



MICROTECH



2D LASER HEIGHT GAUGE

USER MANUAL



ISO17025:2017

ISO 9001
BUREAU VERITAS
Certification



ISO 9001:2015



Item No	Range		Resolut.		Accuracy		Motorized	X axis LASER	Measuring speed	2D mode	Probe mode	2D connection	Measuring HUB	Graphic	Analog scale	Preset	Go/NoGo	Max/Min	Formula	Timer	Memory	WIRELESS	USB		
	Z	X laser	Z	X laser	Z	X*																			
	mm	mm	mm	mm	µm	µm																			
144303294	0-300	±4	0,0005	0,001	±8	±10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
144306294	0-600						±20	±12	±10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
144306296		±20			±20	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
144310294	0-1000	±4			±15	±10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
144310296		±20			±20	±20	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
144310297		±60	±60	±60	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

TECHNICAL DATA

Parameters	
LED display	color 3,5 inch 480x320
Indication system	MICS 4.0
Case material	Aluminium
Wireless data transfer	Long range / HID
USB data transfer	USB HID



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

MAIN INFO



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0.5 μ m

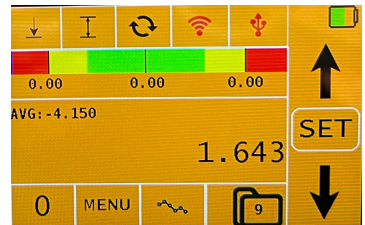


SWISS
READING
SYSTEM

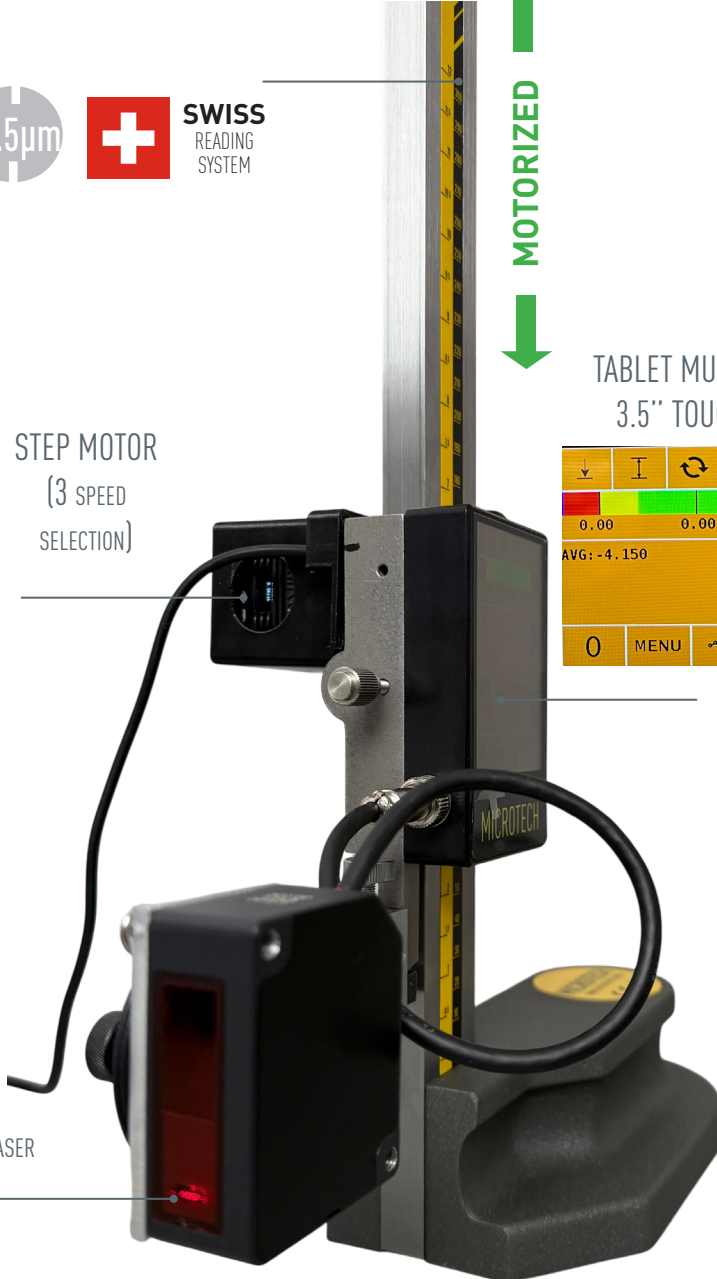
MOTORIZED

STEP MOTOR
(3 SPEED
SELECTION)

TABLET MULTIFUNCTIONAL MICS
3.5" TOUCHSCREEN DISPLAY



RED LASER





MOTORIZED
WITH AUTO MODE

DISPLAY: 3.5" Hi-res Touchscreen display

FOR USING ON **MOTORIZED** OR MANUAL HEIGHT GAUGES and MEASURING STANDS TOUCH PROBE PROBES, LASER PROBES CONNECTION for 2D / PROBE functions

READING SYSTEM: DIFFERENT READING SYSTEMS (STANDARD/**SWISS MADE**)

DATA TRANSFER MODES:

- WIRELESS data to MDS app (Windows, Android, MacOS, iOS)
- WIRELESS HID to any app and OS (dot/comma/symbols config)
- WIRELESS HID+MAC to any app and OS (with MAC address)
- USB HID to any app and OS (dot/comma/symbols config)
- MODBUS RTU (modifications)

HUB CONNECTION:

- HUB (2D, Probe) synchronization (Slave device)
- HUB (2D, Probe) synchronization (Master device)

FUNCTIONS: GRAPHIC, SYNCHRONIZED DEVICE, TIMER, PRESET, FORMULA, RESOLUTION SELECTION, PEAK, LIMITS, GRAPHIC, **MOTORIZED** with AUTO mode, LASER/TOUCHPROBES connection, MANUAL TEMPERATURE COMPENSATION

CALIBRATION: CALIBRATION DATE CONTROL, LINEAR ERROR COMPENSATION

MEMORY: 2000 values with FOLDERS, STATISTICS. Data transfer from MEMORY



DataMet interface



CONNECTION possibilities

NAVIGATION IN MENU BY TOUCHSCREEN

EXIT FROM FUNCTION - TOUCHSCREEN SWAP or BUTTON PUSH (1s)

MAIN SCREEN



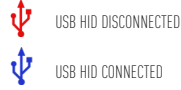
MICROTECH

EXTERNAL MODE

WIRELESS CONNECTION STATUS AND SETTINGS



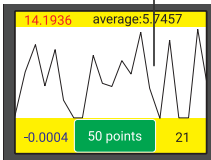
USB CONNECTION STATUS AND SETTINGS



DIRECTION INDICATION

SETTINGS

MEMORY



ON-LINE GRAPHIC MODE

Stat	All	Sett.
1:	0.0432	
2:	0.0432	
3:	0.1414	
4:	0.1415	
5:	0.1138	

Statistics	
MAX:	0.1415
MIN:	0.0432
AVG:	0.1031
D:	0.0013



STANDARD or FOLDER system can be activated through MEMORY menu

Values in each Folder

Stat	All
1:	0.0000
2:	1.2334
3:	1.2337
4:	1.2333
5:	1.2341

STANDARD MODE



FOLDERS MODE

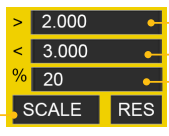


LIMITS mode GO/NOGO



MAX - NoGo more Upper limit
MIN - NoGo less Lower limit
RANGE - Go between Limits
NONE - Analog scale active

COLOR INDICATION LIMITS ON MAIN SCREEN Go NoGo



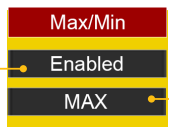
Upper limit
 Lower limit
 Yellow zone on analog scale

PEAK mode MAX/MIN



DISABLE - non active mode
ENABLE - activating mode
REFRESH - refresh peak value according timer

INDICATION AND SAVING MAX OR MIN VALUES

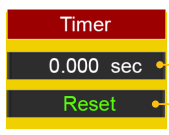


MAX - indicating MAX measured value
MIN - indicating MIN measured value
RANGE - indicating difference between MIN & MAX value

TIMER mode

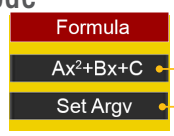


SAVING DATA TO MEMORY OR SENDING WIRELESS/USB BY TIMER



Select timer period
 Reset to disactivate mode

FORMULA mode



Select FORMULA Type (Math, Radius or other)
 Select arguments

RESOLUTION selection



Resolution selecting
 mm/inch conversion

DISPLAY settings



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)



Display rotation 0°, 90°, 180°, 270°
 Brightness level



LINEAR error compensation



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

O: 17.251	●
C: 17.258	●
UP	OK
DN	RES

Linear correction error's on device

- actual values
- correct values by up&down button
- confirm point correction

TEMP compensation



Manual Temperature setting

Temp.com.	
Cu, Cu alloys	
27.5°C	RES

4 types of material for selection:

- Glass, Quartz
- Stainless steel
- Cuprum and alloys
- Alluminium and alloys

LINK to app's



QR Link to MICROTECH web site page with MDS Software download

- Android, iOS, Windows versions
- Free and Pro versions
- Manuals



RESET to Factory settings



Extra
Reset to factory
Firmware update

- Push 10 times to RESET device to factory settings
- Push 10 times to FIRMWARE UPDATE

EXTRA



Extra
Normal
Set K

- Selecting normal or inverted axis mode (+/- value indication)
- Coefficient setting (for distributor and calibration only)

CALIBRATION date info



Display		
Day	Month	Year
1	1	2023

Push for change calibration date info

Device INFO



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www.microtech.ua
FW 4.0.37
XX:XX:XX:XX:XX:XX

Information about device

- Firmware version
- MAC adress for WIRELESS connection

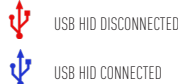


ACTIVATE REQUESTED DATA TRANSFER MODE FROM MAIN SCREEN

WIRELESS CONNECTION STATUS AND SETTINGS



USB CONNECTION STATUS AND SETTINGS



WIRELESS data transfer



Reconnection button
Wireless power regulation



- ON** - WIRELESS data transfer to MDS App for Android, iOS, Windows
- HID**- WIRELESS HID direct transfer data to any App in Windows, MacOS, Linux, Android devices (like keyboard). Configure data format in USB sub-menu
- 2D-S** - Slave device on WIRELESS connection on HUB mode
- 2D-M** - Master device on WIRELESS connection on HUB mode

USB OTG data transfer



- Connect USB cable to PC & Activate USB HID connection mode
- Select setting of data transfer
- Direct transfer data to any App in Windows, MacOS, Linux, Android devices
- Configuring data transfer Dot/Comma and Tab/Arrow Down/CR+LF

PROBE X MODE



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In this mode LASER is using in PROBE mode - it's possible to measuring height of detail.

1. Push SET button on the main screen to activate SETTING menu
2. Select Probe X mode

Disable - No Re-contact measurings.

Reply 1/2/3 - Re-contact measurements (1,2,3-times)

PRECISION - Slow travel speed for Precision measurement

STANDARD - Standard travel speed

QUICK - Quick travel speed



AUTO - AUTO measuring mode
Manual - Manual measuring mode

Probe X mode

3. Preset the Base Set value before starting measurement.

- 3.1 Install Setting gauge on granite plate according using Installation tabmplate (like on photo)
- 3.2 push BS (Base Set button) to Preset value.
- 3.3 In Formula mode C value must be according value marking on setting gauge (C=XXmm).



BASE SET

EXTERNAL measuring mode

ACTUAL VALUES

Measuring REPLY



UP-DOWN buttons

SET - activate SETTING menu

4. Adjust measurements settings in SET menu
For PROBE X mode recommended such setting: reply 2/ Auto/ Standard
5. Select External measuring mode
6. Use UP-DOWN button to move height gauge and make measurings



VIDEO INSTRUCTION
2D and PROBE MODE
CONNECTION



LASER is using in 2D mode - to measuring 2 axis in manual mode

1. Push SET button on the main screen to activate SETTING menu
2. Select 2D laser mode

Disable - No SCAN mode activation

Auto - AUTO measuring mode
Manual - Manual measuring mode

PRECISION - Slow travel speed for Precision measurement
STANDART - Standard travel speed
QUICK - Qucik travel speed

2D Laser mode

Xmax: 0.0000
00
dx: 0.000000
Xmin: 0.0000

3. **Preset the Base Set value before starting measurement.**

- 3.1 Install Setting gauge on granite plate according using Installation tabmplate (like on photo)
- 3.2 Push Base Set button to Preset value.
- 3.3 In Formula mode C value must be according value marking on setting gauge (C=XXmm).



BASE SET

ACTUAL VALUES X-axis LASER - 1.467mm

ACTUAL VALUES Z-axis - 23.933mm

UP-DOWN buttons

SET - activate SETTING menu

4. Adjust measurements settings in SET menu
For 2D - mode reccomeded such setting: Disable/ Auto/ Standard
5. Use UP-DOWN button to move height gauge and make measurings
6. Combine AUTO/Manual moving mode and speed to get optimal measurements process.



VIDEO INSTRUCTION
2D and PROBE MODE
CONNECTION



2D SCAN MODE

In this mode LASER is using in 2D mode - it's possible to measuring 2 axis in AUTO mode.

1. Push SET button on the main screen to activate SETTING menu
2. Select SCAN mode

SCAN - activate SCAN mode

Auto - **AUTO** - AUTO measuring mode
Manual - Manual measuring mode

PRECISION - Slow travel speed for Precision measurement
STANDARD - Standard travel speed
QUICK - Quick travel speed

2D Laser - 2D Laser mode

Zmax - max value

Zmin - min value

Step - Step

Xmax: 70.000
000
dX: 1.000000
Zmin: 30.000

3. Preset the Base Set value before starting measurement.

- 3.1 Install Setting gauge on granite plate according using Installation template (like on photo)
- 3.2 Push Base Set button to Preset value.
- 3.3 In Formula mode C value must be according value marking on setting gauge (C=XXmm).



BASE SET - base set

Laser 0

ACTUAL VALUES X-axis LASER - 1.467mm

UP-DOWN buttons - UP-DOWN buttons

ACTUAL VALUES Z-axis - 23.933mm

SET - activate SETTING menu

0 MENU [Waveform icon] [Laser icon]



VIDEO INSTRUCTION
2D and PROBE MODE
CONNECTION

4. Adjust measurements settings in SET menu

For 2D SCAN- mode recommended such setting: SCAN/ Auto/ Precision
 If you want to AUTO Scan values in range from 30 to 70mm with step 1mm:
 select Zmin: 30 ; Zmax: 70, Step 1mm - push UP button to start SCAN mode - you'll get values
 for Z and X (laser) axis on this range with step 1mm. Minimum step can be 0.1mm

5. Use UP-DOWN button to move height gauge and make measurements



MICROTECH est. 1995

UKRAINIAN CREATIVITY - EUROPEAN RELIABILITY

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Change without prior notice