

# SUB-MICRON COMPUTERIZED MICROMETER HEAD USER MANUAL





Item No	Range		Resolution		Accuracy	Protection class	Indication	Data output	Calibration
	mm	inch	mm	inch	$\mu\text{m}$			Wireless	ISO 17025
110181027	0-25	0-1"	0,0001	0.00001"	$\pm 2$	IP-65	computerized MICS system with 1,54" touchscreen	max 50m	+

## TECHNICAL DATA

Parameters	
LED display	color 1,54 inch
Resolution	240x240
Indication system	MICS 3.0
Power supply	Rechargeable Li-Pol battery
Battery capacity	450-800 mAh (depends of device)
Charging port	micro-USB
Case material	Aluminium
Buttons	Switch (Multifuntional), Reset
Wireless data transfer	up to 50m on open area

Clean the oil from the measuring surfaces of micrometer by cloth.

Turn on micrometer by pressing SWITCH ON button.

Check the setting display to zero. Contact with each other (or with setting gauge) measuring surfaces of the anvil and the spindle, using the ratchet and take a measurement.

Rotation the micrometer screw in the direction of convergence measuring surfaces using the ratchet.

For zero setting, press the ZERO button on Touchscreen.

# MAIN INFO



**MICROTECH**



## PRECISION MEASUREMENTS

MICROTCH computerized micrometer with 0.1 resolution can be used for high precision measurements in manufacturing, automotive medical industry and for calibration



## COLOR GO/NOGO INDICATION

Easy and quick limits control.  
It's possible setup max and min value throw menu.  
Color indication reduce possibility of error during control



## INTERNAL MEMORY

Computerized micrometer has memory manager with possibility saving data to folders. Separate Data's or Folders can be transfer Wireless to MICROTECH Software (Windows, Android,iOS)



## FORMULA MODE

In Formula mode we use  $Ax^2+Bx+C$

Main using of this function is:

- Preset function
- Magnification of measured value

For customers request Formula can be updated



## ERROR COMPENSATION

It's possible to make mathematical error compensation. Just re-calibrate micrometer with gauge block set and save results. Micrometer will indicate measuring results include re-calibration.



## TEMPERATURE COMPENSATION

Temperature compensation function gives possibility recalculate details sizes with high or low temperatures to normal (20C conditions). Available recalculation for 7 materials

# CHARGING



For charging connect USB cable  
Charging process indicating  
on Battery status  
(switch on device)

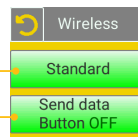
**BUILT-IN BATTERY** - rechargeable Li-Pol battery



Activate WIRELESS data transfer in WIRELESS menu

Switch on Wireless data transmission

Activating multifunctional button to save value to memory or send data by touchscreen or button push



Connect instrument with **MICS** indication system to Tablet or PC

Send data to Tablet or PC:

- by Touchscreen
- by Multifunctional button push (activated in Wireless menu)
- by Timer (activated in Timer menu)
- from Internal Memory

## MEMORY

For save measuring data to internal caliper's memory touch data area on screen or short button push. You can view saved data throw menu or send Wireless connection to Windows PC, Android or iOS devices.

### Basic STATISTIC functions:

MAX - maximum saved value

MIN - minimum saved value

AVG - average value

D - variance VAR(x)

	Statistic
MAX:	+26.999
MIN:	8.8673
AVG:	+5.3213
D:	+26.863

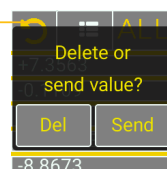
Saved values

Each value can be Deleted or Send to application

+7.3563
-0.1109
+1.2293
+26.9993
-8.8673

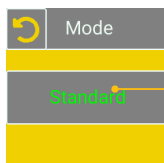
Button ALL select all values

All values can be Deleted or Send to application



### MEMORY settings

Memory sub-menu



Selecting Standard mode or No saving data to internal memory



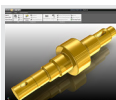
**WIRELESS CONNECTION**



**USB-DONGLE**



**SAVING DATA  
TO XLS. CSV  
FORMATS**



**TRANSFER DATA TO  
CAD, SPC OR OTHER  
SOFTWARE**



**TRANSFER DATA TO  
EXCEL OR OTHER  
TABLE EDITORS**



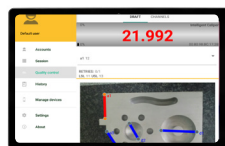
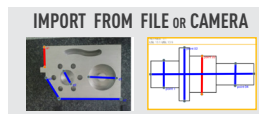
**SAVING DATA  
TO XLS. CSV  
FORMATS**



**SAVING  
GRAPH**



**VOICE  
MODE**



**SAVING DATA  
TO XLS. CSV  
FORMATS**



**SAVING  
GRAPH**



**VOICE  
MODE**



**QUALITY  
CONTROL  
RESULTS**

## DATA TRANSFER DISTANCE FOR INTELLIGENT INSTRUMENTS

- All MICROTECH Intelligent instruments have internal memory. You can collect data to memory and when it will be necessary transfer all data to the peripheral device with no data losing.
- It's possible to transfer data, like in Wireless instruments up to 15 m or up to 50 m with external antenna
- USB port can be used to transfer data directly to Windows PC



USE TOUCHSCREEN TO OPERATE MENU

MENU button **MENU** Battery Level

Colour can be changed according function **-0.0000** Actual value

Zero setting **0** Memory

## MEMORY WITH STATISTIC

ALL	Statistic
+7.3563	MAX: +26.999
-0.1109	MIN: 8.8673
+1.2293	AVG: +5.3213
+26.9993	D: +26.863
-8.8673	

## MENU CONFIGURATION



## MAIN MENU



< +000.000

> +000.000

MIN

## LIMITS

color Go/NoGo

Max/Min

Enable

OK

## MAX/MIN

indicating max or min value

Formula

AX+BX+C

Set Arq

## FORMULA MODE

 $AX^2+BX+C$ 

Timer

+000 sec.

RESET



0.8970

0.8920

OK

RESET

## ERROR COMPENSATION

mathematical correction

Temp.comp.

Strong Warm

Gold alloys, Mo

+00.00

## TEMPERATURE COMPENSATION

manual correction

Resolution

X.0000

Millimeters

## RESOLUTION

selected up to 0.0001mm

Extra

Axis Mode

Normal

CONNECT



Wireless

Standard

Send data

Button OFF

## WIRELESS

modes of data transmission

Mode OFF

UART OFF

Keypad On

CONTINU

## USB

USB connection configuration

Device

PN

RESET

## DEVICE SETTING

pin, reset

Display

Angle 180

Sleep off



Mode

Standard

## MEMORY SETTING



## SOFTWARE

link to download app

Calibration

DAY MONTH YEAR

01 01 2020

CHANGE

## CALIBRATION DATE

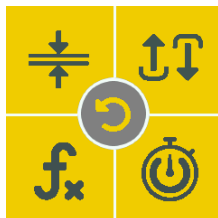
MICROTECH

www.microtech.ua

COMP.CALIPER 1

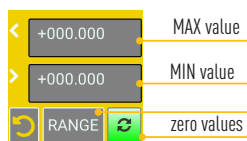
FW: 3.0.5

MAC: 12345



## LIMITS GO/NOGO

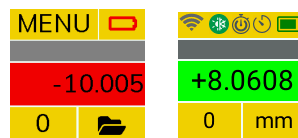
### MENU SETTING



### Colour indication limits

**MAX** - NoGo more MAX value  
**MIN** - NoGo less MIN value  
**RANGE** - Go between MIN & MAX  
**NONE** - disactivating mode

### MAIN SCREEN INDICATION



NoGo

Go

## MAX/MIN

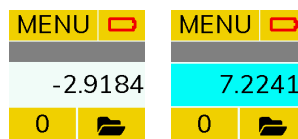
### MENU SETTING



### Indication and saving MAX or MIN values

**ENABLE** - activating mode  
**MAX** - indicating MAX measured value  
**MIN** - indicating MIN measured value

### MAIN SCREEN INDICATION

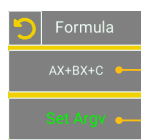


MIN

MAX

## FORMULA

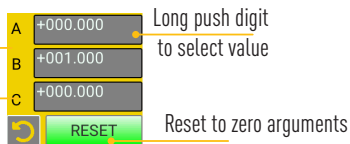
### MENU SETTING



Formula:

$$Ax^2+Bx+C$$

### FORMULA $Ax^2+Bx+C$



Long push digit to select value

Reset to zero arguments

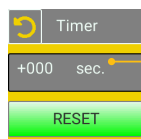
### EXAMPLE OF FORMULA USING

Standard measuring PRESET 50mm  
 Value magnification x3  
 Square value

A=0, B=1, C=0  
 A=0, B=1, C=50  
 A=0, B=3, C=0  
 A=1, B=0, C=0

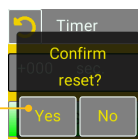
## TIMER

### MENU SETTING



### Saving data to memory or sending Wireless by Timer

Select timer period  
 Reset to disactivate mode





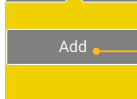
## MATHEMATICAL ERROR COMPENSATION

## MENU SETTING

Mathematical correction points with big error to normal values



Select all points



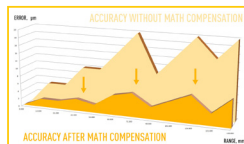
Add new point for error compensation



actual values

correct values by up&amp;down button

confirm point correction



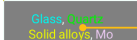
use gauge blocks or measuring machine for points correction



## TEMPERATURE COMPENSATION

## MENU SETTING

Re-calculation detail size to calibration conditions (20°C)



7 types of material for selection



Manual Temperature setting

7 types of material:

- glass, quartz, solid alloys
- granite, graphite
- Fe, Ni, Fe alloys
- stainless steel
- cooper, Cu alloys
- aluminium, al alloys
- acrylic sheet



## RESOLUTION

## MENU SETTING

## MAIN SCREEN INDICATION



Resolution selecting



mm/inch conversion

+8.0608

Selecting resolution of value on main screen and memory



## EXTRA (Axis mode)

## MENU SETTING



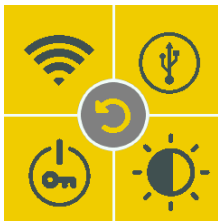
Selecting normal or inverted axis mode (+/- value indication)



Reading base reconnection for some types of calipers



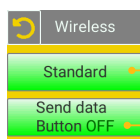




## WIRELESS CONNECTION

### MENU SETTING

Activating or disactivating wireless data transfer



Switch on Wireless data transmission

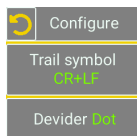
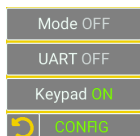
Activating multifunctional button to save value to memory or send data by touchscreeb ur button push



## USB CONNECTION

### MENU SETTING

USB connection mode under construction

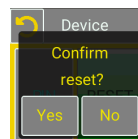
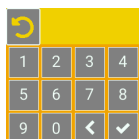
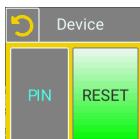


## PIN & RESET

### MENU SETTING

Activating PIN to device setting

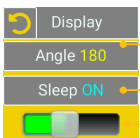
RESET to factory settings



## DISPLAY SETTING

### MENU SETTING

DISPLAY ROTATION, BRIGHTNESS, SLEEPING MODE



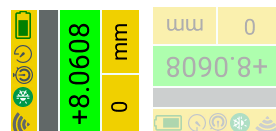
Display rotation 0°, 90°, 180°, 270°

- 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)

Brightness level





## MEMORY SETTINGS

## MENU SETTING

Activating or disactivating saving values to memory

Mode
Standard

Mode
OFF

Standard - saving values to memory  
OFF - disable saving to memory

	ALL
+7.3563	
-0.1109	
+1.2293	
+26.9993	
-8.8673	

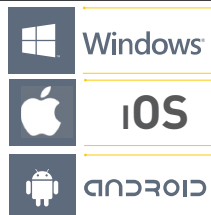


## LINK TO SOFTWARE

## MENU SETTING



QR Link to MICROTECH web site page  
with MDS Software download  
- Android, iOS, Windows versions  
- Free and Pro versions  
- Manuals



## CALIBRATION DATE

## MENU SETTING

Calibration date info

Calibration
DAY MONTH YEAR
01 01 2020
CHANGE

Push for change date info

DAY
01
MONTH
01
YEAR
2021



## DEVICE INFO

## MENU SETTING

MICROTECH
www.microtech.ua
COMP. CALIPER 1
FW: 3.0.5
MAC: 12345

Information about device

- device name
- firmware version
- MAC adress for easy connection





**MICROTECH**

**MICROTECH**

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