Wood Moisture Tester MT-700

Kett

Operating manual

Wood Moisture Tester Safety Precautions

Injury or damage to property may result if proper safety procedures are not followed when using the wood moisture tester.

• Be sure to carefully follow all safety precautions.

Carefully read operating manual.

• Do not use the unit if it is not functioning properly.

Immediately contact our service representative if the unit malfunctions or does not operate properly.

• Meaning of Warning Indications.

The symbols indicated below are used in the operating manual and on the unit itself in order to prevent accidents due to misuse of the product. These symbols have the following meanings:

⚠ **Caution**	This symbol indicates information important for the understand in order to safely operate the product.

CONTENTS

1. Features

1. Sixteen wood groups can be measured.

2. The wood group number(HARD:01-09,SOFT:10-16) is displayed.

3. When inactive, the unit will automatically power off after approximately five minutes.

4. When the moisture content exceeds the set upper value, a buzzer sounds.

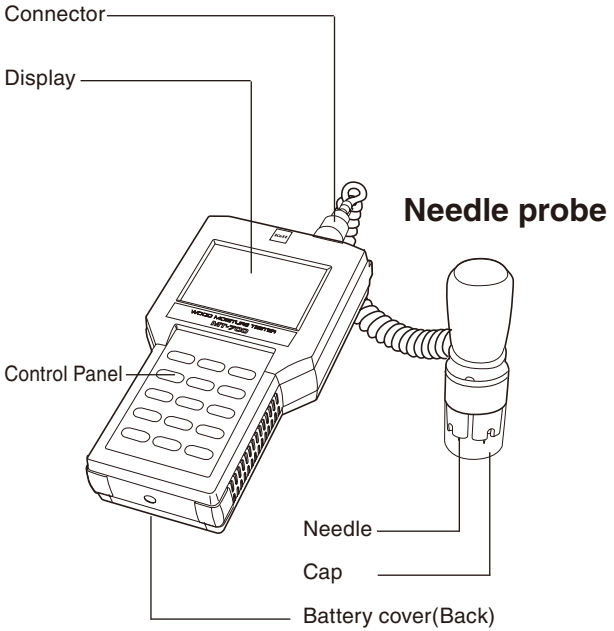
5. The moisture content can be bias-adjusted for each wood group to correlate with local standards.

2. Specifications

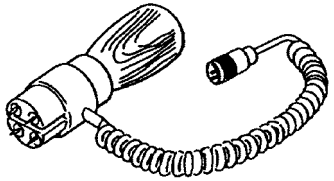
Measuring Principle	:	Electrical Resistance
Applications	:	Wood
Measuring Range	:	5 to 40% (Depends on wood group)
Functions	:	Average
		Auto power off (5minute)
		Bias Adjustment (-9.9 ~ +9.9%)
		Upper limit alarm setting
Operating Temperature	:	0 to 40˚C
Display	:	LCD
Power Supply	:	Battery (1.5V, size”AA”alkaline ,6pcs)
Dimensions	:	110(W) x 210(D) x 50(H) mm
Weight	:	500g
Accessories	:	Needle probe (1), Spare needle (10), Conductive rubber (2), Wrench (1), Shoulder strap (1), Battery (1.5V, LR6) (6), Calibration List (2), Operating Manual (1), Carryingcase (1)

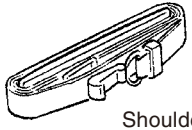
3. Part Names

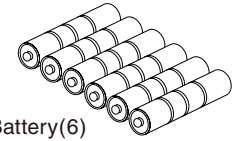
<Main body>



<Accessories>


Needle probe


Shoulder strap


Battery(6)

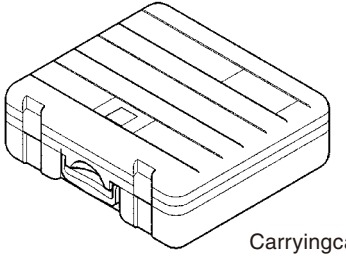

Spare needle (10)


Conductive rubber (2)


Wrench

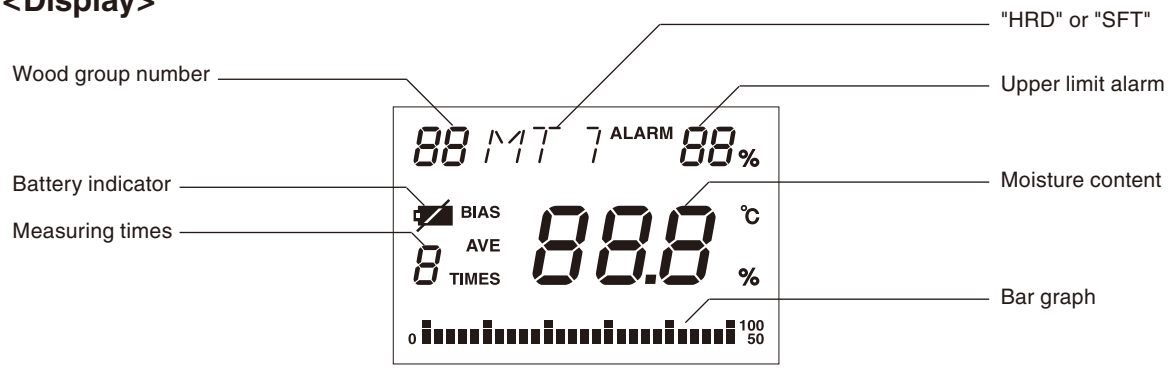
Calibration List (2)

Operating Manual

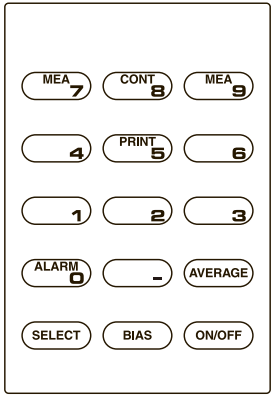

Carryingcase

4. Display and Keypad

<Display>



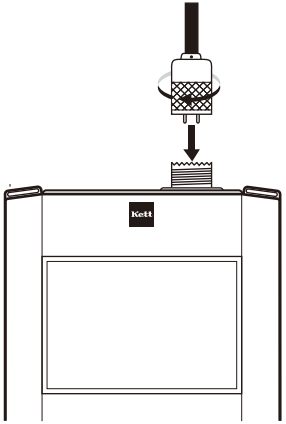
<Keypad>



5. Directions

5-1.Before Measuring

1. Load the batteries.
   The unit is powered by six LR6 batteries.
   Place the batteries in the compartment, taking care to correctly orient the positive and negative terminls.



- The battery indicator is displayed when the batteries are exhausted. Replace all six with new batteries.

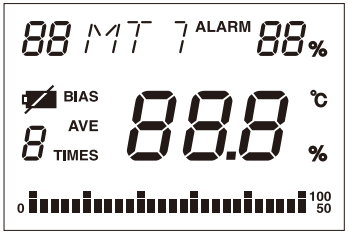
2. Plug the probe connector into the probe socket on the top of the unit.

3. Remove the protective cover of the probe.

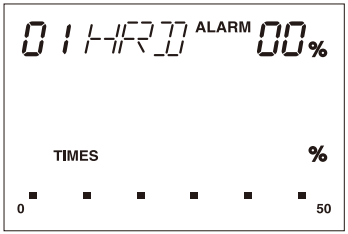
4. Prepare the sample to be measured before measurement.
   Allow it to equilibrate to the ambient temperature of the unit.

5-2.Measurement Method

1. Turn on the MT-700. Press the ON/OFF key. All indicators will be displayed for approximately three seconds.
   The wood group number, "HRD" or "SFT" ,"TIMES" ,"%" will be displayed.

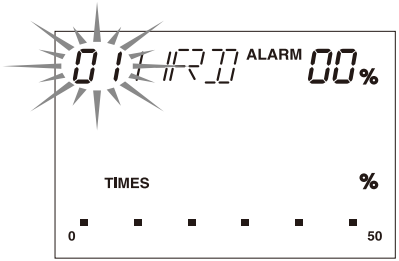


- If this does not happen (as shown in Figure), a problem may exist with the unit. Please see the error list (Section 6.Error Code Display).



2. Select the wood group from the Calibration List.
   Wood group number is from 01 to 09 and from 10 to 16.
   Exaple : Wood group number 01 to 12

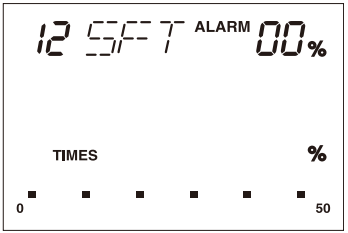
(1)Press the SELECT key. Be sure that wood group number is blinking.



• The part of the display printed in ✳ indicates that this part is blinking.

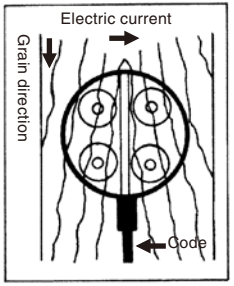
(2) Press the 1 key. Single-digit is blinking.

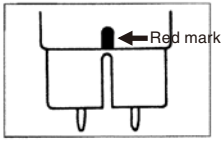
(3) Press the 2 key. "12", "SFT" will be displayed.



• The wood group number is maintained in memory when the unit's power is off.

3. Press the probe into the wood to be measured as shown figure. Place the probe on the wood in the same direction as figure shows, so that electric current may penetrate at a right angle with the flow of wood grain. Grasp the grip of the needle probe and insert the needle up to 7mm into the wood to obtain the intemal moisture content of wood.

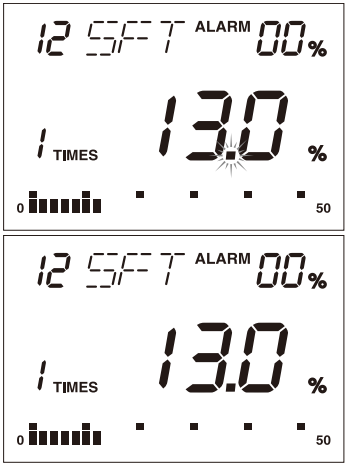




• Turn the red mark attached to the metal part of the sensor in the direction of grain.

• The tip of a sensor needle is a sharp shape. It may cause injury of the operator or damage the other people by careless handling, therefore it should be always capped after use.

4. Press the MEA 9 key. The decimal point blinks.The moisture content is displayed.



- Bar graph is displayed at the same time. (Full scale is 50%,every at intervals of 2%.)
- When the moisture content is less than the lower limit of the measuring range, LCD displayes "LO". When the moisture content is greater than upper limit of the measuring range, LCD displayes "HI".

5. Remove the probe from the wood.
   The moisture content is displayed at this time. If you wish to continue with further measurements,resume the procedure from step3.(Press the probe into the wood to ...)
   When ending, press ON/OFF key cut a power supply.

- When inactive, the unit will automatically power off after approximately five minutes.

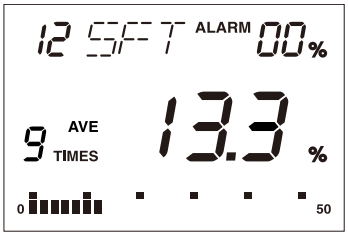
• The part of the display printed in ☼ indicates that this part is blinking.

5-3.Displaying the average value

Press the (AVERAGE) key to display the average of the measured values.

When the number of measurements is between 2 and 9, "AVE", the number measurement and the average are displayed.

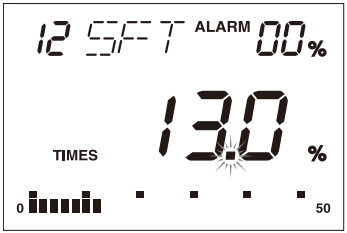
Once the (AVERAGE) key is pressed the number of measurements resets to "1".



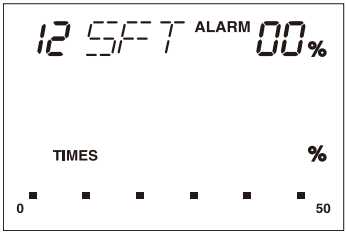
5-4.Continuous Measurement

The unit automatically measures in the continuous measurement mode.

1. Changing to the continuous measurement mode.
   In step "5-2.Measurement Methhod 4.Press the ...", press the CONT 8 key. The decimal point blinks and the moisture content is displayed. "LO" is displayed when the probe is not inserted into wood or the moisture content is below the measuring range.



2. Resetting the continuous mode.
   Press the CONT 8 key continuously for 1-2 seconds. The buzzer sounds. The unit resets to the normal mesurement mode.



- Press the ON/OFF key. The unit resets to the normal measurement mode.
- Battery life is shorter in this mode than the normal measurement mode. (Battery life is about 24hours at 20˚C in the continuous measurement mode.)

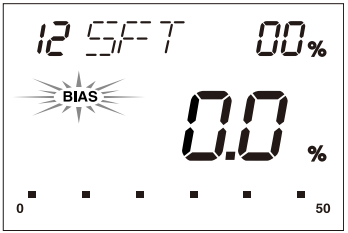
• The part of the display printed in ☼ indicates that this part is blinking.

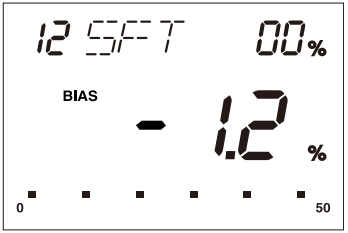
5-5.Performing Moisture Content Bias Adjustment

A moisture content bias adjustment can be made from -9.9% to +9.9% for each wood group. Input a bias value if the moisture content has a discrepancy against the official standard.

Example : Wood group number 12. The bias value should be decreased by 1.2.

1. Slect the wood group.
   Press the SELECT key. Press the number keys for the proper wood group. (Refer to “2.Select the wood group” on page 7.)
2. Set the unit to the bias adjustment mode.
   Press the BIAS key. The “BIAS” indicator blinks and the bias value is displayed. The bias value is initially set to “0.0”.
3. Input the bias.
   Press – key, 1 key and 2 key.
4. If you wish to continue with further measurements, resume the procedure from step “5-2.Measurement Methhod 3.Press the probe into the wood to...”.
5. The “BIAS” indicator is diplayed if the bias value is not 0.0.
6. The bias value is maintained in memory even when the unit’s power is off.



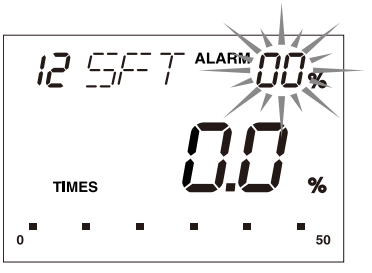


• The part of the display printed in ☼ indicates that this part is blinking.

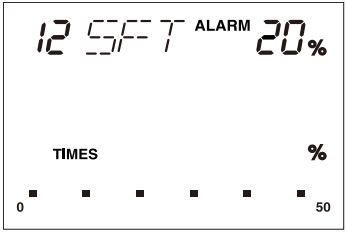
5-6.How to set an alarm value

The unit has alert function. Buzzer sounds, when the moisture content to be measured exceeds the alarm value.

1. Press ALARM 0 key.
   The two digits figures will blink on the right side of "ALARM".



2. Input the alarm value.
   Example : 20%
   Press 2 key and ALARM 0 key. The alarm value will be displayed.



3. Measurement will be done by pressing the MEA 9 key.

• The part of the display printed in ☼ indicates that this part is blinking.

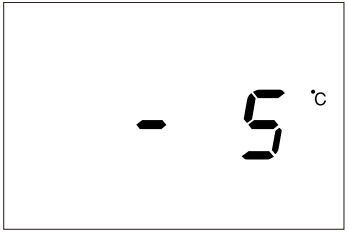
6. Error Code Display

An eror code will be displayed whenever an error occurs.
The error code will be diplayed for 4 seconds,then the power turns off.

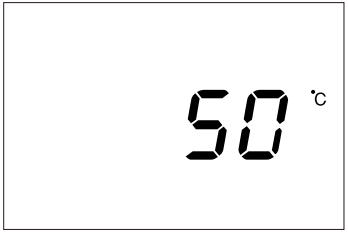
1. There is a problem with the temperature sensor. Repair is necessary.

2. There is a problem with the electronic circuit used for moisture measurement. Repair is necessary.

3. The measurement cannot be made because the temperature of the unit is below 5˚C.
   Raise the temperature of the unit before making mesurements.



4. The measurement cannot be made because the temperature of the unit is above 50˚C.
   Lower the temperature of the unit before making mesurements.



7. Applications and Ranges

Number	HRD/SFT	Name of wood	Measuering Range
01	HRD	Zelkova	6~40%
02	HRD	Oak,Cherry,Chestnut	6~40%
03	HRD	Birch	6~40%
04	HRD	Apitong	6~40%
05	HRD	Ramin,Kempas	7~30%
06	HRD	Ash	5~40%
07	HRD	Teak	6~40%
08	HRD	Lauan,Meranti	6~40%
09	SFT	Larch	6~40%
10	SFT	Cotton wood	6~40%
11	SFT	Hemlock	7~40%
12	SFT	Spruce	7~40%
13	SFT	Cypress	7~40%
14	SFT	Pine	8~35%
15	SFT	Cedar	7~35%
16	SFT	Fir	6~40%

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