

# SUB-MICRON COMPUTERIZED DEPTH MICROMETER

# USER MANUAL





Item No	Range		Resolution		Accuracy	Base	Protection class	Indication	Data output	Calibration
	mm	inch	mm	inch	$\mu\text{m}$	mm			Wireless	ISO 17025
1109000258	0-150	0-6"	0,0001	0.00001"	$\pm 4$	100	IP-65	computerized MICS system with 1,54" touchscreen	+	+
1109000508	0-300	0-12"			$\pm 6$	100	IP-65		+	+

## TECHNICAL DATA

Parameters	
LED display	color 1,54 inch
Resolution	240x240
Indication system	MICS 3.0
Power supply	Rechargeable Li-Pol battery
Battery capacity	450mAh
Charging port	micro-USB
Case material	Aluminium
Buttons	Switch (Multifunctional), Reset
Wireless data transfer	Long range

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

MICROTECH 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 manger 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



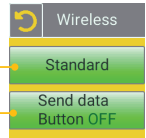
BUILT-IN BATTERY - rechargeable Li-Pol battery

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



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:

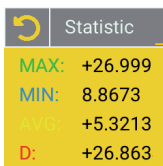
- by Touchscreen
- by Multifunctional button push (activated in Wireless menu)
- by Timer (activated in Timer menu)
- from Internal Memory

## MEMORY

For save measuring data to internal memory touch data area on screen or short button push. You can view saved data through 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)

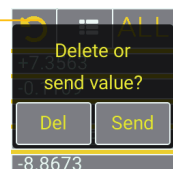


Saved values

Each value can be Deleted or Send to application

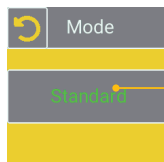


Button ALL select all values  
All values can be Deleted or Send to application



### MEMORY settings

Memory sub-menu



Selecting Standard mode or No saving data to internal memory

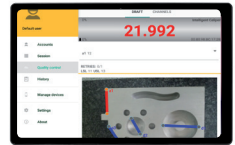
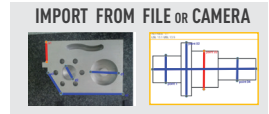


UP TO 50M

WIRELESS CONNECTION



USB-DONGLE



Windows



iOS



ANDROID

DOWNLOAD



DOWNLOAD



DOWNLOAD



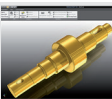
SAVING DATA TO XLS. CSV FORMATS



SAVING DATA TO XLS. CSV FORMATS



SAVING DATA TO XLS. CSV FORMATS



TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE



SAVING GRAPH



SAVING GRAPH



TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS



VOICE MODE



VOICE MODE

## DATA TRANSFER DISTANCE FOR INTELLIGENT INSTRUMENTS

- All MICROTECH Intelligent instruments has 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 transfer data, like in Wireless instruments up to 15 m or up 50 m with external antenna
- USB port can be used to transfer data directly to Windows PC



QUALITY CONTROL RESULTS



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



**LIMITS**  
color Go/NoGo

Max/Min

Enable

**MAX/MIN**  
indicating max or min value

**FORMULA MODE**  
 $Ax^2+Bx+C$

Formula

$Ax^2+Bx+C$

**FORMULA MODE**  
 $Ax^2+Bx+C$

Timer

+000 sec.

RESET



0.8970

0.8920

OK

RESET

**ERROR COMPENSATION**  
mathematical correction

Temp.comp.

Blank, Solid 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

CONNECT

**USB**  
USB connection configuration

Device

PIN

RESET

**DEVICE SETTING**  
pin, reset

Display

Angle 180

Sleep



Mode

Standard

**MEMORY SETTING**

Link to software

**SOFTWARE**  
link to download app

Calibration

DAY MONTH YEAR

01 01 2020

CHANGE

**CALIBRATION DATE**

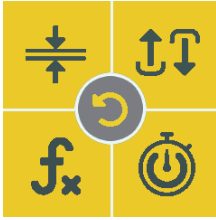
MICROTECH

www.microtech.us

COMP.CALIPER 1

FW: 3.0.5

MAC: 12345



## LIMITS GO/NOGO

<p><b>MENU SETTING</b></p>	<p><b>Colour indication limits</b></p> <p><b>MAX</b> - NoGo more MAX value  <b>MIN</b> - NoGo less MIN value  <b>RANGE</b> - Go between MIN &amp; MAX  <b>NONE</b> - disactivating mode</p>	<p><b>MAIN SCREEN INDICATION</b></p>
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## MAX/MIN

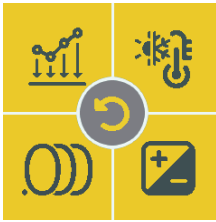
<p><b>MENU SETTING</b></p>	<p><b>Indication and saving MAX or MIN values</b></p> <p><b>ENABLE</b> - activating mode  <b>MAX</b> - indicating MAX measured value  <b>MIN</b> - indicating MIN measured value</p>	<p><b>MAIN SCREEN INDICATION</b></p>
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## FORMULA

<p><b>MENU SETTING</b></p>	<p><b>FORMULA <math>Ax^2+Bx+C</math></b></p> <p>A +000.000 Long push digit to select value          B +001.000          C +000.000          RESET Reset to zero arguments</p>	<p><b>EXAMPLE OF FORMULA USING</b></p> <p>Standard measuring A=0, B=1, C=0          PRESET 50mm A=0, B=1, C=50          Value magnification x3 A=0, B=3, C=0          Square value A=1, B=0, C=0</p>
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## TIMER

<p><b>MENU SETTING</b></p>	<p><b>Saving data to memory or sending Wireless by Timer</b></p> <p>Select timer period          Reset to deactivate mode</p>	
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## MATHEMATICAL ERROR COMPENSATION

### MENU SETTING

Mathematical correction points with big error to normal values



Select all points

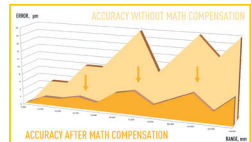
Add new point for error compensation



actual values

correct values by up&down button

confirm point correction



use gauge blocks or measuring machine for points correction



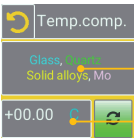
## TEMPERATURE COMPENSATION

### MENU SETTING

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

7 types of material:

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



7 types of material for selection

Manual Temperature setting



## 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 deactivating wireless data transfer

## USB CONNECTION

**MENU SETTING**      USB connection mode under construction

## PIN & RESET

**MENU SETTING**      Activating PIN to device setting      **RESET** to factory settings

## DISPLAY SETTING

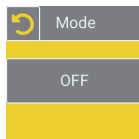
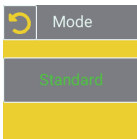
**MENU SETTING**      DISPLAY ROTATION, BRIGHTNESS, SLEEPING MODE



## MEMORY SETTINGS

### MENU SETTING

Activating or disactivating saving values to memory



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

↻	☰	ALL
+7.3563		
-0.1109		
+1.2293		
+26.9993		
-8.8673		

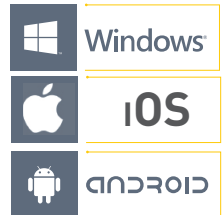


## LINK TO SOFTWARE

### MENU SETTING



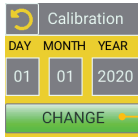
QR Link to MICROTECH web site page with MDS Software download  
- Android, iOS, Windows versions  
- Free and Pro versions  
- Manuals



## CALIBRATION DATE

### MENU SETTING

Calibration date info



Push for change date info

DAY	↻
01	
MONTH	
01	
YEAR	
2021	



## DEVICE INFO

### MENU SETTING



Information about device

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



0.1µm

## COMPUTERIZED MICS SYSTEM FUNCTIONS

**MENU**

-0.0000

0

TOUCHSCREEN OPERATION

ERGONOMIC MENU

ALL

+7.3563
-0.1109
+1.2293
+26.9993
-8.8673

INTERNAL MEMORY

Statistic

MAX: +26.999
MIN: 8.8673
Avg: +5.3213
D: +26.863

STATISTIC INFO

Resolution

X.0000

Millimeters

RESOLUTION UP TO 0.1 MICRON

**MENU**

-1.7210

0

COLOUR GO/NOGO

**MENU**

7.2241

0

MAX/MIN READING

Formula

AX+BX+C

FORMULA MODE (PRESET AND OTHER)

Temp.comp.

Glass, Plastic, Solid alloys, Mo

+00.00

TEMPERATURE COMPENSATION FOR 7 TYPES OF MATERIALS

0 0.8970

C 0.8920

OK

RESET

MATHEMATICAL ERROR COMPENSATION

Display

Angle 180

Sleep 15s

DISPLAY ROTATION AND BRIGHTNESS

Timer

+000 sec.

RESET

DATA TRANSFER BY TIMER

Calibration

DAY MONTH YEAR

01 01 2020

CHANGE

CALIBRATION DATA CONTROL

Link to software

FREE SOFTWARE FOR WINDOWS, ANDROID, IOS

Data transfer by touchscreen or button push

MENU

1.5337

0

DATA TRANSFER BY TOUCHSCREEN OR BUTTON PUSH



**MICROTECH**

**MICROTECH**

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Change without prior notice