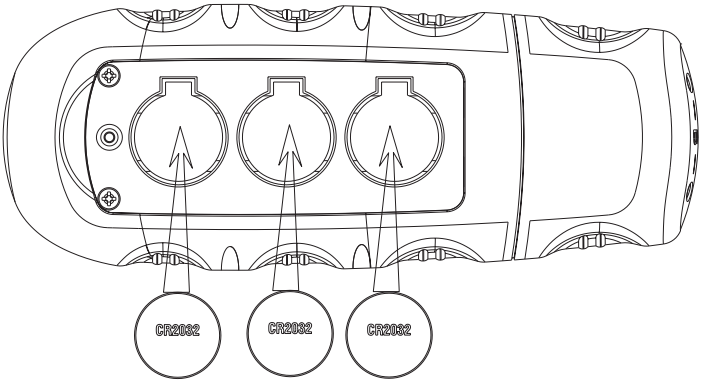
8 Battery

8.0 REPLACING BATTERIES

When the batteries drop below the operating voltage, the battery warning symbol will appear; replace the batteries when the warning symbol appears. The meter uses three (3) CR2032 coin style batteries.

Unscrew the battery cover in the back of the meter.
Remove the battery cover. Change the batteries.

The positive side of the battery is in the up position at all three locations. Re-attach the battery cover and tighten the screw to secure the cover.



9.0 TECHNICAL DATA

Measuring principle:	Electrical resistance
Electrode length:	8 mm
Electrodes:	Integrated, replaceable
Auto power OFF:	After approx. 3 minutes
Auto LCD backlight OFF:	After 10 seconds
Battery:	3x Cr 2032, replaceable
Housing material:	Impact-proof plastic housing
Dimensions:	139 x 47 x 25 mm
Weight:	approximately 100g

Measuring Range	Wood:	1.0 — 75%
	Building Materials:	0.1 — 2.4%
	Temperature:	-40 — 70°C (-40 — 158°F)
	Relative Humidity:	0 — 100%
Accuracy	Wood:	1 — 30% ±1% 30 — 60% ±2% 60 — 75% ±4%
	Building Materials:	±0.5%
	Temperature:	-40 — -10°C ±2°C -10 — +40°C ±1°C +40 — +70°C ±2°C
	Relative Humidity:	0 — 20% ±5% 20 — 80% ±3.5% 80 — 100% ±5%
Meter operating temperature conditions		0 — 40°C
Meter operating humidity conditions		0 — 85%

EC – Declaration of Conformity

CE

BYK

We BYK-Gardner USA
9104 Guilford Road
Columbia, MD 21046 USA

herewith declare the product:

Type: **BYK m100, m200 Moisture Meter**

comply with the requirements of the following EC directives:

Electromagnetic Compatibility 2014/30/EU

The following harmonized standards were applied:

EN 61326-1:2013
EN 61326-2-1:2013

Columbia, MD, August 30, 2019

Technical documentation is available

Michael J. Gogoel

Mr. Michael J. Gogoel
V.P. General Manager