

# COMPUTERIZED MULTI-FORCE CALIPER

# USER MANUAL





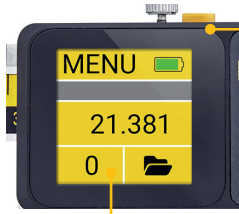
Item No	Range		Resolution		Accuracy	External Force	Protection
	mm	inch	mm	inch	$\mu\text{m}$	N	
141077321	0-300	0-12"	0,005	0.0002	$\pm 20$	1-20	IP54

## TECHNICAL DATA

Parameters	
LED display	color 1,54 inch
Resolution	240x240
Indication system	MICS 3.0
Power supply	Rechargeable Li-Pol battery
Battery capacity	400 mAh
Charging port	micro-USB
Case material	Aluminium
Buttons	Switch (Multifunctional), Reset
Wireless data transfer	LONG RANGE

Clean the oil from the measuring surfaces of caliper by cloth.  
For recharging caliper (Li-Pol rechargeable battery) connect it with standard USB cable to charger device.

**DO NOT LEAVE UNCHARGED CALIPER FOR A LONG TIME.  
THIS MAY RESULT TO INTERNAL BATTERY FAILURE!**



**SWITCH ON DEVICE** - button push (1 sec)  
**SWITCH OFF DEVICE** - button push (3 sec)/ auto switch off  
**DATA TRANSFER** - programming throw menu

**ZERO SETTING** - push 5 sec to ZERO setting

## CHARGING



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



For charging connect USB cable

## FORCE CONTROL

FORCE indication 1-20 N



**FORCE 1-20N**

Electronic MULTI FORCE control module 1-20N

Caliper with electronic multi-Force control module, gives possibility measure all time with a same Force. Measuring Force can be selected throw menu in range 1-20N.

**Green** color indicating actual Force

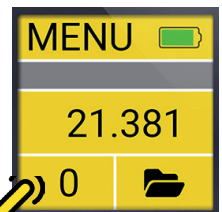
**Red** color - over Force indicating

Automatic Force mode gives possibility saving to memory or transfer to app actual value upon reaching a given Force (1-20N).

For **ZERO** setting also use Force control module (push Force up to **Green** indication and set **ZERO** by 5 sec push for **0** button).

## BASE RECONNECTION

Sometimes, when battery was uncharges for a long time - necessary to make reading base reconnection

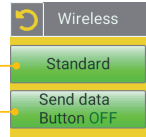


**PUSH ZERO button (5sec.) on main screen**



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:

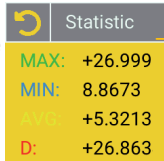
- by Touchscreen
- by Multifunctional button push (activated in Wireless menu)
- by Timer (activated in Timer menu)
- from Internal Memory

## MEMORY

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

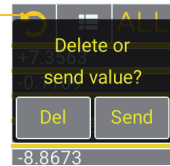
### Basic STATISTIC functions:

- MAX - maximum saved value
- MIN - minimum saved value
- AVG - average value
- D - variance VAR(x)



Saved values

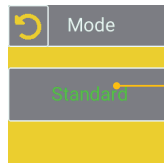
Each value can be Deleted or Send to application



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

### MEMORY settings

Memory sub-menu



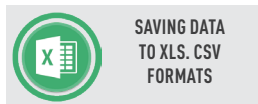
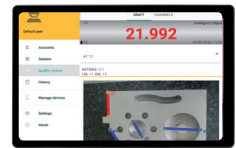
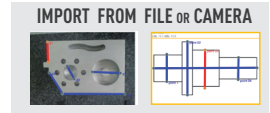
Selecting Standard mode or  
No saving data to internal memory



## WIRELESS CONNECTION



USB-DONGLE



**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





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	MAX: +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

OK

### FORMULA MODE

$Ax^2+Bx+C$

Timer

+000 sec.

RESET



0.8970

0.8920

OK

RESET

### ERROR COMPENSATION

mathematical correction

Temp.comp.

Display

Solid always, 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

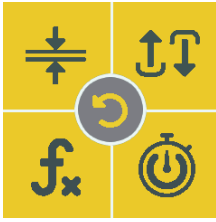
MICROTECH

www.microtech.ua

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

MENU		
-10.005		+8.0608
0		0 mm

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

MENU		MENU	
-2.9184		7.2241	
0		0	

MIN

MAX

## FORMULA

### MENU SETTING

Formula:

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    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

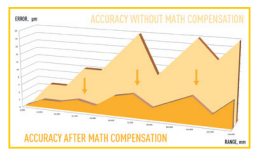
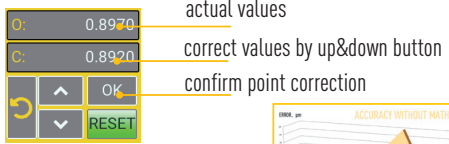
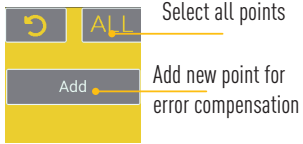
Select timer period  
 Reset to deactivate mode

Confirm  
 reset?  
 Yes     No



## MATHEMATICAL ERROR COMPENSATION

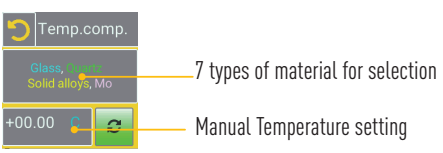
**MENU SETTING** Mathematical correction points with big error to normal values



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

## RESOLUTION

**MENU SETTING**



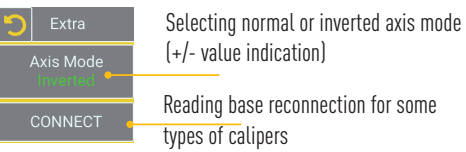
**MAIN SCREEN INDICATION**

**+8.0608**

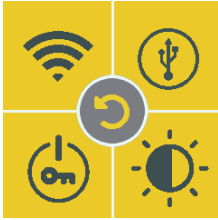
Selecting resolution of value on main screen and memory

## EXTRA (Axis mode)

**MENU SETTING**

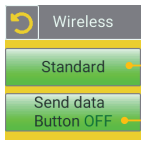






## WIRELESS CONNECTION

**MENU SETTING**      Activating or deactivating wireless data transfer



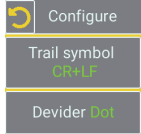
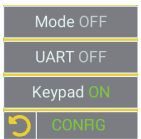
Switch on Wireless data transmission

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



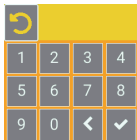
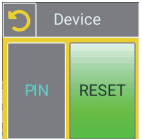
## USB CONNECTION

**MENU SETTING**      USB connection mode under construction



## PIN & RESET

**MENU SETTING**      Activating PIN to device setting



**RESET** to factory settings



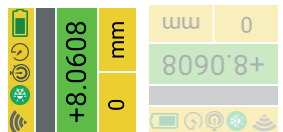
## DISPLAY SETTING

**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



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

		ALL
+7.3563		
-0.1109		
+1.2293		
+26.9993		
-8.86/3		

## FORCE SELECTING

Selecting Force value from 1 to 20 N

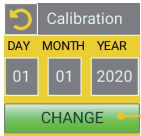
Modes:

**Indication mode** indication with color upon reaching a given Force

**Automatic mode** gives possibility saving to memory or transfer to app actual value upon reaching a given Force (1-20N).

## CALIBRATION DATE

MENU SETTING      Calibration date info



Push for change date info

DAY	
01	
MONTH	
01	
YEAR	
2021	

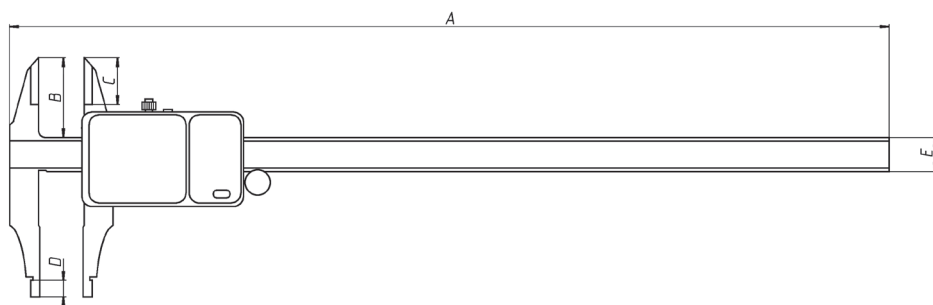
## DEVICE INFO

MENU SETTING



Information about device

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



Range	DIMENSIONS				
	A	B	C	D	E
mm	mm	mm	mm	mm	mm
0-300	413	40	24	10	17



**MICROTECH**



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