

SUB-MICRON COMPUTERIZED MICROMETER HEAD

USER MANUAL



ISO17025:2017



ISO 9001:2015



Item No	Range		Resolution		Accuracy	Protection class	Indication	Data output	Calibration
	mm	inch	mm	inch	μm			Wireless	ISO 17025
110180027	0-25	0-1"	0,0001	0.00001"	± 2	IP-65	computerized	Long range	+
110181057	0-50	0-2"			± 3	IP-65	MICS system with 1,54" touchscreen	Long range	+

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 ABSOLUTE zero setting push RESET button (this zero position will be saved also after switch off micrometer)

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 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

ABSOLUTE ZERO SETTING

For ABSOLUTE ZERO setting push RESET button
(this zero position will be saved also after switch off micrometer)

For ZERO setting, press the ZERO button on Touchscreen.



ZERO setting

ABSOLUTE ZERO setting with RESET

CHARGING



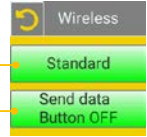
For charging connect USB cable
Charging process indicating
on Battery status
(switch on device)

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



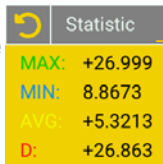
Connect instrument with MICS indication system to Tablet or PC
Send data to Tablet or PC:

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

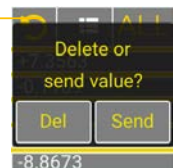
MEMORY

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)



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



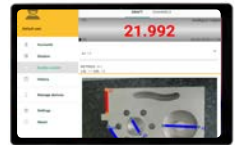
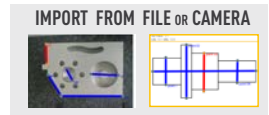
Selecting Standard mode or No saving data to internal memory



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



MENU NAVIGATION



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

MAX/MIN
indicating max or min value

FORMULA MODE
 Ax^2+Bx+C

Formula

Ax^2+Bx+C

OK

FORMULA MODE
 Ax^2+Bx+C

Timer

+000 sec.

RESET



0.8970

0.8920

OK

RESET

ERROR COMPENSATION
mathematical correction

Temp.comp.

Temp. solid alloys, Mo

+00.00

RESET

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

CONFG

USB
USB connection configuration

Device

PIN

RESET

DEVICE SETTING
pin, reset

Display

Angle 180

Sleep



Mode

Shutdown

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

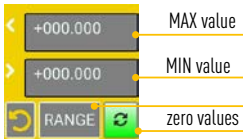
FW: 3.0.5

MAC: 12345



LIMITS GO/NOGO

MENU SETTING



MAX value

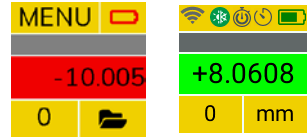
MIN value

zero values

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

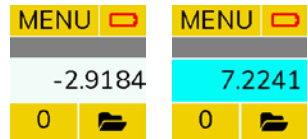
MENU SETTING



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:

$$Ax^2+Bx+C$$



Long push digit to select value

Reset to zero arguments

FORMULA Ax^2+Bx+C

EXAMPLE OF FORMULA USING

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

TIMER

MENU SETTING



Saving data to memory or sending Wireless by Timer

Select timer period

Reset to deactivate mode





MATHEMATICAL ERROR COMPENSATION

MENU SETTING

Mathematical correction points with big error to normal values



Select all points

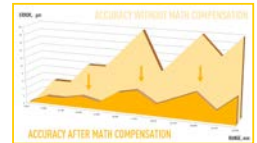
Add new point for error compensation



actual values

correct values by up&down button

confirm point correction



use gauge blocks or measuring machine for points correction



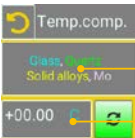
TEMPERATURE COMPENSATION

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



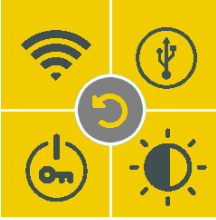
EXTRA (Axis mode)

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



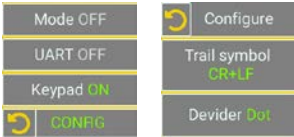
Switch on Wireless data transmission

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



USB CONNECTION

MENU SETTING



Connect USB cable to PC

Activate USB connection mode (*DON't activate mode without USB cable connection*)

Select setting of data transfer

You can direct transfer data to any Windows app

PIN & RESET

MENU SETTING

Activating PIN to device setting

RESET to factory settings



DISPLAY SETTING

MENU SETTING

DISPLAY ROTATION, BRIGHTNESS, SLEEPING MODE



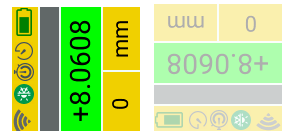
Display rotation 0°, 90°, 180°, 270°

- 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)

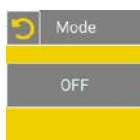
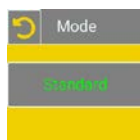
Brightness level





MEMORY SETTINGS

MENU SETTING Activating or disactivating saving values to memory



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

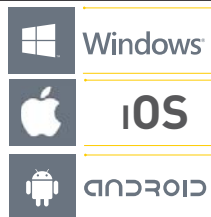
Mode	ALL
+7.3563	
-0.1109	
+1.2293	
+26.9993	
-8.8673	

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

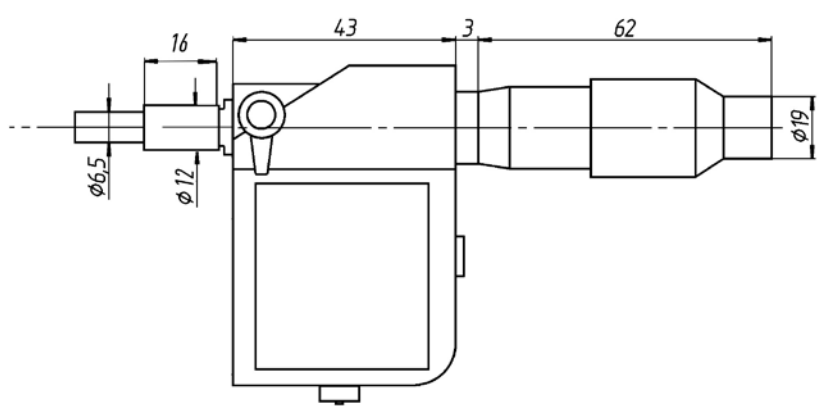
DAY	MONTH	YEAR
01	01	2020
01	01	2021

DEVICE INFO

MENU SETTING



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



*Dimensions for 25mm range



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