

# OUTSIDE POINT COMPUTERIZED MULTI-FORCE CALIPER

## USER MANUAL



ISO17025:2017



ISO 9001:2015



Item No	Range		Resolution	Accuracy	Force	Waterproof	Display	Data output
	mm	inch	mm	µm	N			
141430157	0-150	0-6"	0,005	±20	1-20	IP54	Color 1.5" Touch-screen	<b>WIRELESS+USB</b>
141430158			0,001	±15	1-20	IP54		
141430207	0-200	0-8"	0,005	±25	1-20	IP54		
141430208			0,001	±15	1-20	IP54		
141430307	0-300	0-12"	0,005	±25	1-20	IP54		
141430308			0,001	±20	1-20	IP54		

\* For internal jaw and depth bar accuracy according DIN 862

## TECHNICAL DATA

Parameters	
LED display	color 1,54 inch
Resolution	240x240
Indication system	MICS 3.0
Power supply	Rechargeable Li-Pol battery
Battery capacity	300 mAh
Charging port	micro-USB / Magnetic port
Case material	Aluminium
Buttons	Switch (Multifunctional), Reset
Wireless data transfer	Long range

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

**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

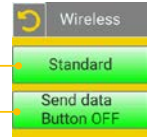


**PUSH ZERO button (5sec.) on main screen**



Activate WIRELESS or USB 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 caliper with MICS indication system to Tablet or PC  
Send data to Tablet or PC:

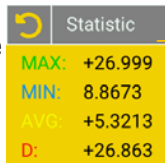
- by Touchscreen
- by Multifunctional button push (activated in Wireless menu)
- by Timer (activated in Timer menu)
- from Internal Memory

## 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 or USB connection to Windows PC, Android or iOS devices.

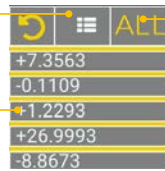
### Basic STATISTIC functions:

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



Saved values

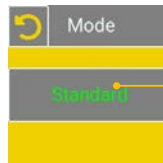
Each value can be Deleted or Send to application



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

# CONNECTION



MICROTECH

MDS FOR WINDOWS APPLICATION



MDS FOR ANDROID APPLICATION



MDS FOR iOS APPLICATION





# 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



**ERROR COMPENSATION**  
mathematical correction

0.8970

0.8920

OK

RESET

**TEMPERATURE COMPENSATION**  
manual correction

Temp.comp.

Blank

Solid alloys, Mo

+00.00

RESET

Resolution

X.0000

Millimeters

**RESOLUTION**  
selected up to 0.0001mm

Extra

Axis Mode

Normal

CONNECT



**WIRELESS**  
modes of data transmission

Wireless

Standard

Send data

Button OFF

**USB**  
USB connection configuration

Mode OFF

UART OFF

Keypad ON

CONFG

Device

PIN

RESET

**DEVICE SETTING**  
pin, reset

Display

Angle 180

Sleep



**MEMORY SETTING**

Mode

Standard

Link to software

**SOFTWARE**  
link to download app

Calibration

DAY MONTH YEAR

01 01 2020

CHANGE

**CALIBRATION DATE**

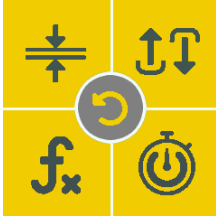
MICROTECH

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

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:

$$Ax^2+Bx+C$$

### 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

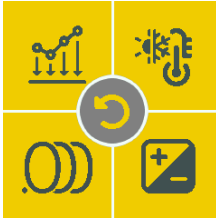
## TIMER

### MENU SETTING

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

Select timer period

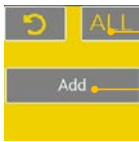
Reset to deactivate mode



## MATHEMATICAL ERROR COMPENSATION

### MENU SETTING

Mathematical correction points with big error to normal values



Select all points

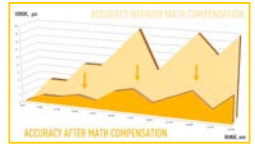
Add new point for error compensation



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)

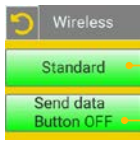
Reading base reconnection for some types of calipers





## 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 touchscreen or 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



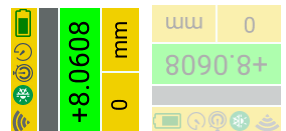
Display rotation 0°, 90°, 180°, 270°

- 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)

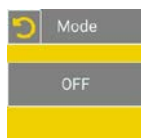
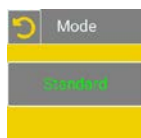
Brightness level





## MEMORY SETTINGS

MENU SETTING      Activating or disactivating saving values to memory



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

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

## FORCE MODE

MENU SETTING      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



## OPTIONAL ACCESORIES

STANDARD MDS data set 



STANDARD MDS app



ITEM 299110100 EXTERNAL MICRO POWERBANK 1000MAH

ITEM 299110200 EXTERNAL SLIM POWERBAN 5000MAH

ITEM 299110500 EXTERNAL PRI POWERBANK 20000MAH



## FUNCTIONS

E-FORCE 1-20 N WITH AUTO MODE

LIMITS (Go/NoGo)

PEAK VALUES (MAX/MIN)

MEMORY, WITH STATISTICS

TIMER

FORMULA  $AX^2+BX+C$

MM/INCH

PRESET

CALIBRATION DATE CONTROL

PIN LOCK

LINEAR CORRECTION

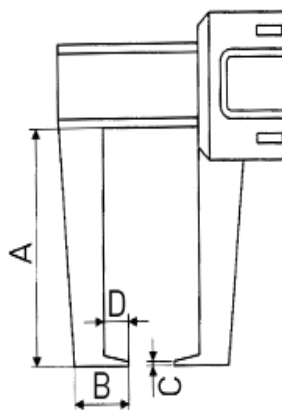
TEMPERATURE COMPENSATION

RECHARGEABLE LI-POL BATTERY

MAGNETIC CHARGING SOCKET

**WIRELESS** APPS FOR WINDOWS, ANDROID, iOS  
DATA TRANSFER TO MDS

**USB** HID DATA TRANSFER DIRECT TO WINDOWS,  
MACOS, ANDROID, LINUX APP'S



Item No	Range		Dimensions			
			A	B	C	D
	mm	inch	mm	mm	mm	mm
141430157	0-150	0-6"	25	9	1	5
141430158			25	9	1	5
141430207	0-200	0-8"	25	9	1.5	8
141430208			25	9	1.5	8
141430307	0-300	0-12"	43	16	1.5	8
141430308			43	16	1.5	8

## MICROTECH

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