



# COMPUTERIZED SHORE HARDNESS TESTER

## USER MANUAL



ISO17025:2017



ISO 9001:2015



Item No	Shore Scale	Range	Resol	Indenter			Force
				Diameter	Indenting foot	Extension	
				mm		mm	
21100101	A	0-100	0,01	1,40	35° truncated cone D=0,79mm	2,54	8,05
21100102	C				30° cone R=0,1mm		44,45
21100103	D						
21100104	00			2,40	1.20 mm spherical R		1,111
21100105	F						0,55-4.3

## MULTISCALE SET'S



Item No	Shore Scale	Indenters
		pcs
21100110	A,C	2
21100111	A,D	2
21100120	A,C,D	3
21100100	A,C,D,00	4
21100130	A,C,D,00, F	5

## TECHNICAL DATA

Parameters	
LED display	color 2,4 inch 320x240
Indication system	MICS 4.0
Power supply	Rechargeable Li-Pol battery 500 mAh
Charging port	micro-USB
Case material	Aluminium
Wireless data transfer	Long range / HID
USB data transfer	USB HID

## MAIN INFO

**SWITCH ON DEVICE** - button push (1 sec)

**SWITCH OFF DEVICE** - button push (3 sec)/ auto switch off

**DATA TRANSFER** - programming throw menu



**BUILT-IN BATTERY** - rechargeable Li-Pol battery

# DATA TRANSFER



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## 3 MODES OF DATA TRANSFER (USB + 2 WIRELESS MODES)

### WIRELESS CONNECTION TO MDS APP

WIRELESS data transfer to MICROTECH MDS app for Windows, Android, iOS



**FREE SOFTWARE**



**NO DONGLE**



SAVING DATA TO XLS, CSV FORMATS



TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE



TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS



SAVING GRAPH

### WIRELESS HID CONNECTION USB HID CONNECTION



**NO DONGLE**



TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE



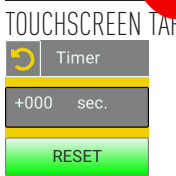
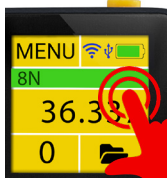
TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS



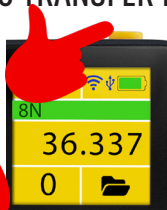
TRANSFER DATA TO ANY BROWSER OR APP

WIRELESS HID and USB HID data transfer (like keyboard) direct to any customers app and system

## 7 WAYS HOW TO TRANSFER DATA TO PC OR TABLET



BY TIMER



FROM MEMORY



SELECTED FORCE



IN MDS APP

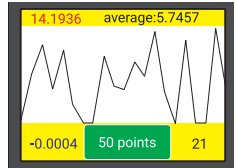


FROM PAIRED DEVICE

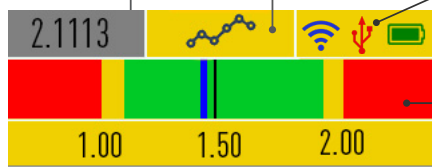


# MAIN SCREEN

ON-LINE GRAPHIC MODE



LAST VALUE



ANALOG SCALE

## CONNECTION STATUS

- WIRELESS DISCONNECTED
- WIRELESS CONNECTED
- WIRELESS HID CONNECTED
- USB HID DISCONNECTED
- USB HID CONNECTED

1.4705

0 MENU 177

## MEMORY



STANDARD or FOLDER system can be activated through MEMORY menu

For save measuring data to internal device memory touch data area on screen or button push. You can view saved data or send by WIRELESS or USB connection to Windows PC, Android or iOS It's possible to use Standard or Folders memory modes

Stat	All	Stat	All	Stat	All	Statistic
1: 0.0000	2: 1.2334	3: 1.2337	4: 1.2333	5: 1.2341	1.2341	MAX: +26.999
						MIN: 8.8673
						AVG: +5.3213
						D: +26.863

FOLDERS SYSTEM    MEMORY 2000 VAL.    MEMORY EXPORT    STATISTIC

# MAIN SCREEN on 2D mode

ANALOG SCALE FOR PROBE MODE



2D AND HUB MODE

0 P 0.334

0 75.573

0 MENU 177

- PROBE** - Saving data when Probe will reach value
- PROBE Auto** - Saving data when Probe will reach value with this value compensation
- 2D** - 2 axis data reading
- 2D Sync** - Synchronized 2 axis data reading

ON-LINE GRAPHIC MODE



# FUNCTIONS



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## LIMITS mode GO/NOGO



MAX - **NoGo** more Upper limit  
MIN - **NoGo** less Lower limit  
RANGE - **Go** between Limits  
SCALE - Analog scale active

## COLOR INDICATION LIMITS ON MAIN SCREEN **Go NoGo**

v	2.000	Upper limit
^	3.000	Lower limit
%	20	Yellow zone on analog scale
SCALE	RES	

## PEAK mode MAX/MIN/MODULE/RANGE



**DISABLE** - non active mode  
**ENABLE** - activating mode  
**REFRESH** - refresh peak value according timer

Max/Min
Enabled
MAX

**MAX** - indicating MAX measured value  
**MIN** - indicating MIN measured value  
**MODULE** - indicating MAX module  
**RANGE** - indicating deviation between MAX and MIN

## TIMER mode



## SAVING DATA TO MEMORY OR SENDING WIRELESS/USB BY TIMER

Timer	
0.000 sec	Select timer period
Reset	Reset to deactivate mode

## FORMULA mode



Formula
$Ax^2+Bx+C$
Set Argv

Select FORMULA Type (Math, Radius or other)

## FOR SHORE TESTER - DUROMETER mode

Select arguments or settings

## FOR SHORE TESTER:

-select **TIMER** period

-select **REPEAT** measurements (up to 5) - will be saving **MEDIUM** value in memory or Last value

## RESOLUTION selection



Resolution	
X.0000	Resolution selecting
mm	select SHORE scale (HA, HC, HD or other)



## DISPLAY settings



- Sleep OFF (15 s low brightness off, sleep off)
- Sleep 15s (15 s low brightness on, sleep off)
- Sleep ON (15 s low brightness on, sleep on)

**Display** Display rotation 0°, 90°, 180°, 270°

Angle 270

Sleep ON

Brightness level

## Error compensation



### Linear correction error's on device

O: 17.251 actual values

C: 17.258 correct values by up&down button

UP OK confirm point correction

DN RES

**IT's POSSIBLE TO IMPROVE SHORE TESTER ACCURACY USING SHORE TEST BLOCKS**

## TEMP compensation



Manual Temperature setting

**Temp.com.**

Cu, Cu alloys

27.5°C RES

- 4 types of material for selection:
- Glass, Quartz
  - Stainless steel
  - Cuprum and alloys
  - Alluminium and alloys

## WIRELESS data transfer



Reconnection button

Wireless power regulation

**Wireless**

HID

CLEAR

- ON** - WIRELESS data transfer to MDS App for Android, iOS, Windows
- HID**- WIRELESS HID direct transfer data to any App in Windows, MacOS, Linux, Android devices (like keyboard). Configure data format in USB sub-menu
- 2D-S** - Slave device on WIRELESS connection on HUB mode
- 2D-M** - Master device on WIRELESS connection on HUB mode

## USB OTG data transfer



**USB**

USB ON

CONF KEY

- Connect USB cable to PC & Activate USB HID connection mode
- Select setting of data transfer
- Direct transfer data to any App in Windows, MacOS, Linux, Android devices
- Configuring data transfer Dot/Comma and Tab/Arrow Down/CR+LF

# FUNCTIONS

## HUB connection

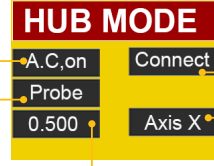


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### PROBE MODE



- A.C.on** - Auto Connection active
- A.C.off** - Auto Connection no active
- PROBE** - Saving data when Probe will reach value
- PROBE Auto** - Saving data when Probe will reach value with this value compensation
- 2D** - 2 axis data reading
- 2D Sync**- Synchronized 2 axis data reading
- Disable** - switch off modes

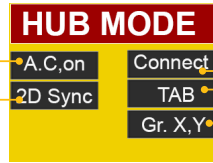


Setting PROBE limit value

- External Wireless device connection
- Axis priority selecting

### 2D MODE

- A.C.on** - Auto Connection active
- A.C.off** - Auto Connection no active
- PROBE** - Saving data when Probe will reach value
- PROBE Auto** - Saving data when Probe will reach value with this value compensation
- 2D** - 2 axis data reading
- 2D Sync**- Synchronized 2 axis data reading
- Disable** - switch off modes



- External Wireless device connection
- Symbol between Axis
- Graphic mode indication setting

## LINK to app's

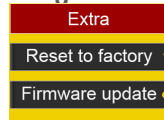


QR Link to MICROTECH web site page with MDS Software download

- Android, iOS, Windows versions
- Free and Pro versions
- Manuals

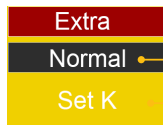


## RESET to Factory settings



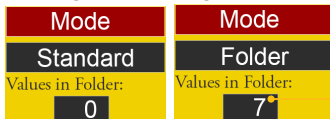
- Push 10 times to RESET device to factory settings
- Push 10 times to FIRMWARE UPDATE

## EXTRA



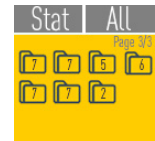
- Selecting normal or inverted axis mode (+/- value indication)
- Coefficient setting (for distributor and calibration only)

## MEMORY manager setting



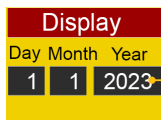
Activating STANDARD or FOLDER SYSTEM

Values in each Folder



FOLDERS SYSTEM

## CALIBRATION date info

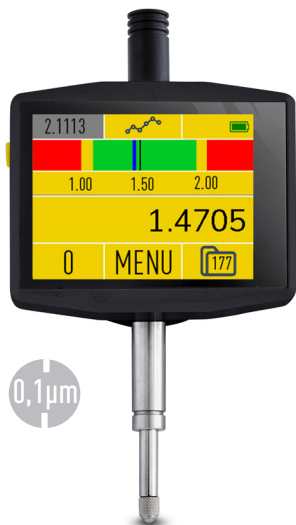


Push for change calibration date info

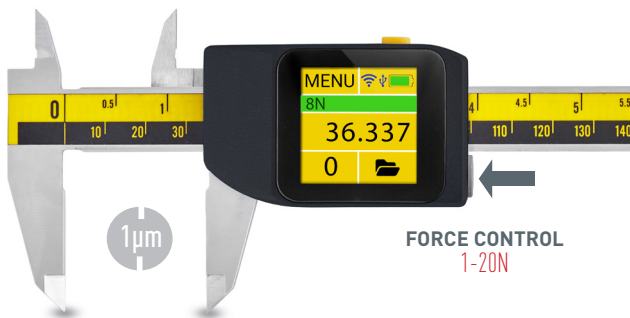


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# INDUSTRY 4.0 INSTRUMENTS



0,1µm



1µm

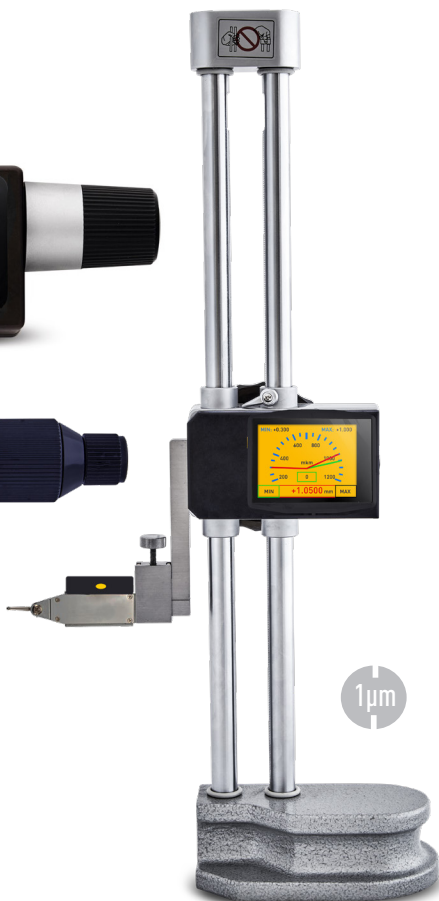
**FORCE CONTROL**  
1-20N



0,1µm



0,1µm



1µm

## MICROTECH

innovative measuring instruments

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