

 **MICROTECH**

est. 1995

U K R A I N E



2D 



# MICROTECH INSTRUMENTS CONNECTION BOOK



WIRELESS CONNECTION TO IOS DEVICES

4



WIRELESS CONNECTION TO ANDROID DEVICES

8



WIRELESS CONNECTION TO WINDOWS DEVICES

14



WIRELESS HID CONNECTION

24



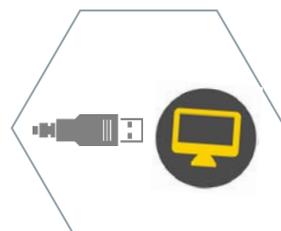
USB HID CONNECTION

25



HUB CONNECTION

26



FIRMWARE UPDATE

27

# MICROTECH INSTRUMENTS CONNECTIONS

COMPUTERIZED INSTRUMENTS WITH MICS SYSTEM CONNECTION

WIRELESS data transfer to MICROTECH MDS app for Windows, Android, iOS



-  SAVING DATA TO XLS. CSV FORMATS
-  TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE
-  TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS
-  SAVING GRAPH

## WIRELESS CONNECTION TO MDS APP

## WIRELESS HID CONNECTION



## USB HID CONNECTION

NO DONGLE

WIRELESS HID and USB HID data transfer (like keyboard) direct to any customers app and system

- 
- 
- 
- 
- 

-  TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE
-  TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS
-  TRANSFER DATA TO ANY BROWSE OR APP

## MODBUS PLC CONNECTION RELEASE: MAY 2023



## CONNECTION STATUS INDICATION



WIRELESS DISCONNECTED



WIRELESS CONNECTED



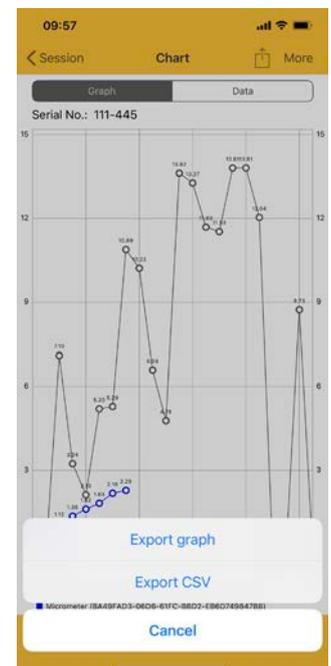
WIRELESS HID CONNECTED



USB HID DISCONNECTED



USB HID CONNECTED



## FUNCTIONS

MDS for iOS		
	FREE	PRO
	299100060	299100070
Platform	iOS	
Max. instruments	2	8
mm/inch conversion	+	+
Max Distance, m	up to 50m	
Foot-Switch connection	-	-
Display value	+	+
Go/NoGo functions	+	+
Graphical mode	+	+
Timer	+	+
Measuring history	+	+
Save data to csv	+	+
Save graph	+	+
User manager	+	+
Device battery status indication	+	+
Voice mode	+	+
Multilanguage	English, Ukrainian, Russian	



## VIDEO

DEMO video with Installation, Connection and Measuring process



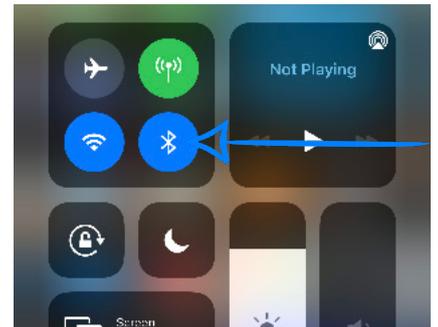
## APP INSTALLATION

Install the latest MDS App from App Store.  
Standard version (2 connections) for FREE.  
PRO version of MDS\_app for iOS can be order throw App Store.



## APP ACCESS

Confirm application access to Bluetooth module of Smartphone.  
Make sure that Bluetooth is switched on (App request it to receiving data from Wireless and Computerized MICROTECH instruments



## INSTRUMENTS CONNECTION

### COMPUTERIZED INSTRUMENTS CONNECTION

- The distance between the Computerized MICROTECH instrument and the iOS device is 7-50 meters depends on transfer mode and premises conditions
- All MICROTECH Computerized instruments with MICS system has internal memory. It's possible to collect data to memory and transfer all data to your device with no data losing to any distance.
- Computerized MICROTECH instruments have only **STANDARD MODE** of Wireless data transfer:
  - non-stop data transfer 4 value/sec.



### WIRELESS DIGITAL INSTRUMENTS CONNECTION

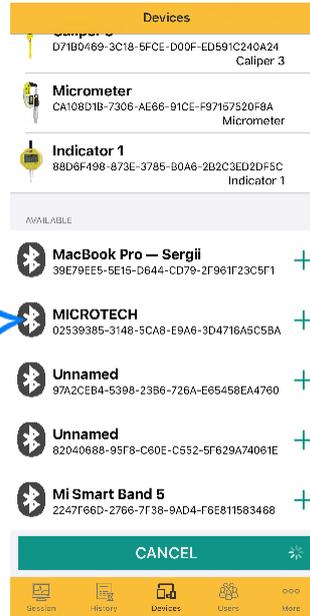
- Distance between the Wireless MICROTECH instrument and iOS device is 5-25 meters depends of transfer mode and premises conditions
- MICROTECH Wireless instruments have 2 modes of data transfer:
- STANDARD MODE**
    - non stop data transfer 4 times/sec
    - CR2032 battery works in non stop data transfer up to 100h
  - ECONOMY MODE**
    - data transfer only by Wireless button press
    - CR2032 battery works in this mode up to 6 months



We recommend to use ECONOMY MODE for MICROTECH Wireless instruments

## Add MICROTECH instruments to DEVICES list:

- Switch on the MICROTECH instrument. Activate Wireless mode on instrument.
- Open DEVICES menu in MDS App and TAP SEARCH button
- Wireless devices around the Smartphone will be displayed.
- Find desired device with MICROTECH name and + button in app to add it.
- You can add any qty of instruments to Device list.

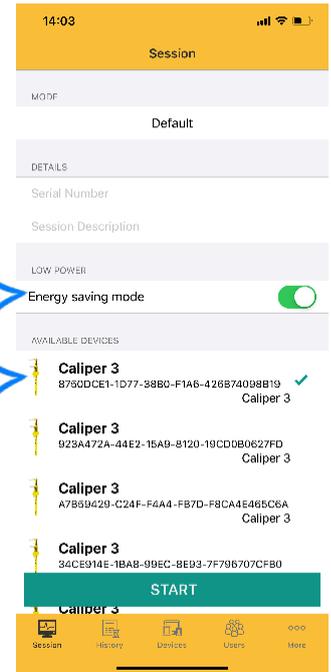


## Start SESSION:

- Select one of available devices (added to devices list before)
- For using Wireless instruments (non Computerized electronics) recommended to select «Energy saving mode».
- Don't use «Energy saving mode» with Computerized instruments
- In FREE version you can use up to 2 instruments in a session at the same time.
- In PRO version you can use up to 8 instruments in a session at the same time.

Energy saving mode selection

Instrument selection



## MEASURING PROCESS AND DATA SAVING

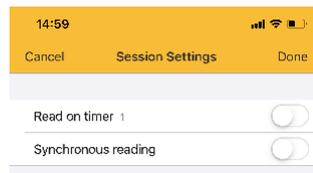
When SESSION started you can receive data from connected instruments.

In **Standard mode** (data transferring non-stop 4 times/sec) for saving value:

- press the button or tap Touchscreen on instruments
- tap to actual value area on MDS App
- save values by Timer on App or instrument
- receive values from internal memory of instruments

In **Energy saving mode** for saving values:

- Press Wireless button on instrument



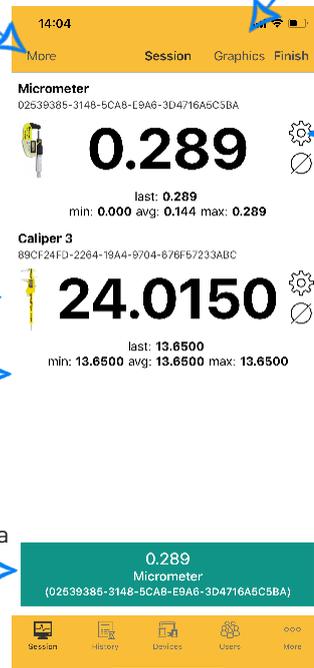
Activate Graphical mode

Synchronize reading values and activate Timer

Actual display the current values

Basic statics

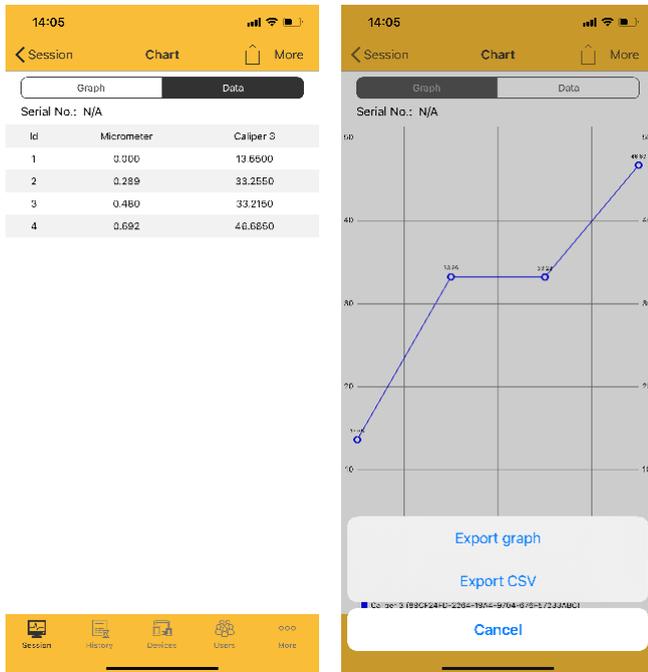
Saved to memory data



## GRAPH AND DATA MODE

Tap Graph button to activate the Graphical mode.

- view graph
- export graph
- view and export actual data



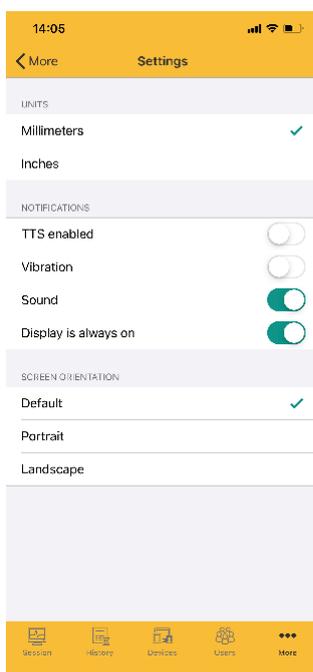
## HISTORY

You can save current SESSION to HISTORY. All saved sessions and values in HISTORY can be viewed and exported.



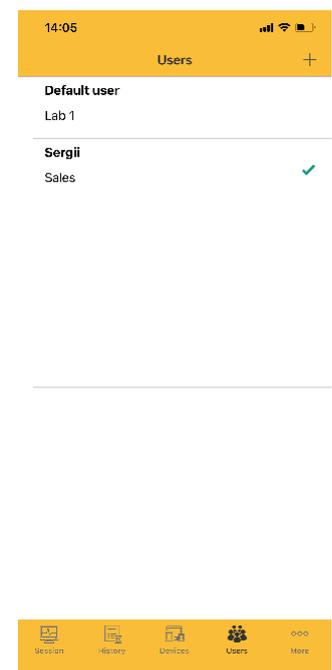
## SETTINGS:

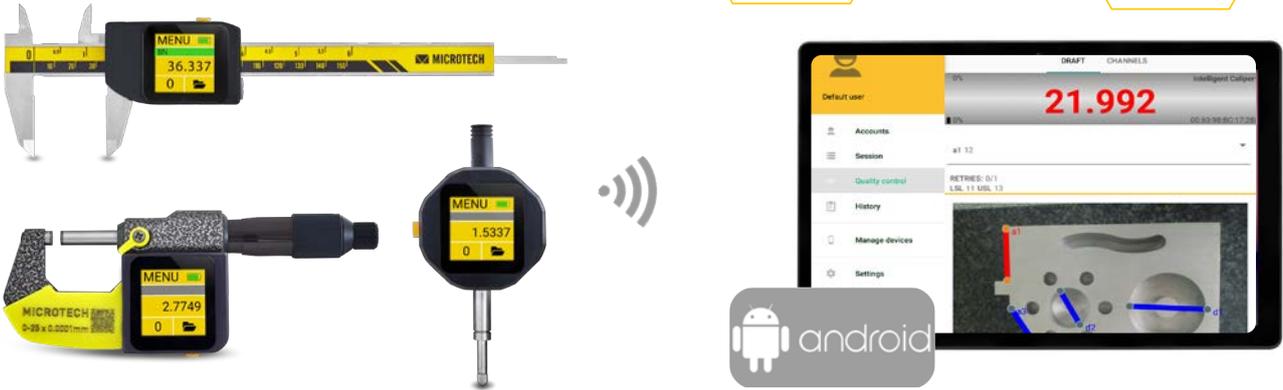
Use SETTINGS menu to select Language, Units (Metric or inch system), TTS settings (Voice mode), Display rotation, Backlight, etc.



## ACCOUNTS:

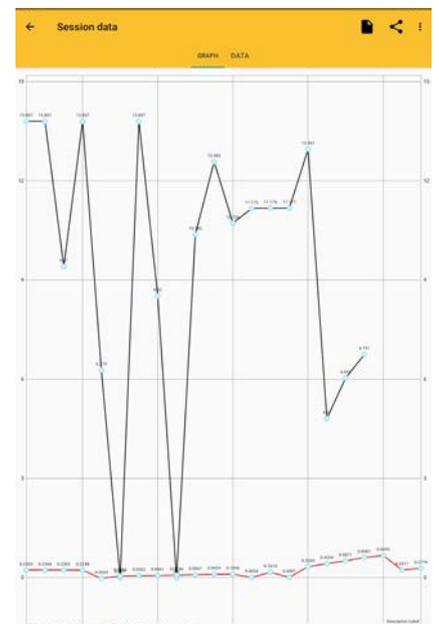
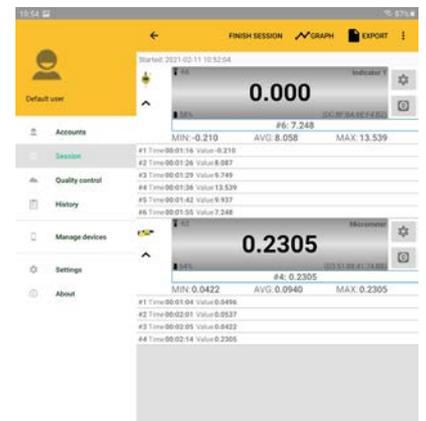
You can create users account by account menu. Info about Users displaying in measuring History. Measuring history can be associate with Users.





FUNCTIONS

MDS for Android		
	FREE	PRO
	299100040	299100050
Platform	Android 6,0 +	
Max. instruments	2	8
Energy saving mode	+	+
Max Distance, m	up to 50m	
mm/inch conversion	+	+
Go/NoGo functions	+	+
Graphical mode	+	+
Reading on Timer	+	+
Measuring history	+	+
Save data to xls	+	+
Save data to csv	+	+
Save graph	+	+
User manager	+	+
Device battery status indication	+	+
Quality control mode	+	+
Import & processing details draws, photos	+	+
Voice mode	+	+
Multilanguage	English, Spanish, French, Italian, Ukrainian, Russian, Chinese, Korean, Turkish, Czech, Poland, Hungarian, etc.	





## VIDEO

DEMO video with Installation, Connection and Measuring process



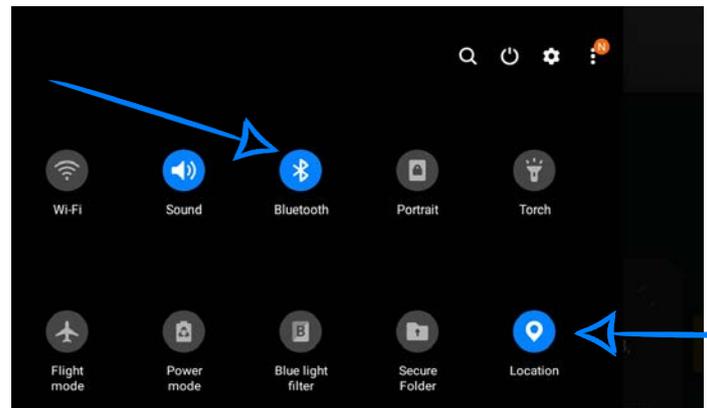
## APP INSTALLATION

Install the latest MDS App from GooglePlay.  
 Standard version (2 connections) for FREE.  
 PRO version of MDS\_app for iOS can be order throw GooglePlay.



## APP ACCESS

Confirm application access to Bluetooth module of Smartphone.  
 Make sure that Bluetooth and Location are switched on (App request it to receiving data from Wireless and Computerized MICROTECH instrumetns)



## INSTRUMENTS CONNECTION

### COMPUTERIZED INSTRUMENTS CONNECTION

- The distance between the Computerized MICROTECH instrument and the Android device is 7-50 meters depends on transfer mode and premises conditions
- All MICROTECH Computerized instrumetns with MICS system has internal memory. It's possible to collect data to memory and transfer all data to your device with no data losing to any distance.
- Computerized MICROTECH instruments have only **STANDARD MODE** of Wireless data transfer:
  - non-stop data transfer 4 value/sec.



### WIRELESS DIGITAL INSTRUMENTS CONNECTION

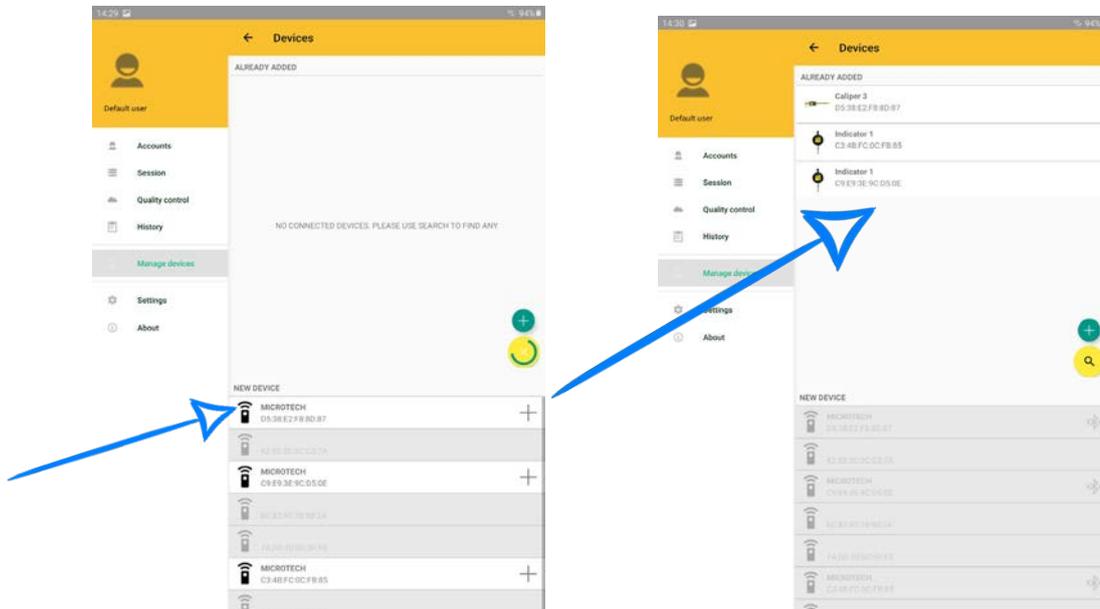
- Distance between the Wireless MICROTECH instrument and Android device is 5-25 meters depends of transfer mode and premises conditions
- MICROTECH Wireless instruments have 2 modes of data transfer:
  - STANDARD MODE**
    - non stop data transfer 4 times/sec
    - CR2032 battery works in non stop data transfer up to 100h
  - ECONOMY MODE**
    - data transfer only by Wireless button press
    - CR2032 battery works in this mode up to 6 months



We recommend to use **ECONOMY MODE** for MICROTECH Wireless instruments

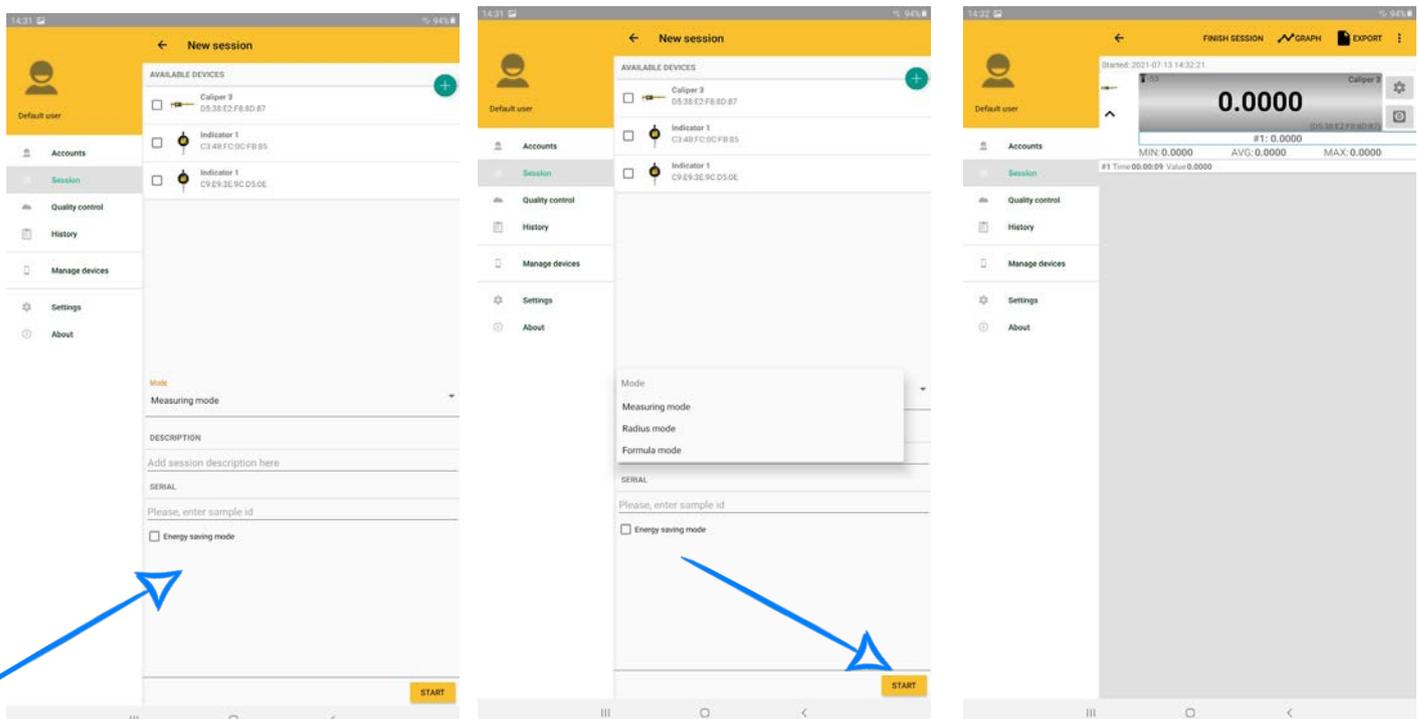
### Add MICROTECH instruments to DEVICES list:

- Switch on the MICROTECH instrument. Activate Wireless mode on instrument.
  - Open MANAGE DEVICES menu in MDS App and Press SEARCH button
  - Wireless devices around the Tablet or Smartphone will be displayed.
- If you can't find any Wireless device around - check App setting (Bluetooth and Location must be switch on)
- Find desired device with MICROTECH name and MAC adress and touch + button in app to add it.
  - You can add any qty of instruments to Device list.



### Start SESSION:

- Select one of available devices (added to devices list before, if necessary press + to add more)
- For using Wireless instruments (non Computerized electronics) recommended to select «**Energy saving mode**».
- Don't use «**Energy saving mode**» with Computerized instruments
- Radius and Formula mode can be used for special measurements
- In FREE version you can use up to 2 instruments in a session at the same time.
- In PRO version you can use up to 8 instruments in a session at the same time.



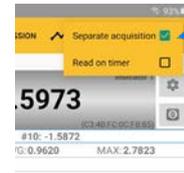
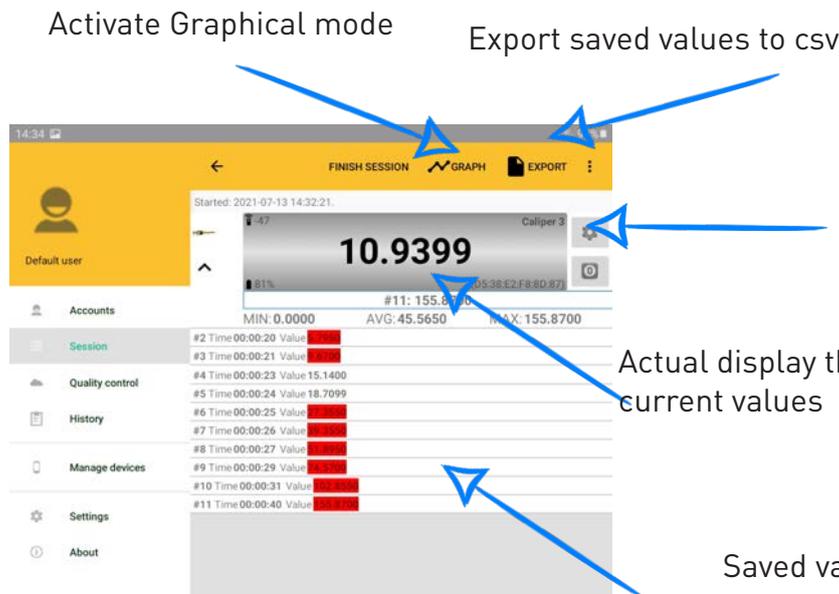
## MEASURING PROCESS AND DATA SAVING

When SESSION started you can receive data from connected instruments.  
In **Standard mode** (data transferring non-stop 4 times/sec) for saving value:

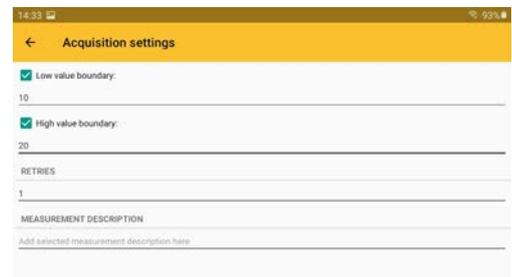
- press the button or tap Touchscreen on instruments
- tap to actual value area on MDS App
- save values by Timer on App or instrument
- receive values from internal memory of instruments

In **Energy saving mode** for saving values:

- Press Wireless button on instrument



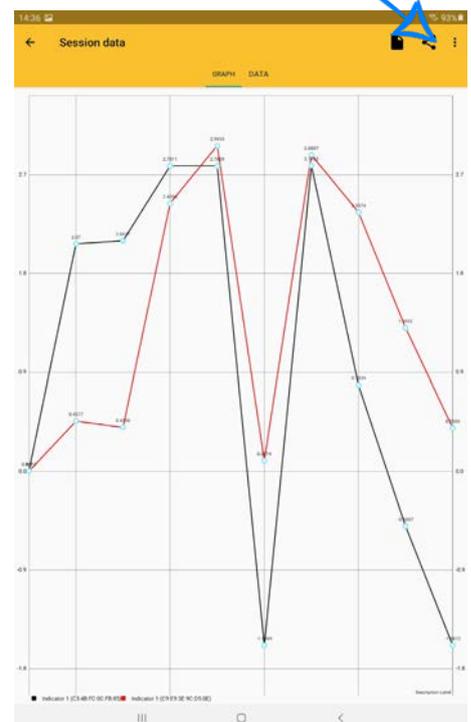
Synchronize reading values and activate Timer



## GRAPH MODE

Tap Graph button to activate Graphical mode.

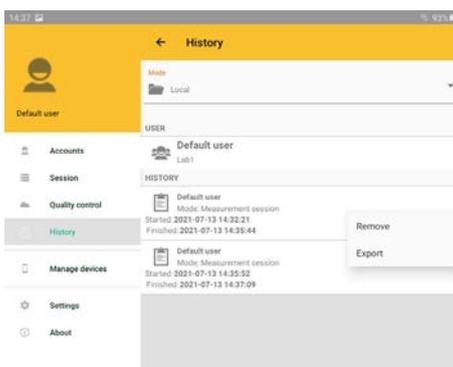
- possible to view online values updates on Graph
- or view the saved values from SESSION window
- graph settings gives possibility show legend and time axis on graph.
- export graphic in png format



## HISTORY

You can save current SESSION to HISTORY.

All saved sessions and values in HISTORY can be viewed and exported.



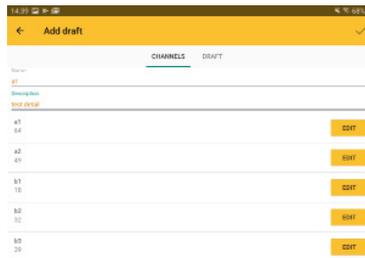
QUALITY CONTROL MODULE ON MDS Android Software gives new possibilities of metrological control:

- make control according draw or photo with established dimensions and limits
- draft creation
- choosing instruments for different dimensions control
- control for partial goods
- extended statistic and data saving possibilities

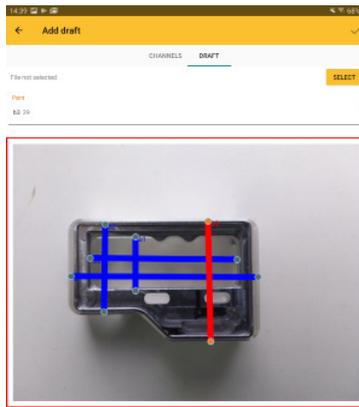


HOW TO ADD NEW DRAFT

ADD NAME AND DESCRIPTION



SELECTING PHOTO OR DRAW FROM MEMORY OR CAMERA



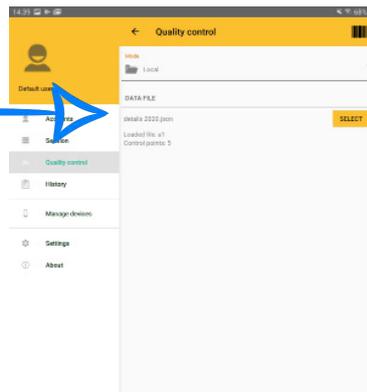
ADDING POINTS TO DRAW (MANUAL POSITIONING)

ADD CHECKING POINTS

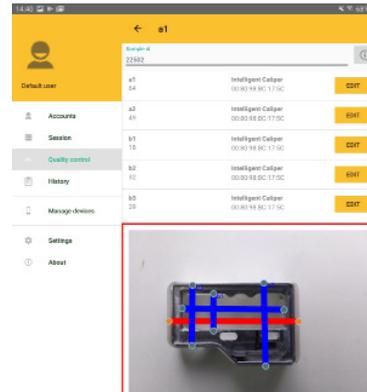


QUALITY CONTROL PROCESS

DRAFT SELECTING

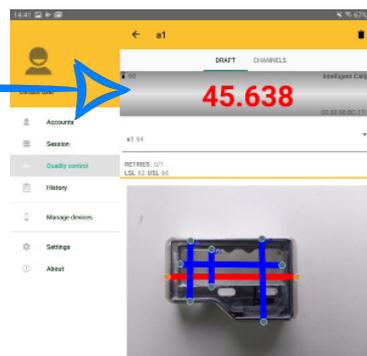


ACTUALIZING INSTRUMENT TO EACH POINTS

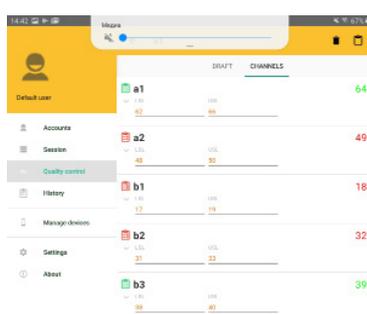


SAVING PROTOCOL

MEASURING PROCESS  
-Go/NoGo color indication

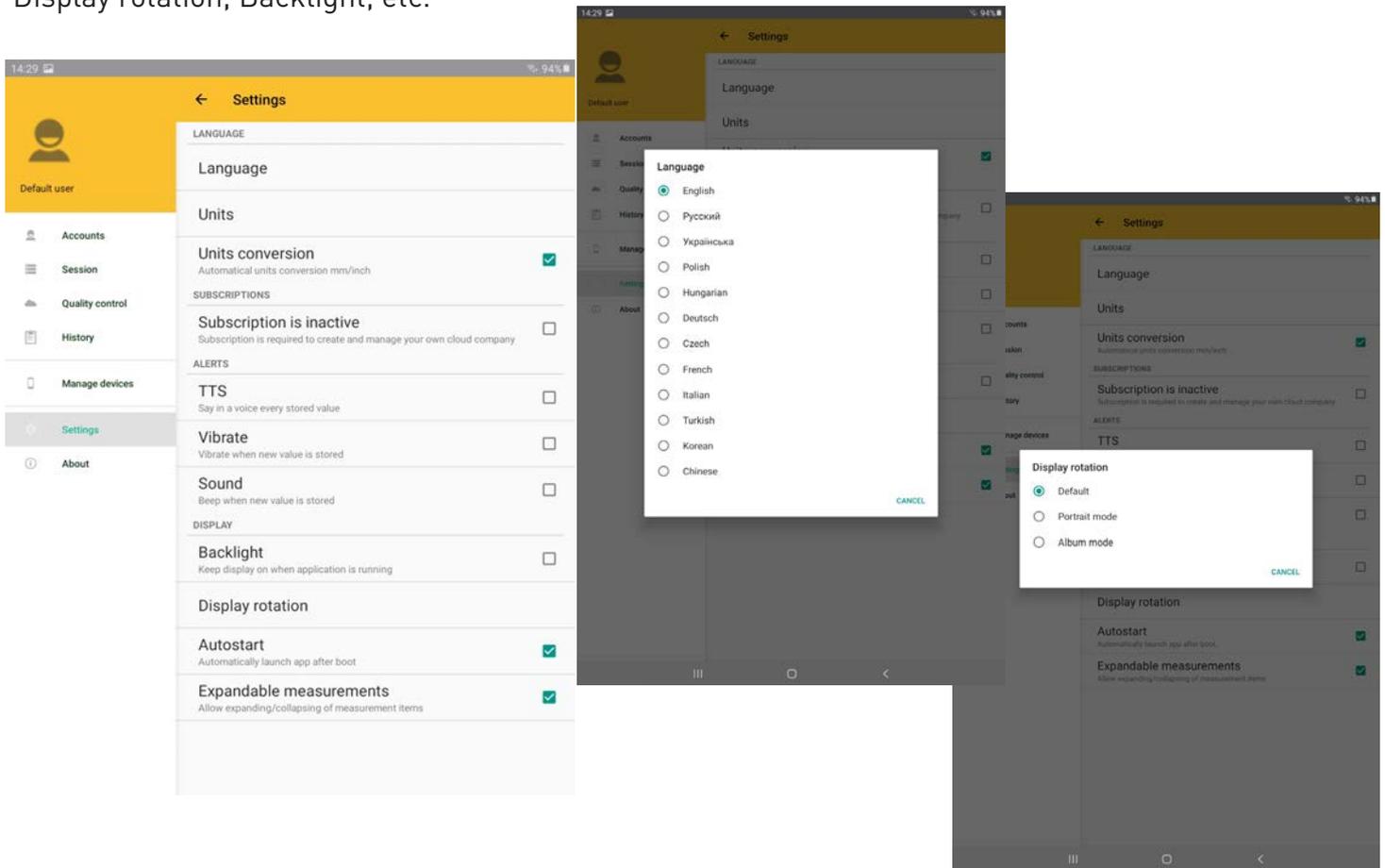


CONTROL RESULTS TO EACH POINTS



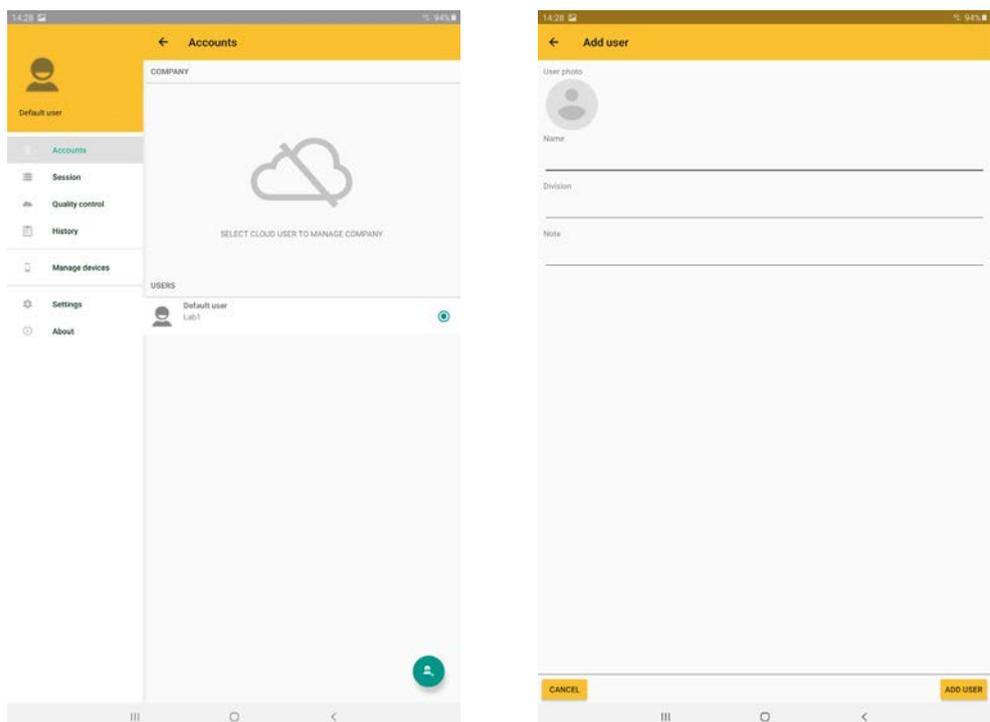
## SETTINGS:

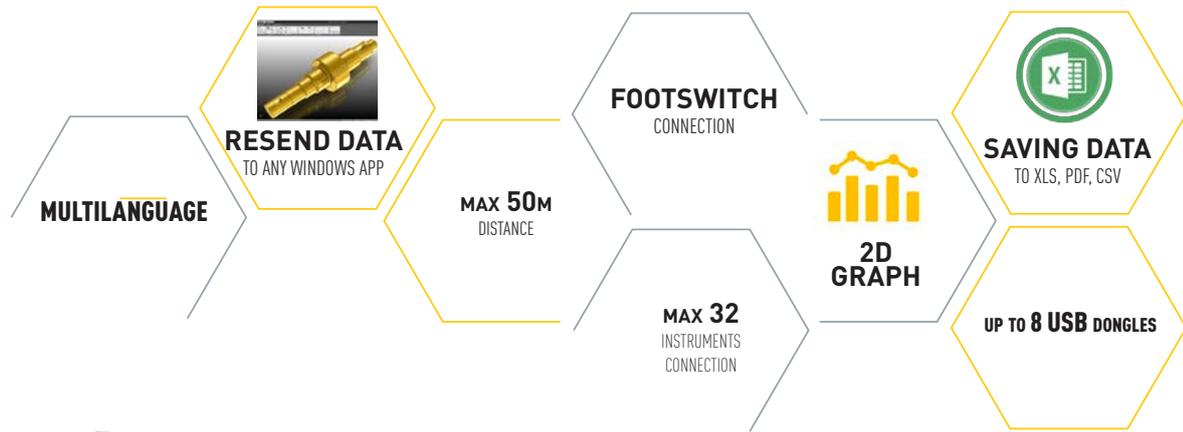
Use SETTINGS menu to select Language, Units (Metric/ inch system), TTS settings (Voice mode), Display rotation, Backlight, etc.



## ACCOUNTS:

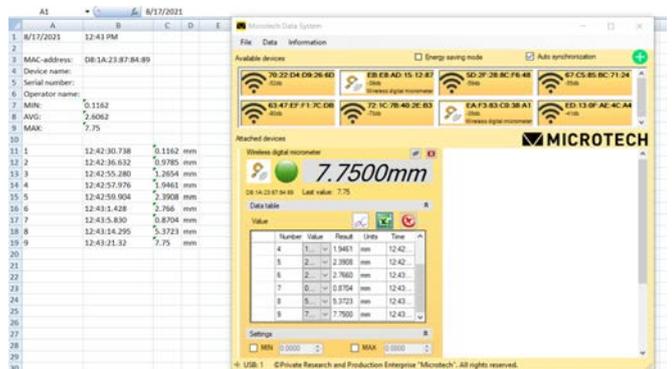
You can create users account by account menu.  
 Info about Users displaying in measuring History.  
 Measuring history can be associate with Users.





**FUNCTIONS**

MicrotechData for Windows			
	FREE	STANDARD	PRO
	299100530	299100550	299100570
Platform	Windows 7, 8, 10		
Max. instruments	1	4	32
USB-dongles (max qty)	1	1	8
Standard/Energy saving mode	+	+	+
Max Distance, m	up to 50m		
Autoconnection	+	+	+
Filtering non MICROTECH devices	+	+	+
Data reading Synchronizing	-	+	+
User manager	+	+	+
Foot-Switch connection	+	+	+
mm/inch conversion	+	+	+
Go/NoGo functions	+	+	+
Graphical mode	-	+	+
2D-Graphical mode	-	+	+
Timer	+	+	+
Resolution selection	+	+	+
Export to external programs	+	+	+
Save data to csv	+	+	+
Save data to xls*	+	+	+
Save data to pdf*	+	+	+
Save graph png	-	+	+
Multilanguage	Українська, Русский, English, Deutsch, Italiana, Española, Český, Türk, Polski, Français, Magyar		
Supplying	microtech.ua	USB-drive	USB-drive



# MDS INSTALLATION VIDEO



DEMO video with Installation, Connection and Measuring process



## APP INSTALLATION

Download & Install the latest MDS App for Windows from [www.microtech.ua](http://www.microtech.ua) or order PRO and STANDARD version from nearest MICROTECH distributor



**FIND YOUR DISTRIBUTOR**

## ACCESORIES FOR MDS APPLICATION

Item No	Type
299100550	MDS 5.0 <b>STANDARD</b> app for Windows
299100570	MDS 5.0 <b>PRO</b> app for Windows
299190001	USB-Dongle for Windows
299190004	1m Cable extension for USB-Dongle
299190000	USB-Footswitch for Windows
299190009	Wireless / USB-Footswitch for Windows

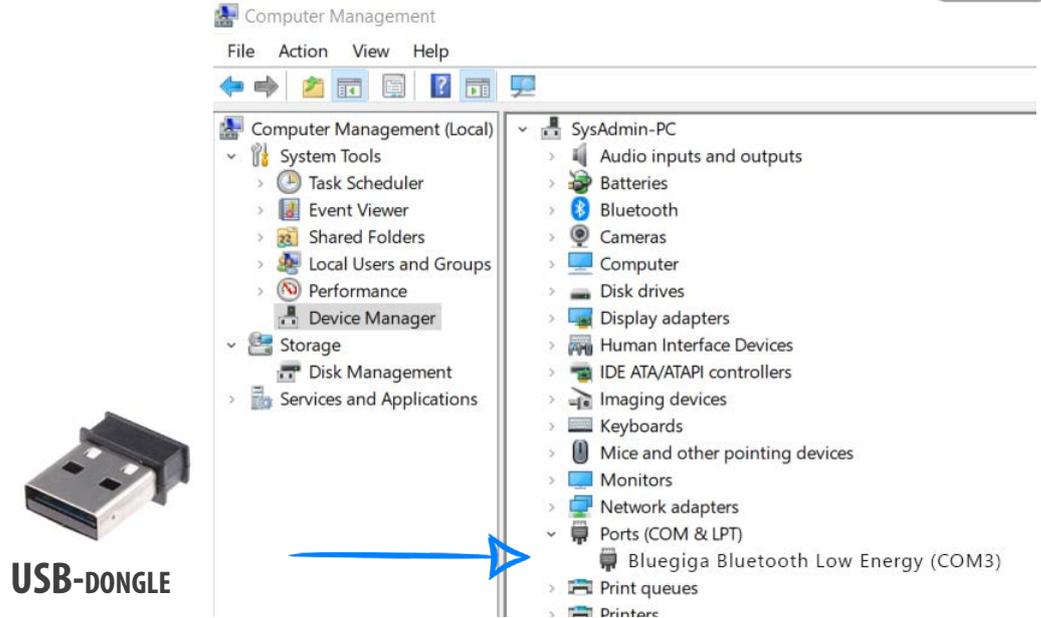


## CONNECTION SET



SET for 4 instruments Wireless connection    SET for 10 instruments Wireless connection    SET for 16+ instruments Wireless connection

Item No	Type	Accessories in SET			Recommended (max) connected devices
		Application	USB-dongles	Cable-Extensions	
299110504	STANDARD MDS data set	MDS 5.0 <b>STANDARD</b> app for Windows	1	1	4
299110810	<b>PRO</b> MDS data set	MDS 5.0 <b>PRO</b> app for Windows	2	2	10 (16)
299110840	<b>PRO+</b> MDS data set		4	4	16 (32)



To connect instruments to PC, it is necessary to use USB-dongle on PC (Item 299190001)

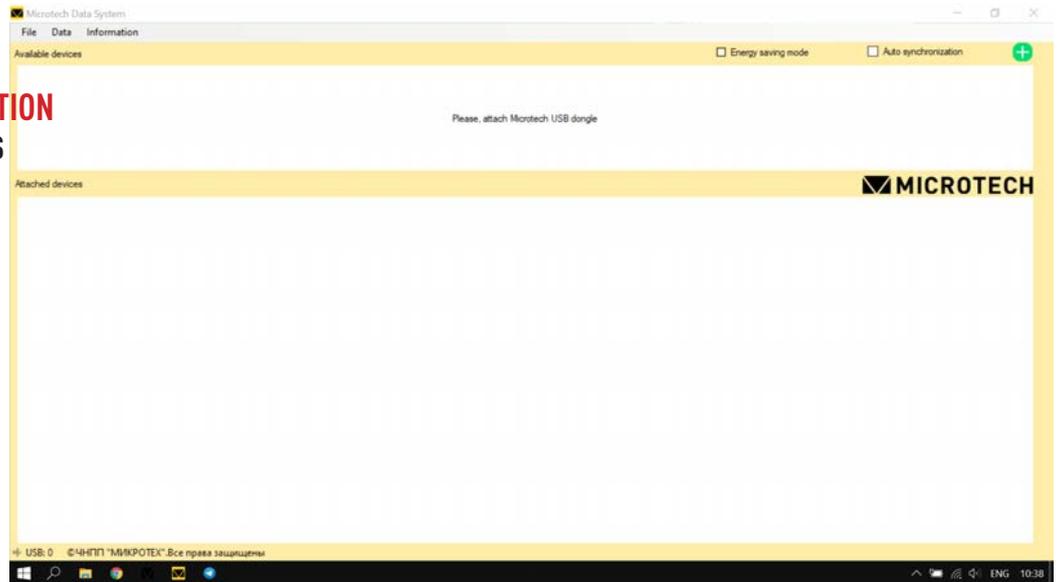
Connect USB -dongle to PC

-Check driver status on device manager

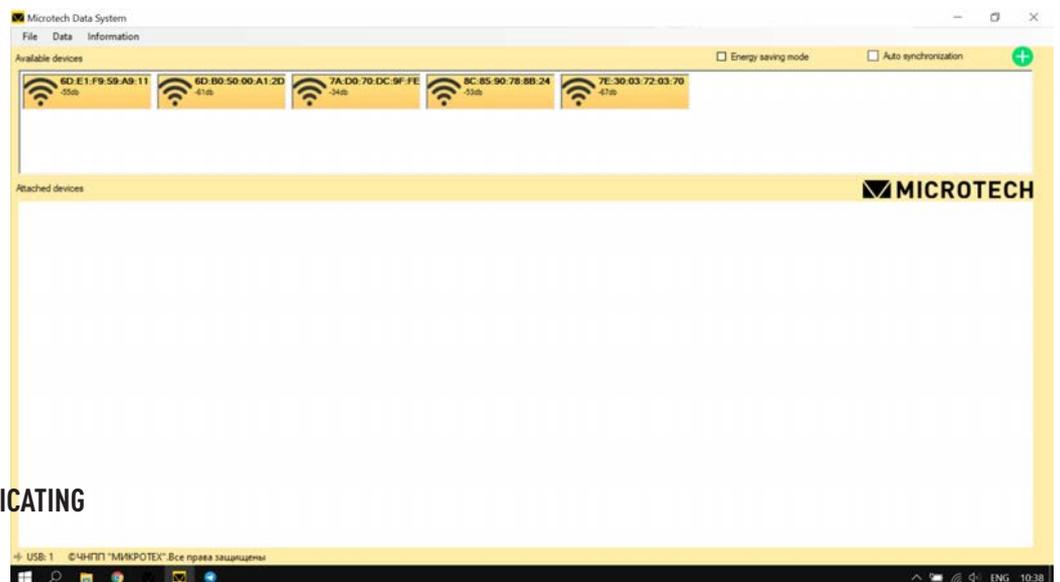
-In MDS software you can check how many USB-Dongle is active.

When USB-Dongle connected - all wireless devices around you will be displayed automatically

**WITHOUT USB DONGLE CONNECTION**  
NO VISIBLE SURROUNDING WIRELESS DEVICES



**USB DONGLE CONNECTED**  
VISIBLE SURROUNDING WIRELESS DEVICES



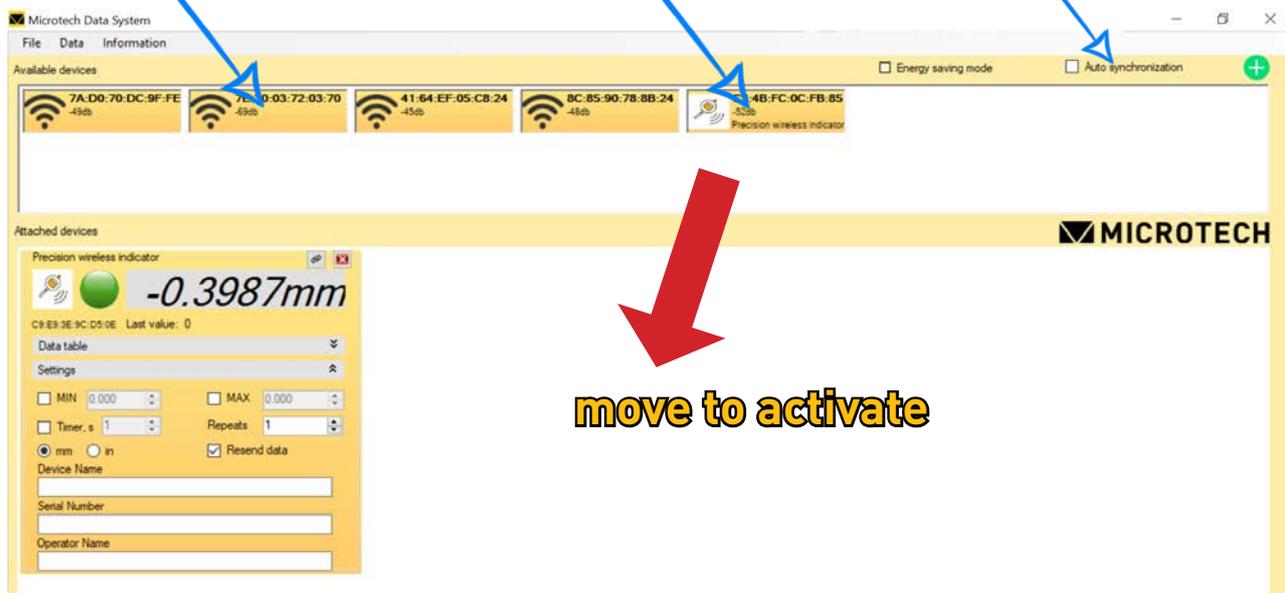
QTY OF CONNECTED USB-DONGLES INDICATING

Switch on Wireless data transfer on MICROTECH instruments  
 -in *COMPUTERIZED* instruments using menu;  
 -in *WIRELESS* instruments by holding the button for 2 seconds

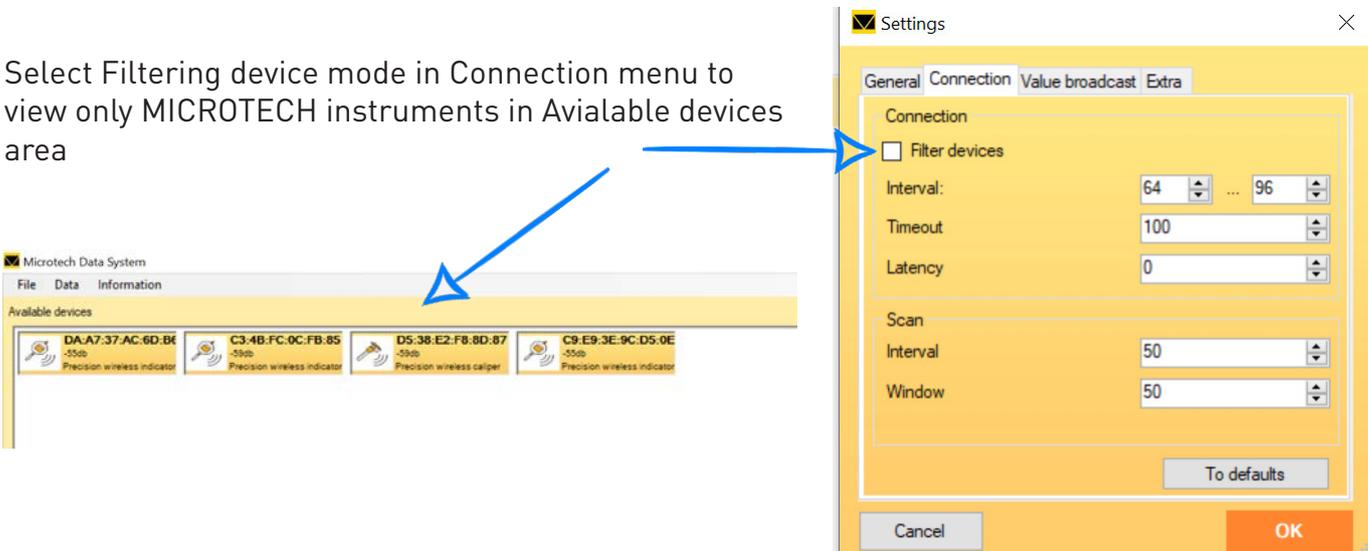


- The device will appear on «Available devices» area
- Move selected instrument from «Available devices» area to «Activated devices» area.
- Activate Auto Synchronization to automatic activating switched on MICROTECH devices
- Select Filtering device mode in Connection menu to view only MICROTECH instruments.

other WIRELESS devices      MICROTECH instruments      Activate Auto synchronization

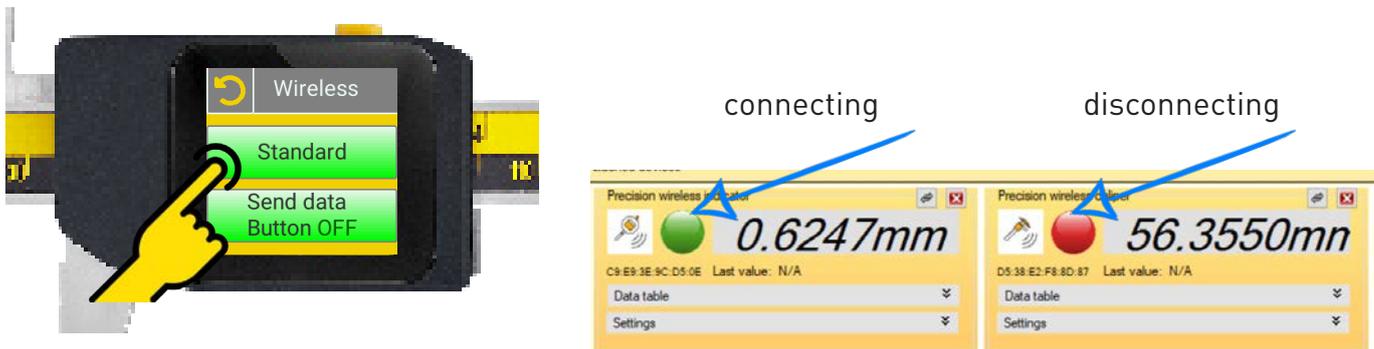


Select Filtering device mode in Connection menu to view only MICROTECH instruments in Available devices area



- ALL MICROTECH instruments have 2 data transfer modes:  
**STANDARD** - non stop 4 times/sec  
**ECONOM** - by button push only
- You can switch the data transfer mode transfer mode using menu on your device
- Connection status indicating only in STANDARD mode
- **ECONOM mode strongly recommended for WIRELESS instruments for battery saving**
- for **COMPUTERIZED** instruments recomended to use STANDARD mode

*Use STANDARD mode for COMPUTERIZED instruments*



**STANDARD** mode advantages:

- In **STANDARD** mode data transfer can be executed via pressing the button or use touchscreen on Computerized device, by Timer on Computerized device, by actual value push in Windows app, by Timer in Windows App, by Footswitch in Windows app.
- Possible to view of connection status in app (green - connected, red-disonnecting)
- **STANDARD** mode is activated by default

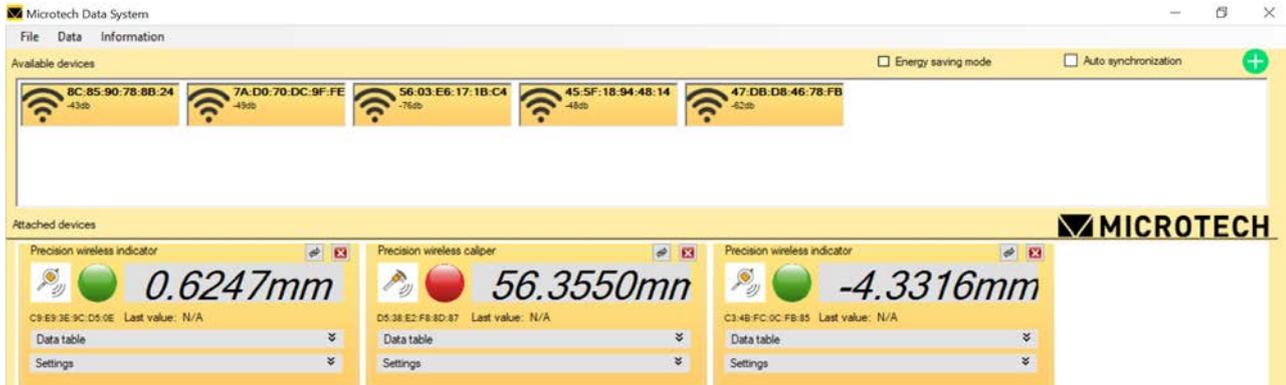
*ECONOMY mode for WIRELESS instruments*



In economy mode the data transfer is carried out only by pressing the button  
 It is necessary to activate **ECONOM** mode (Energy saving mode) on main screen



Connect USB dongle and power on Wireless or Computerized devices.  
 Wireless and Computerized devices will be appeared in Available devices area  
 To start data transfer move them to Attached devices area. If Auto synchronization is switched on, devices will be moved to Attached devices area automatically.



## DEVICE WINDOW OPERATIONS

connection status      actual value

Data table area with saved data from instrument

Number	Value	Result	Units	Time
1	0.0000	0.0000	mm	10:49...
2	-0.3987	-0.3987	mm	10:50...
3	1.2631	1.2631	mm	10:50...
4	-0.2767	-0.2767	mm	10:50...

Values settings:

- Limit's indication in table
- Timer function
- Resend data to other Windows app activation
- Device extended info (Device name, serial No, Operator info)

## RESOLUTION & UNIT SELECTION

mm/inch selection

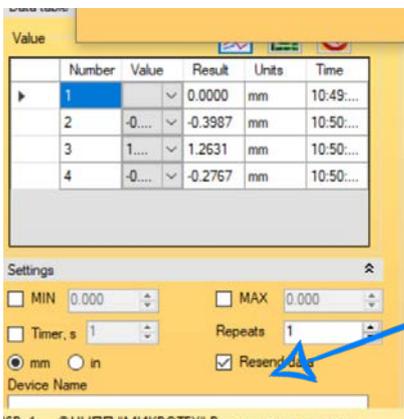
Resolution (Number of digit after decimal point) selection in Setting menu

**How to save values to table in STANDARD mode:**

- by pressing the button or tapping touch screen on your device
- by timer activating inside instrument
- by pushing actual value on MDS Windows app
- by timer activating on MDS Windows app
- by footswitching on MDS Windows app



**RESEND VALUES**

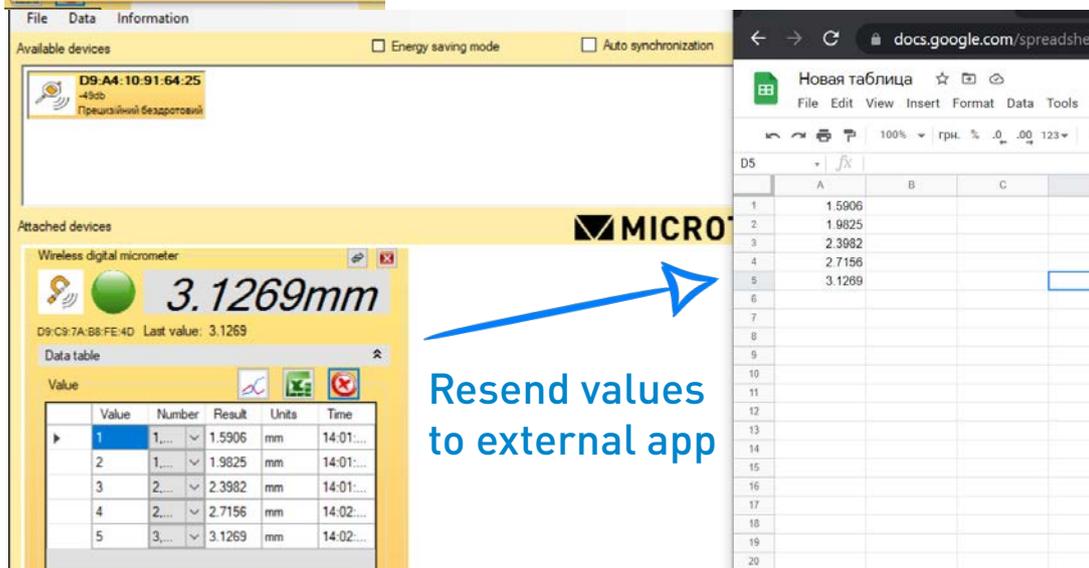


Actual values (receiving from instrument) can be

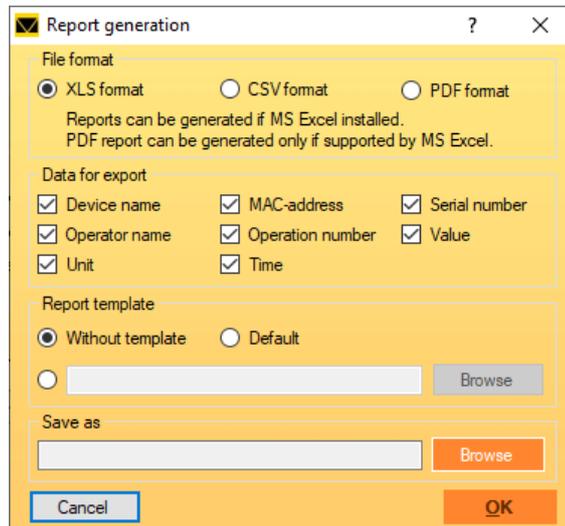
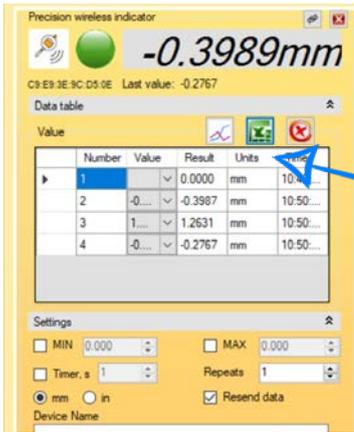
Activated Resend data



If necessary select value options (Dot/Comma) and Control symbol in Setting menu



Resend values to external app



Export saved data table values for external files

Select necessary to save columns on Data for export subsection

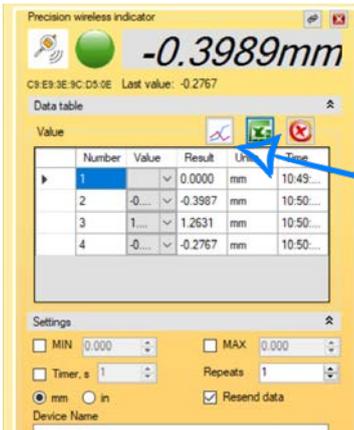
*csv report can be generated in any Windows PC*

*xls report can be generated if MS Excel installed on your PC*

*pdf report can be generated only if supported by MS Excel (the latest versions)*

	A	B	C	D
1	7/13/2021	11:01	AM	
2				
3	MAC-address:	C9:E9:3E:9C:D5:0E		
4	Device name:			
5	Serial number:			
6	Operator name:			
7	MIN:	-1.5554		
8	AVG:	-0.13		
9	MAX:	2.3685		
10		1 10:51:45.680	-1.5547	mm
11		2 10:51:46.884	-1.5551	mm
12		3 10:51:47.363	-1.5554	mm
13		4 10:51:48.719	1.645	mm
14		5 10:51:49.757	2.3685	mm

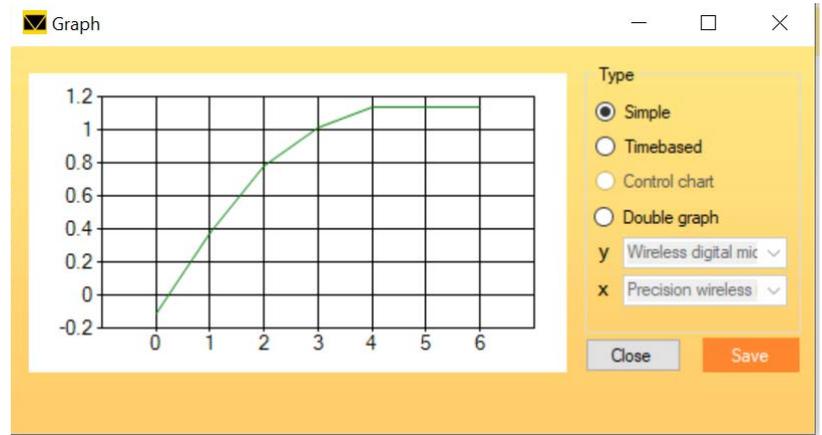
Example of exported xls file



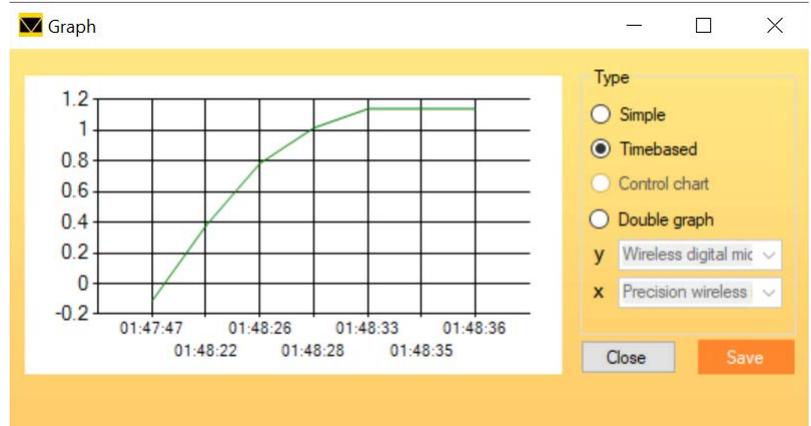
Export saved values to Graph mode  
Graph can be saved to png format

Single Graph or Graph with Tutorial.

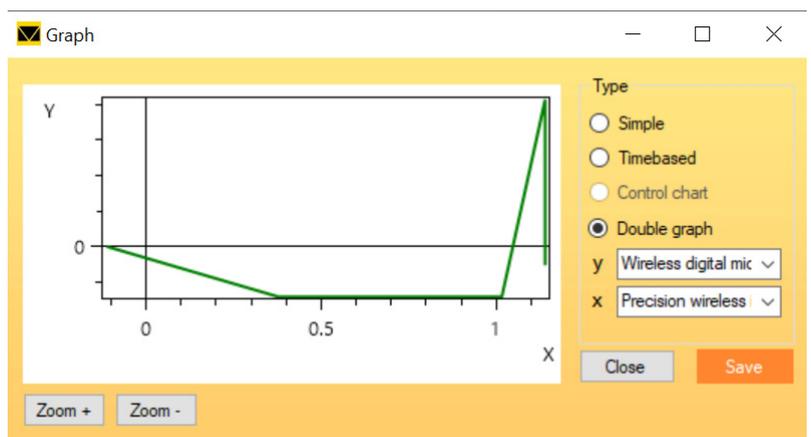
Simple Graph

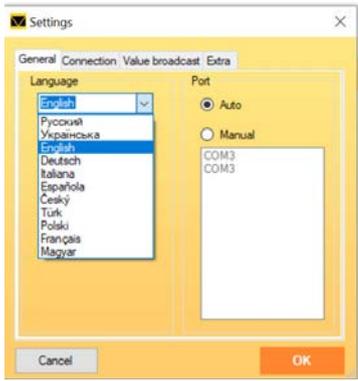


Simple Graph with Timebased



2D Doublegraph  
For special measuring solutions

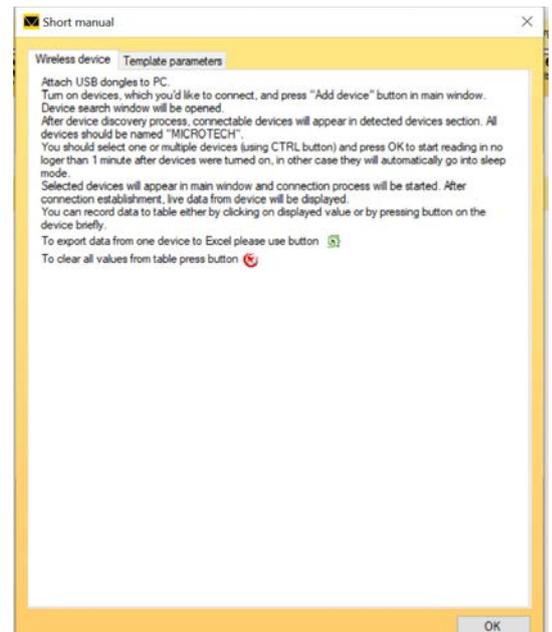




Language selection in Setting menu



MDS app versions info

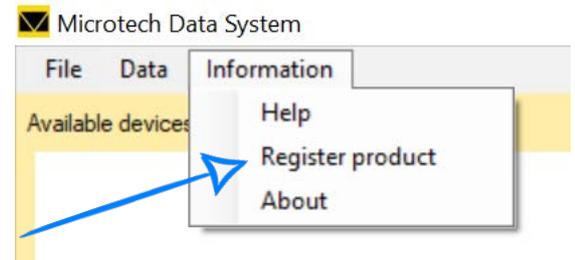


Short guide in Information menu

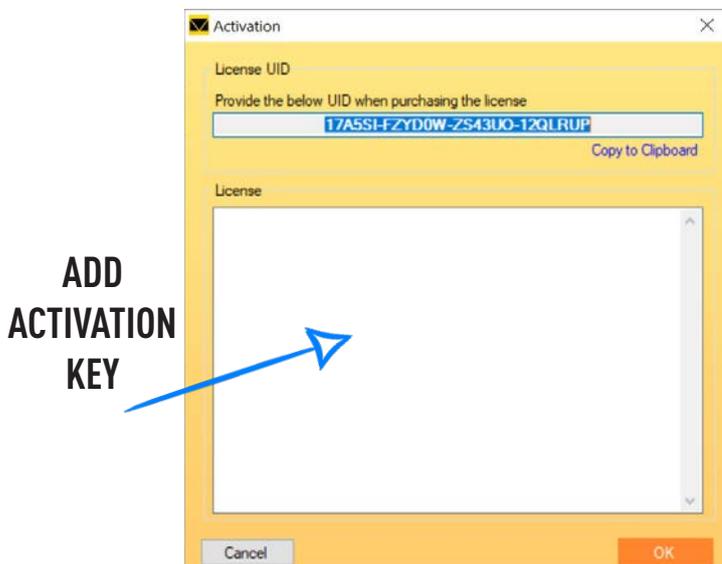
## ACTIVATE PRO version

To activate PRO version (must be pre-paid with your local distributor)

- 1) Open Register product sub-menu
- 2) Copy and send activation **UID code** from application and **Serial No** from USB-drive to [tool@microtech.ua](mailto:tool@microtech.ua)
- 3) After checking we will send to your e-mail activation license key.  
Add activation key to activation area and press OK.



UID code



SERIAL No

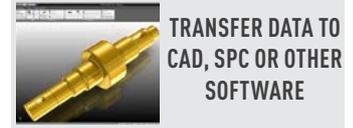
MICROTECH COMPUTERIZED INSTRUMENTS have **WIRELESS HID** data output to transfer Data direct to any compatible operation systems and applications in keyboard mode.



WIRELESS HID CONNECTION

NO DONGLE

WIRELESS HID data transfer (like keyboard) direct to any customers app and system



CONNECTION

- 1) Switch on HID mode in WIRELESS menu
- 2) Connect MICROTECH device to you PC or Tablet
- 3) Select settings of Data transfer (Dot/Coma, Trail symbol -Tab, Arr Down, CL-LF)  
It gives possibility operate in different localizations, table editors
- 4) You can direct transfer data to any Windows or other OS application.



OPERATION

For transfer DATA throw WIRELESS HID you can use some variants:

- Button Push
- Touchscreen Push
- Timer function activation
- Send data from internal memory
- Data transfer in auto-Force mode ( Computerized eForce calipers only)



MICROTECH COMPUTERIZED INSTRUMENTS have **USB HID** data output to transfer Data direct to any compatible operation systems and applications in keyboard mode.



## USB HID CONNECTION

USB HID data transfer (like keyboard) direct to any customers app and system

	 <b>TRANSFER DATA TO CAD, SPC OR OTHER SOFTWARE</b>
	 <b>TRANSFER DATA TO EXCEL OR OTHER TABLE EDITORS</b>
	 <b>TRANSFER DATA TO ANY BROWSE OR APP</b>
	
	

## CONNECTION

- 1) Connect micro USB cable from instrument to computer/tablet  
USB Cable must be with data transfer wires
- 2) Activate USB connection mode on COMPUTERIZED instrument  
***DON't activate USB connection without cable connection***
- 3) Select settings of Data transfer (Dot/Coma, Trail symbol -Tab, Arr Down, CL-LF)  
It gives possibility operate in different localizations, table editors
- 4) You can direct transfer data to any Windows or other OS application.



## OPERATION

For transfer DATA throw USB cable you can use some variants:

- Button Push
- Touchscreen Push
- Timer function activation
- Send data from internal memory
- Data transfer in auto-Force mode ( Computerized eForce calipers only)



# MEASURING HUB

- 2 DEVICE indication on main screen
- FORMULA
- SYNCRONIZATION
- 2D and ON-LINE SYNC GRAPH
- QUICK autoconnection
- 2 axis MEMORY MANAGER



# PROBE MODE

- PROBE MODE-saving data by Probe Touch
- AUTO-PROBE MODE - Touch value compensation
- quick WIRELESS Probe connection



# 2D MODE

- 2 AXIS measuring
- SYNC reading
- 2D GRAPH
- 2D DATA transfer
- WIDE CONFIGURABLE



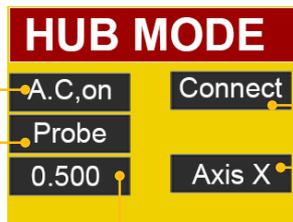
HUB connection

- 1) MASTER device: select in WIRELESS menu **2D-M** - Master device on WIRELESS connection on HUB mode
- 2) SLAVE device: select in WIRELESS menu **2D-S** - Slave device on WIRELESS connection on HUB mode
- 3) HUB mode on MASTER device - select requested mode (PROBE, 2D) and Connect SLAVE device

# PROBE MODE

**A.C.on** - Auto Connection active  
**A.C.off** - Auto Connection no active

**PROBE** -Saving data when Probe will reach value  
**PROBE Auto** - Saving data when Probe will reach value with this value compensation  
**2D** - 2 axis data reading  
**2D Sync**- Synchronized 2 axis data reading  
**Disable** - switch off modes



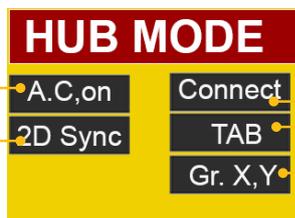
Setting PROBE limit value

External Wireless device connection  
 Axis priority selecting

# 2D MODE

**A.C.on** - Auto Connection active  
**A.C.off** - Auto Connection no active

**PROBE** -Saving data when Probe will reach value  
**PROBE Auto** - Saving data when Probe will reach value with this value compensation  
**2D** - 2 axis data reading  
**2D Sync**- Synchronized 2 axis data reading  
**Disable** - switch off modes



External Wireless device connection  
 Symbol between Axis  
 Graphic mode indication setting

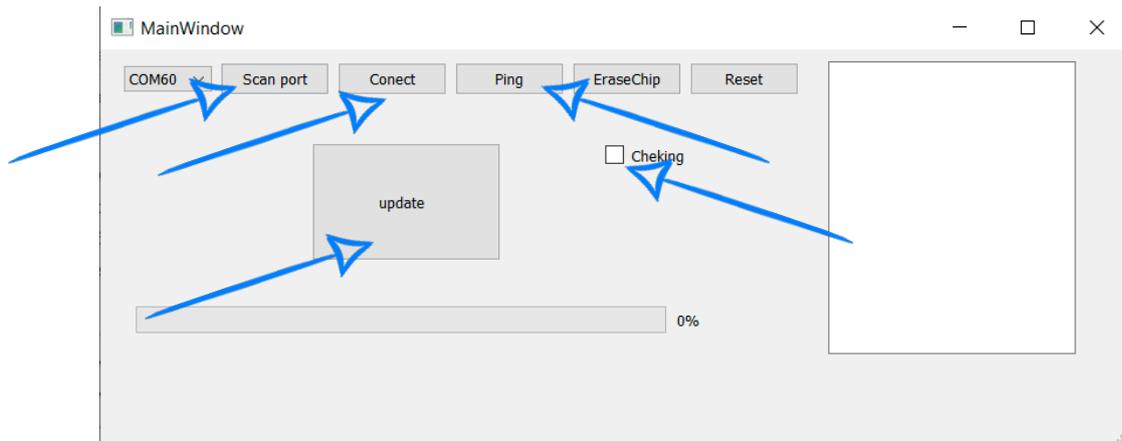
- 1) Connect USB cable to Windows PC (with data transfer possibilities)
- 2) Push FIRMWARE UODATE BUTTON to activate process



Push 10 times to FIRMWARE UPDATE



- 3) You will enter to BOOTLOADER section on device
- 4) Run NordBootloader.exe for WINDOWS file (request from MICROTECH)
- 5) Click Scan port -> Connect -> 2times Ping (on your device should display some numbers) -> Cheking -> Update and select \*.bin file with lasted firmware that you have been downloaded.



- 6) After successful flashing will display "Loading finished" on device screen.

Now you can plug off Micro USB



- 7) After that, you need to reset the device to factory settings. Tap «RESET TO FACTORY» 10 times. The firmware update is complete



Push 10 times to RESET device to factory settings



## MICROTECH

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[www.microtech.ua](http://www.microtech.ua)

[tool@microtech.ua](mailto:tool@microtech.ua)

**FIND YOUR DISTRIBUTOR**

