

## NOTES

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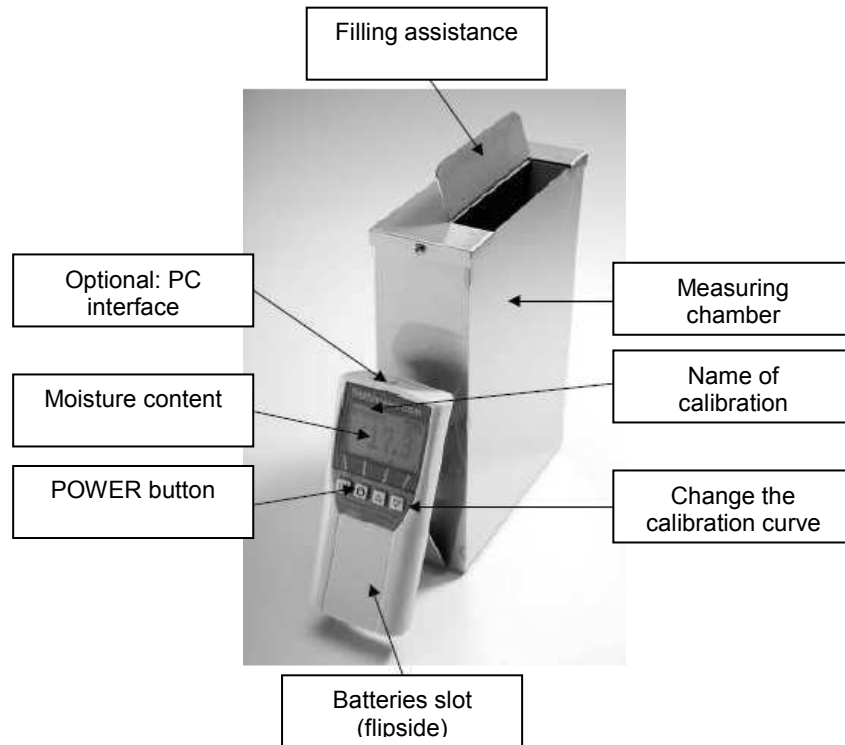
## 1.0 DESIGN OF THE DEVICE

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## NOTES



## 13.0 WARRANTY

Electromatic Equipment Co., Inc. (Electromatic) warrants to the original purchaser that this product is of merchantable quality and confirms in kind and quality with the descriptions and specifications thereof. Product failure or malfunction arising out of any defect in workmanship or material in the product existing at the time of delivery thereof which manifests itself within one year from the sale of such product, shall be remedied by repair or replacement of such product, at Electromatic's option, except where unauthorized repair, disassembly, tampering, abuse or misapplication has taken place, as determined by Electromatic. All returns for warranty or non-warranty repairs and/or replacement must be authorized by Electromatic, in advance, with all repacking and shipping expenses to the address below to be borne by the purchaser.

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## 2.0 MEASURING PROCEDURE


1. Place the empty provided cup (0.5 litre) on the scale and turn the scale on. It shows 0,0 gram.




2. Fill up the cup with 280g sample material. (+/- 1,0g)





3. Make sure that the measuring chamber is completely empty. It is important that no material is left in the measuring chamber when you turn on the device.

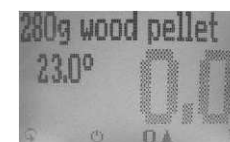
4. Switch on the humimeter BP1 by pressing the power button (  ) for 3 sec.



5. As the next step, please do the self calibration. The word "calibrate" will show up on your display. Accept by pressing the  button.



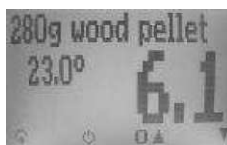
6. Select the calibration curve „280g wood pellets“ using the buttons  or .







7. Fill up the measuring device with the sample pellets. The filling needs to be done slowly and constantly to ensure reproducible results.



8. The display shows the measuring result.



9. To save the results in the storage menu press the  button. The storage was successful when the number in front of the symbol  increased. To reach the storage menu please press  until the  appears.



10. To name the saved results press the  button.

11. Empty the humimeter and ensure that no pellets rests are accumulated in the measuring chamber.



#### Measuring range:

If the measure value is blinking, the valid measuring range is exceeded (limits see list on page 5). In this case the accuracy will be decreasing.



## 11.0 MOST COMMON REASONS FOR MISS READINGS

- **Product temperature out of application range**

Material below 0°C resp. above 40°C (32 to 104 °F) may cause faulty measurements. The storage of cold material in a warm storage area usually creates condensed water which may lead to major measuring errors.

- **Not adjusted pellets**

Let your humimeter BP1 adjust to the surrounding temperature of the material for approximately half an hour.

A very high temperature difference has a negative effect on the stability of the measurement result.

- **Wrong calibration curve**

Before you measure your sample, double check the correct selection of the calibration curve.

- **Wrong filling quantity**

Fill in exactly 280 gram ( $\pm 1.0$  g) of wood pellets in the measuring chamber.

- **Wet or mouldy material leads to wrong values!!**

- **Frozen measuring material leads to wrong values!!**

## 12.0 DEVICE MAINTENANCE INSTRUCTIONS

To provide a long lives of your device please do not expose it to strong mechanical loads or heat e.g. dropping it or direct sunlight exposure.

Clean your device using a **dry cloth**. The measuring chamber needs to be cleaned with a **dry and soft brush**.

Any kind of wet cleaning damages the device. The instrument is not rainproof. Keep it in dry areas.

We recommend an interval ISO-conforming device check with the drying method.

Electromatic also provides a test with a calibration certificate for a fee.

## 10.0 TECHNICAL DATA

Resolution of the display	0,1% moisture content 0,5°C temperature
Measuring range	3 up to 20 % moisture content
Operation temperature	0°C up to 40°C
Storage temperature	-20°C up to 60°C
Temperature compensation	Automatically
Power supply	4 pcs. 1.5 Volt AA Alkaline batteries (1800 measurements)
Automatically turn Off	After 6 minutes
Current consumption	55 mA (with light)
Display	128 x 64 matrix display (lighted)
Dimensions	260 x 70 x 250 mm
Weight	app. 1.3 kg (with batteries)
Degree of protection	IP 40
Scope of supply	Plastic case Digital scale 1000g Measuring cup 0.5 litre 4 x 1.5Volt AA Alkaline Batteries
Optional accessories	PC-Interface Software LogMemorizer Printer



## 3.0 CALIBRATION CURVES

Name of Calibration curve	Fill quantity	Measuring range limits
280g wood pellet	280g	3 up to 20%
250g spec.pell. 1	250g	3 up to 20%
250g spec.pell. 2	250g	3 up to 20%
250g spec.pell. 3	250g	3 up to 20%
reference	-----	-----

### Explanation of the curves:

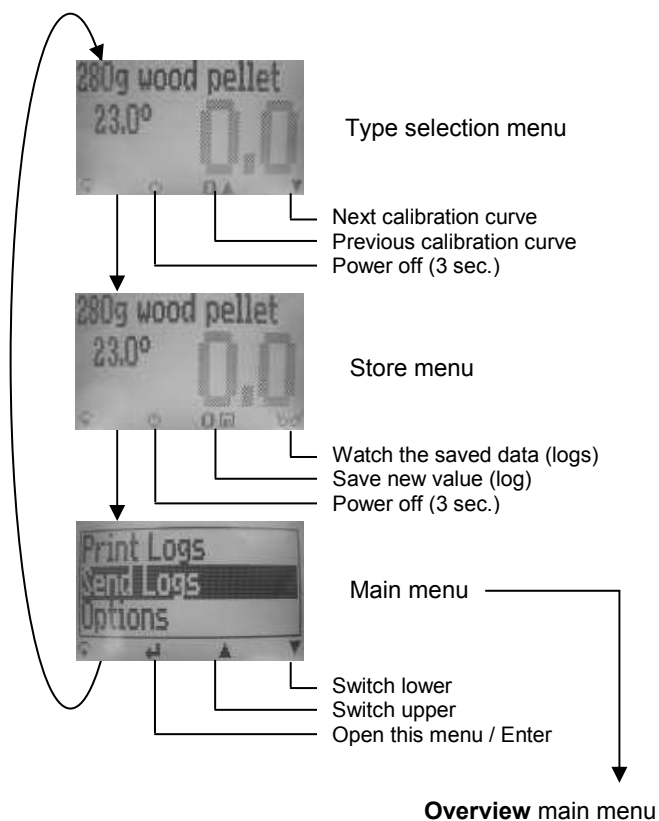
- 280g wood pellet: To analyze the moisture of Ø6 and Ø8 mm **wood pellets** with a **maximum** length of **30mm**.  
According to norm CEN/TS 14961
- If you do not want to measure wood pellets (or wood pellets with smaller bulk density), you have to determine the moisture according to CEN/TS 14774 once per sort and assign these to a sort calibration curve (special pellets 1 to 3). Fill up the BP1 and switch through all curves. The characteristic with the smallest deviation is the correct one for this sort of pellets!  
Filling quantity 250g
- Reference: To test the humimeter BP1. Do not use for measuring the moisture!

### List of calibration curves

Press in the measuring window the ▲ or ▼ key for at least 3 seconds and a list with all available sorts will appear. Select your sort by pressing ▲ or ▼ and confirm it with the ↵ key. The measurement will continue automatically.



## 4.0 MENU LEVEL OVERVIEW



<b>Edit Logs</b>	<b>Options</b>
Manual Logs	Date / Time
Clear Logs	Log Time
<b>Print Logs</b>	Language
Last Log	Unlock
All Logs	°C / °F
Clear Logs	o Userlevel
<b>Send Logs</b>	BL On Time
Manual Logs	Auto Off Time
Clear Logs	o Online Send
<b>Options</b>	o Online Print
Status	Password
	Reset
	Materialcalib.

## 9.0 PRINT SAVED DATA

*(Only possible with humimeter serial interface module in combination with Schaller thermo printer)*

To print your saved logs, connect the printer to the humimeter serial interface using the cable that was delivered with your device.

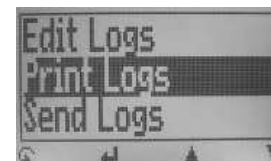


To switch on the printer, press the ON/OFF button.

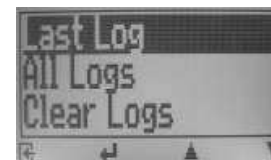
If the printer is correctly switched on, the green LED blinks regularly. If it does not, replace the batteries and try again.



Press the -key until you reach the menu (as in the image on the right). Then choose „Print Logs“ from the menu and confirm with .

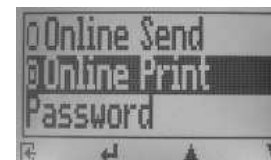


Now you can choose if you want to print only the last log or all recorded logs. Confirm with again. The selected logs will be printed out.



### Online Print

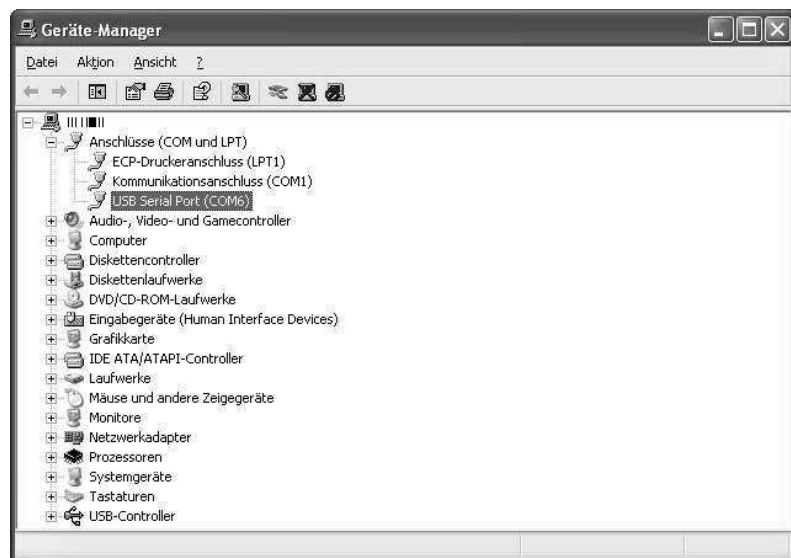
If your device supports online-printing, this can be activated in the menu „Options“. If the option is active, every newly recorded log will immediately be printed, if the printer is connected and switched on.



## Using a USB-RS232 adapter with the data link cable to transfer data to a PC (Only possible with humimeter serial interface module)

Connect the USB-RS232 adapter to your PC. In Windows XP and Vista the adapter for the operating system is automatically recognized. Follow the instructions of the operating system.

In order to adjust the correct connection of the **humimeter LogMemorizer** you have to know the port number. (COM1-COMX) You can find this setting in the device manager, directory ports (COM & LPT). See print screen below.









The shown port number in the device manager COMx (in our example COM6) for the USBRS232- adapter has to be selected in the software **humimeter LogMemorizer**, directory **Extras – Settings – Device**. Close the dialog using the button **OK**.















## 5.0 KEYPAD SYMBOLS

### Measuring window:

-  : Rolling Menu
-  : Power ON / OFF
-  : Switch upper
-  : Switch lower
-  : Save
-  : Hold
-  : Watch the saved data
-  : Suppliers data can be added

### Menu:

-  : Enter
-  : Switch upper
-  : Switch lower
-  : Exit
-  : Enter numbers
-  : Enter letters
-  : Next or right
-  : Left
-  : Yes
-  : No
-  : Shift
-  : OK

## 6.0 CHANGING BATTERIES

Your new device is provided with batteries.

Change of batteries:

1. Press with your finger onto the arrow of the battery cap and pull it back.
2. Remove the empty batteries.
3. Put four new batteries in the device. Make sure the position of the battery poles is correct.
4. Press down the batteries and close the cap.



## 7.0 DETERMINATION OF THE MATERIAL REFERENCE MOISTURE

The principle is a comparison measurement with the dehydration method according to CEN/TS 14774. Take the measured sample and weigh it. Dry it out in an oven and weigh it again.

$$\%F = \frac{M_n - M_t}{M_n} \times 100$$

$M_n$  : Mass with average moisture content

$M_t$  : Mass of the dried sample

%F : Calculated absolute moisture

### Exemption from liability

For miss-readings and wrong measurements and of this resulting damage we refuse any liability. This is a device for quick determination of moisture. The moisture depends on multiple conditions and multiple materials. Therefore we recommend a plausibility check of the measuring results. Each device includes a serial number and the guarantee stamp. If those are broken, no claims for guarantee can be made. In case of a faulty device, please contact Electromatic.

## 8.0 TRANSFER SAVED DATA TO THE PC



*(Only possible with humimeter serial interface module)*

To send your saved logs to your PC, connect the humimeter-device to your PC using the cable that was delivered with your device. You can either connect it directly to a serial port on your PC or use the enclosed serial-USB adapter.


Start the LogMemorizer software on your PC.

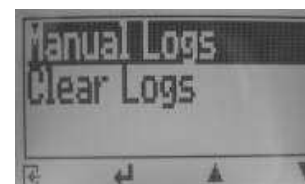
For installation and the required settings, please have a look at the separate LogMemorizer manual.



Press the -key until you reach the menu (as in the image on the right). Then choose „Send Logs“ from the menu and confirm with .



Now you can choose “Manual Logs” and confirm with  again. The selected Logs will be sent to your PC. If no transmission is performed, please check your cable connection and the LogMemorizer settings and try again.



If your device supports online-sending, this can be activated in the menu „Options“. If the option is active, every newly recorded log will immediately be sent to your PC.



# BP1

## PELLET MOISTURE METER

