

**HAND HELD INSTRUMENT FOR
MEASUREMENT
OF WOOD MOISTURE**

MS2000-WM%&T°, MS2012-WM%&T°



**TECHNICAL DESCRIPTION AND INSTRUCTIONS FOR
USAGE**

PLOVDIV 2002

I. DESIGNATION

The hand held instruments MS2000-WM%&T° and MS2012-WM%&T° are designed for measurement of the moisture of the wood. They are with automatic temperature correction of the measured values depending on the type of the measured wood material, which provides higher accuracy of measurement. The wood species are classified in four groups, and in the memory of the instrument are memorized 30 of the most used wood species in Bulgaria. The small dimensions and weight make them unique in the cases, when it is necessary the moisture of the wood material to be checked in lumber-yards or timber kilns.

II. TECHNICAL DATA

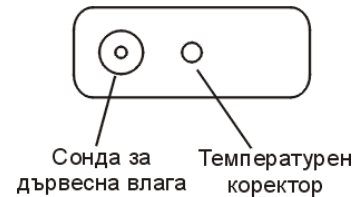
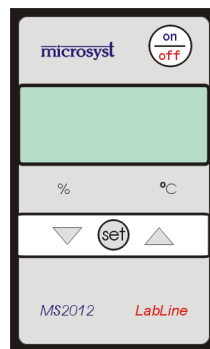
	MS2000-WM%&T°	MS2012-WM%&T°
Range	WM % °C	0.0 ... 30.0 -10.0 ... 100.0
Temperature compensation	Automatic (Pt1000) or Manual	
Display	LCD 2 x 8 letter-digit	LCD 3 ½ digits
Keypad	Four membrane keys	
Operating temperature	0 ... 50 °C	
Operating relative humidity	< 85 % RH	
Power supply	9 V battery	
Overall dimensions (WxHxL)	100 x 65 x 25 mm	
Weight	max 200 g	

III. FRONT, BACK PANEL AND BUTTONS

MS2000-WM%&T°



MS2012-WM%&T°





-1 Switching ON/ OFF of the instrument



-2 Enter operating mode "Tuning of temperature" at manual temperature correction

-3 Enter operating mode "Selection of wood group / wood species"

-4 Confirm the corrections and enter operating mode "Measurement"



-5 Selection of operating screen

-6 Increase of the set-pointed values of the temperature °C

-7 Selection of wood group / wood species



-8 Selection of operating screen

-9 Decrease of the set-pointed values of the temperature °C

-10 Selection of wood group / wood species

IV. SWITCHING ON / OFF OF THE INSTRUMENT



-11 Switching on – press only once

-12 Switching off – press and hold for 3 sec

V. OPERATING MODE "MEASUREMENT"

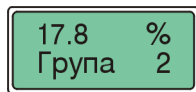
In operating mode MEASUREMENT the two parameters WM% and °C appear on the display on two operating screens (WM% and wood group or WM% and °C) for model MS2000-WM%&T° or one of them for model MS2012-WM%&T°.



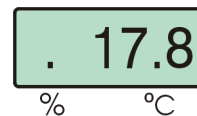
-13 Change of the parameters on the display

1. First operating screen

MS2000WM%&T°



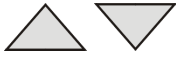
MS2012WM%&T°



The measured wood moisture appears on the display for model MS2012WM%&T° or wood moisture and wood group for model MS2000WM%&T°. The wood group can be changed as it follows:



-14 Press only once. Inscription **Gr1**, **Gr2**, **Gr3** or **Gr4** appears on the display for model MS2012WM%&T° or marker opposite the wood species for model MS2000WM%&T°



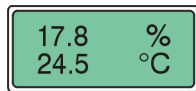
-15 Select wood group for model MS2012WM%&T° or wood group / wood species for model MS2000WM%&T°



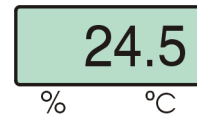
-16 Confirm the selection. The instrument automatically passes to operating mode MEASUREMENT

2. Second operating screen

MS2000WM%&T°



MS2012WM%&T°



The measured wood moisture and the operating temperature appear on the display for model MS2000WM%&T° or only the operating temperature for model MS2012WM%&T°.

VI. TEMPERATURE COMPENSATION

MS2000-WM%&T° and MS2012-WM%&T° are with automatic or manual temperature correction of the value of WM%. The instruments recognize if Pt1000 sensor is switched on and change the operating mode – automatic (with Pt1000 sensor) or manual (without Pt1000 sensor).

If flashing “°C appears on the display for model MS2000-WM%&T° or flashing decimal point for model MS2012-WM%&T°, the instrument is in operating mode MANUAL TEMPERATURE CORRECTION. In this status the user sets the temperature of the measured wood species.

The instrument must be in **second operating screen**; value of the temperature with flashing “°C appears on the display for model MS2000WM%&T° or flashing decimal point for model MS2012WM%&T°.



-17 Press only once. Flashing marker appears on the display for model MS2000WM%&T° or the value of the temperature without flashing decimal point for model MS2012WM%&T°



-18 Set-point the value of the operating temperature



-19 Confirm the entered value of the temperature. The instrument automatically passes to operating mode MEASUREMENT

In model MS2000-WM%&T° are entered the four wood groups and the 30 most used wood species in Bulgaria, appearing on the display with their names.

VII. WOOD SPECIES (classification in groups)

BROAD-LEAVED TREES

● Acacia	3
● Birch	3
Paper birch	3
Gold birch	3
Black birch	3
● Elm-tree	3
English elm-tree	3
● Beech	2
● Pubescent oak	2
European oak	3
Red oak	2
● Hornbeam	3
● Alder	3
● Chestnut	2
Horse chestnut	3
● Linden	2
● Poplar	3
White poplar	3
● Walnut-tree	3
● Cherry tree	3
● Mulberry tree	3
● Sycamore maple	3
● Ash-tree	3
American ash-tree	3
Manna-ash	2
Basket ash	2

CONIFEROUS TREES

● Common pine	3
Black pine	3
● Fir-tree	3
● Larch	3
● White fur	3
Rumelian pine	3
● Spruce	3
European spruce	3
Common spruce	3
Blue spruce	3

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