



## TESATRONIC TWIN-T20 ultimate

Metrological display with ultimate precision, featuring dual displays with nanometer resolution.

The TWIN-T20 ultimate digital display provides metrology laboratories with a state-of-the-art solution for checking reference dimensions, such as calibration blocks.

The combination of the TESA half-bridge probe and the electronics of the TWIN-T20 ultimate display ensures an ultimate resolution of **0.001  $\mu\text{m}$**  on a scale of  $\pm 200 \mu\text{m}$  and  $0.01 \mu\text{m}$ , on a scale of  $\pm 2 \text{ mm}$ .

Multiple connections on the back of the display allow TESA probes as well as a wide range of measuring equipment to be connected, using the integrated USB ports.

Intuitive navigation makes it easy to set measurement tolerances and choose the type of display to optimise reading for users.

This display is not compatible with the UPC gauge block. For UPC applications, please contact TESA.

## KEY FEATURES

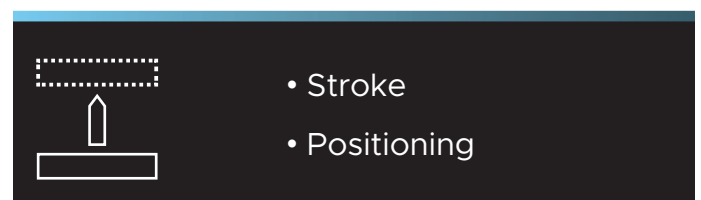
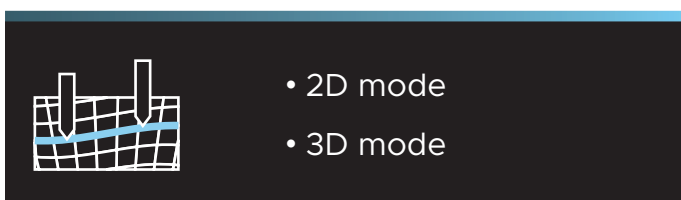
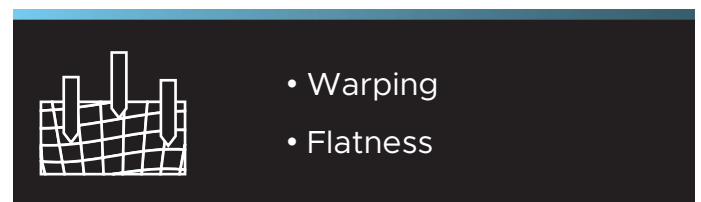
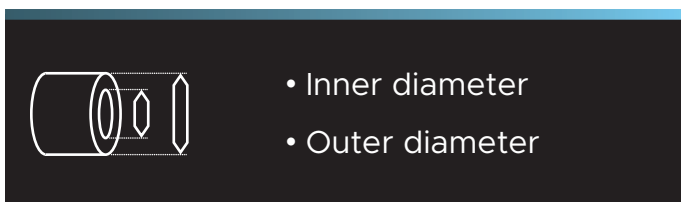
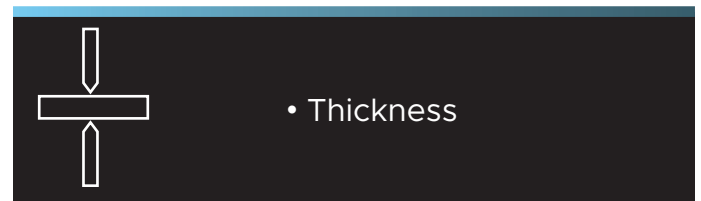
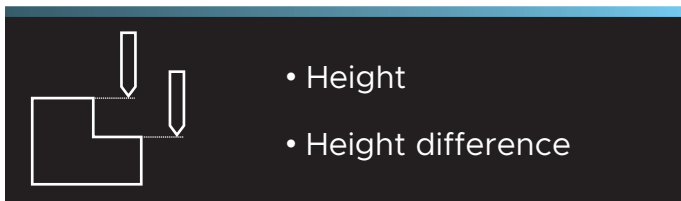
- Simultaneous display of 2 values
- High resolution  $0.001 \mu\text{m}$
- Large 7" touch screen
- 5 integrated display styles
- Intuitive measurement setting
- Equipped as standard for data collection and transfer



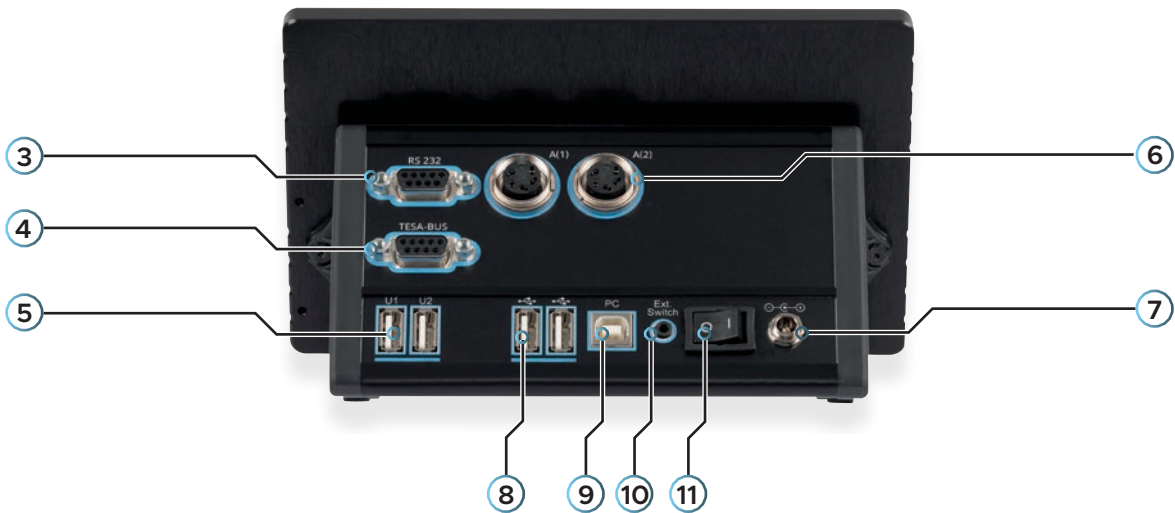
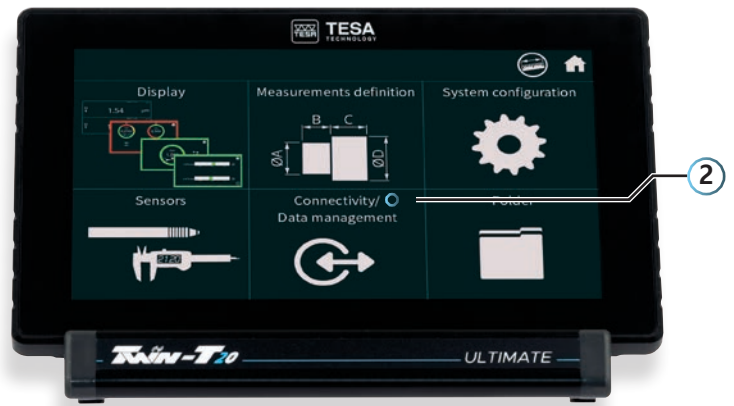
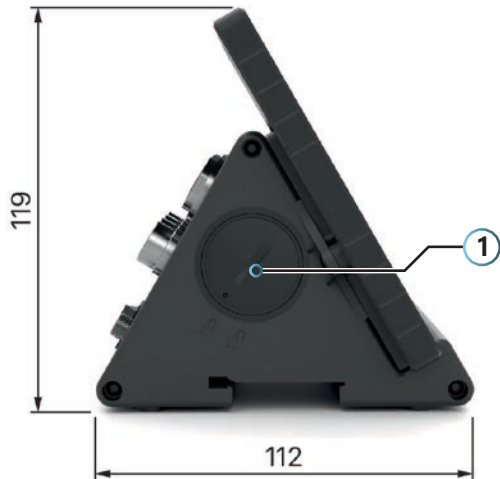


Measuring a gauge block on polished marble with a display of 0.001 μm from the connected inductive probe

Examples of possible measurements using the TWIN-T20 ultimate display:



## Product description



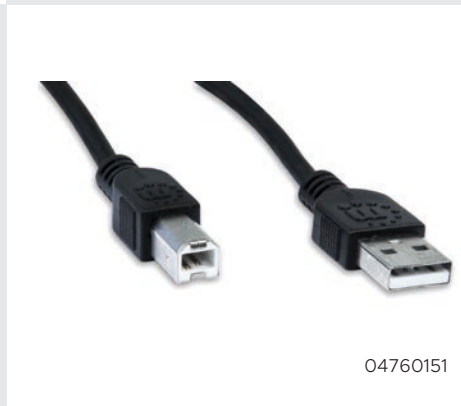
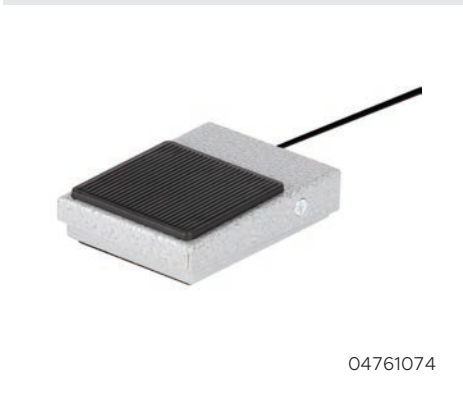
Number	Description
1	TLC cap
2	7" touch screen
3	TESA-BUS port D-sub 9S
4	Port TESA-BUS Sub-D 9S
5	2x USB-A host for measuring instruments
6	2x DIN45322 connectors for TESA half-bridge probes
7	Connector for 15-24 V power supply
8	2x USB-A host for peripherals (USB foot switch, keyboard, memory stick, QR code reader)
9	1x USB-B device (HID PC keyboard output + firmware update)
10	Ø 2.5 jack plug for foot switch
11	ON/OFF switch

## Specifications

TESATRONIC TWIN-T20 ULTIMATE	
Item no.	04430022
Description	Display with 2 values for TESA inductive probes
Number of inductive probe inputs	2
Number of inputs for USB measuring devices	2
Resolution	Scale 0-200 $\mu\text{m}$ : 0.001 $\mu\text{m}$ / 0.0001 mil Scale 0-2000 $\mu\text{m}$ : 0.01 $\mu\text{m}$ / 0.001 mil
Indication error (at 20 °C, HR = 50%, based on fictive)	Scale 0-200 $\mu\text{m}$ (0.001 $\mu\text{m}$ ): $\pm$ (0.08% of measured value + 0.1 $\mu\text{m}$ ) Scale 0-2000 $\mu\text{m}$ (0.01 $\mu\text{m}$ ): $\pm$ (0.08% of measured value + 0.3 $\mu\text{m}$ )
Zero drift (at 20 °C and 50%)	Max 0.1 $\mu\text{m}/^\circ\text{C}$
Static measurement	Yes
Dynamic measurement	Min, Max, Max-Min, Median, (Max-Min)/2, Mean
Sampling frequency	10 Hz
Integrated functions	<ul style="list-style-type: none"> <li>- Measurement tolerance</li> <li>- 8 classifications</li> <li>- Calibration</li> <li>- OK/NOK/ADJUST display</li> <li>- Data transfer (via RS232, TLC or HID keyboard device)</li> <li>- Setting lock</li> <li>- Foot switch/button programming</li> <li>- Storage of 2 measuring programs</li> </ul>
Display types	<ul style="list-style-type: none"> <li>- Galvanometer</li> <li>- Bar graph</li> <li>- Rotating indicators</li> <li>- Dial indicators</li> <li>- Numerical indicators</li> </ul>
Standard conditions of use	20 °C $\pm$ 1 °C, humidity 40 < HR < 65%, no condensation
Limited conditions of use	10 °C < T° < 40 °C, humidity < 80%, no condensation
Storage conditions	-10 °C < T° < 60 °C, humidity < 80%, no condensation
Protection class	IP65 for front side, IP20 others
Input voltage	Input: 100-240 V/50-60 Hz, 3.6 A Output: 24 V DC/1.2 A
Power consumption	18 W without device connected
Compatible standards	CE, UKCA
Weight	1.2 kg
Included in delivery	<ul style="list-style-type: none"> <li>- TWIN-T20 ultimate</li> <li>- Power supply</li> <li>- Power supply cable</li> <li>- Included in delivery</li> <li>- 4x power cable connector EU, UK, USA, CH</li> <li>- Self-test report</li> <li>- Calibration certificate</li> <li>- Instructions for use</li> <li>- 2x packaging foam</li> </ul>

## Optional accessories

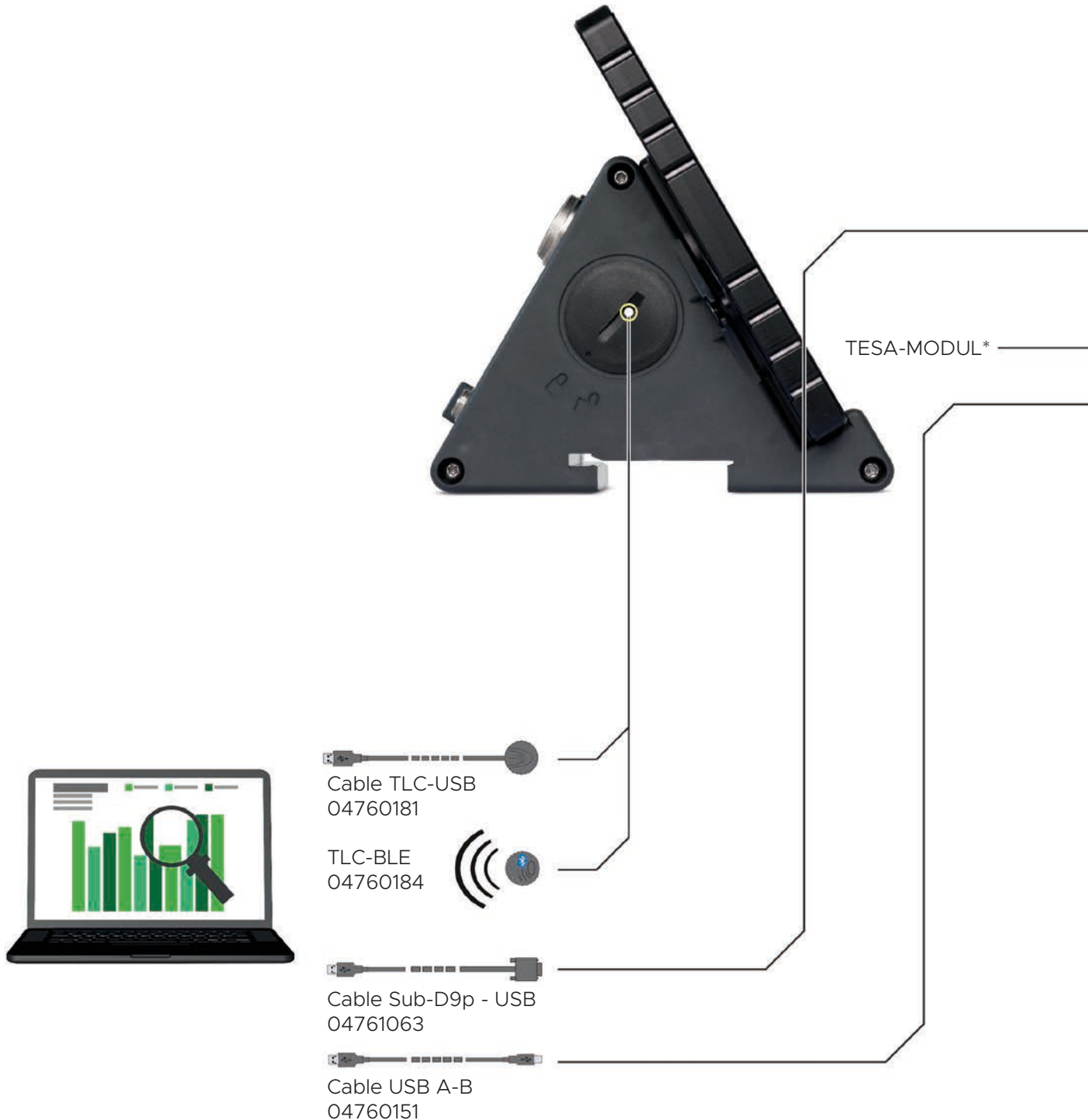
Item no.	Description
<b>04460016</b>	Power supply + power supply cable + 4x power cable connector EU, UK, USA and CH
<b>04460013</b>	Stylus set + holder for TWIN-T20/40
<b>04761074</b>	Foot switch, jack, 2 m
<b>04761075</b>	Table button, jack, 2 m
<b>04761071</b>	Foot switch, USB, 2 m
<b>04760181</b>	TLC-USB PC cable, 2 m
<b>04760184</b>	TLC-BLE transmitter
<b>04761063</b>	D-sub 9p cable to USB, 2 m
<b>04760151</b>	USB A-B cable, 1.8 m



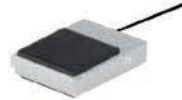
## Connectivity

TESA device connectivity is essential to ensure the connection of as many measuring devices as possible in order to easily collect, analyse and store data thus ensuring perfect traceability.

The TWIN-T20 ultimate display is therefore equipped with numerous ports in the standard configuration. This allows multiple measuring instruments to be connected so that data can be collected or sent via a PC, using a wide range of connections.



\* Detailed information to come



Foot switch, jack  
04761074



Table button, jack  
04761075



Footswitch, USB  
04761071



Memory stick



Cable TLC-USB  
04760181



Cable power-USB (90°)  
04760162



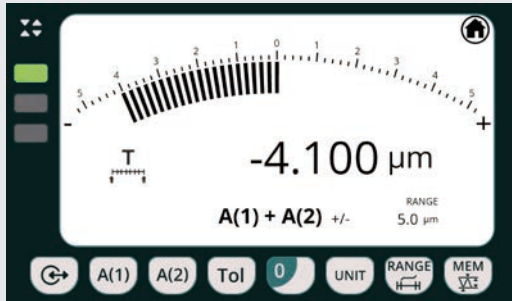
Cable OPTO RS232-USB  
04761062



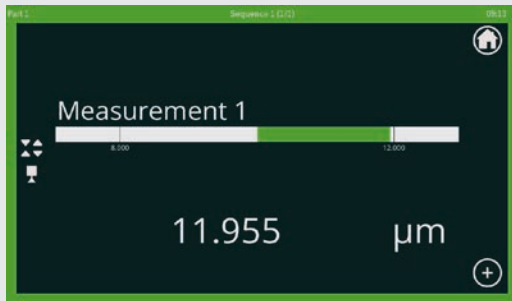
## User interface

The TWIN-T20 ultimate metrological display allows the user to choose the type of display in order to optimise readability of the results with five different displays.

### One probe connected to display unit



Galvanometer display, limited to one value



Bar graph indicator display, one value



Dial indicator display, one value

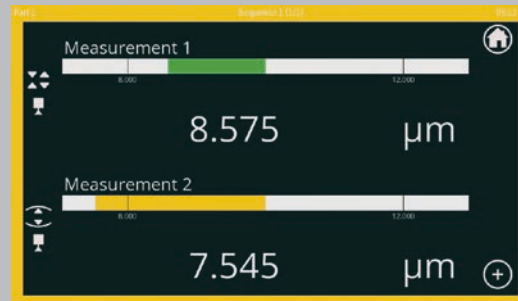


Rotating indicator display, one value

### Two probes connected to display unit



Digital indicator display, two values



Bar graph indicator display, two values



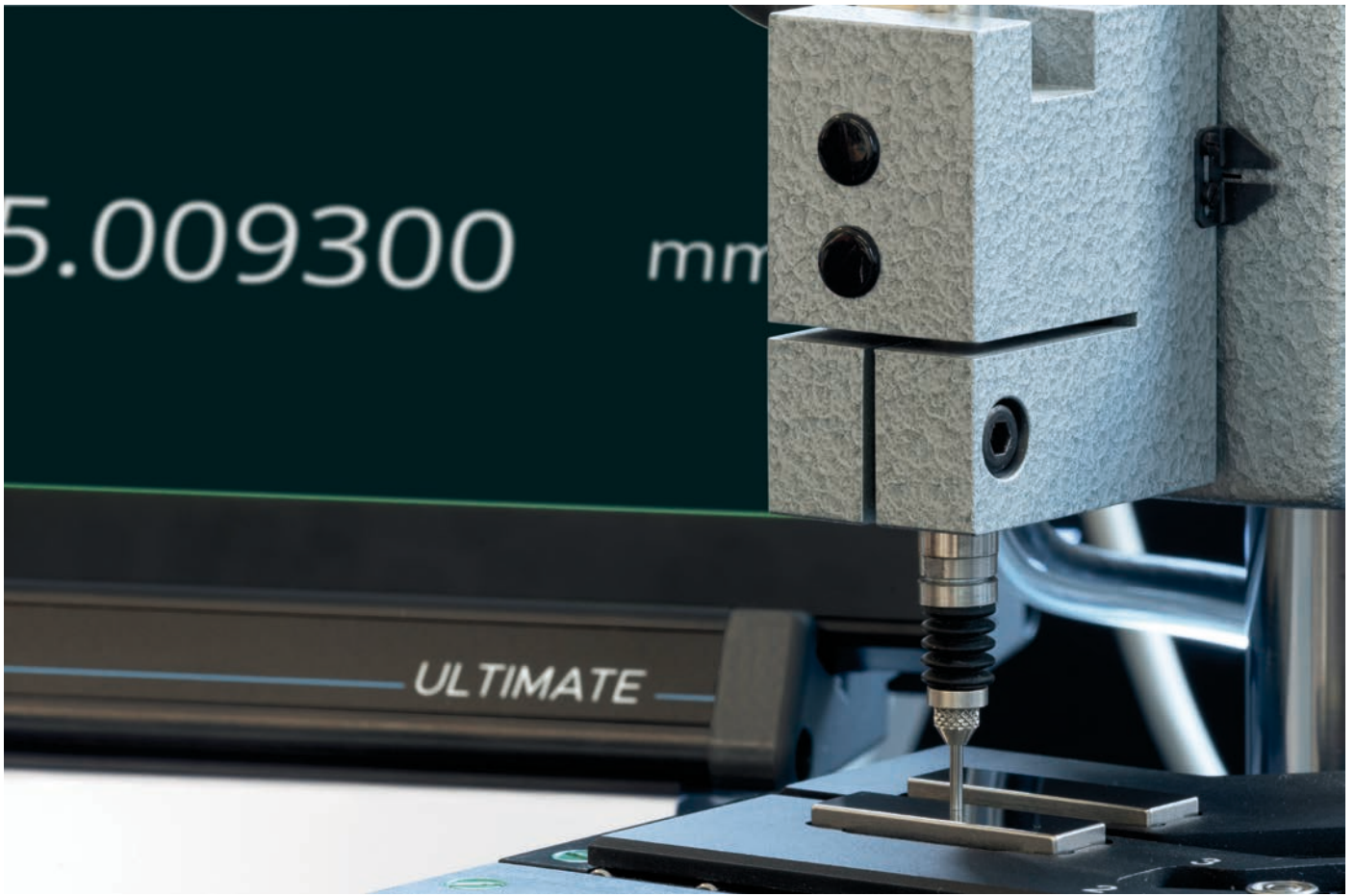
Dial indicator display, two values



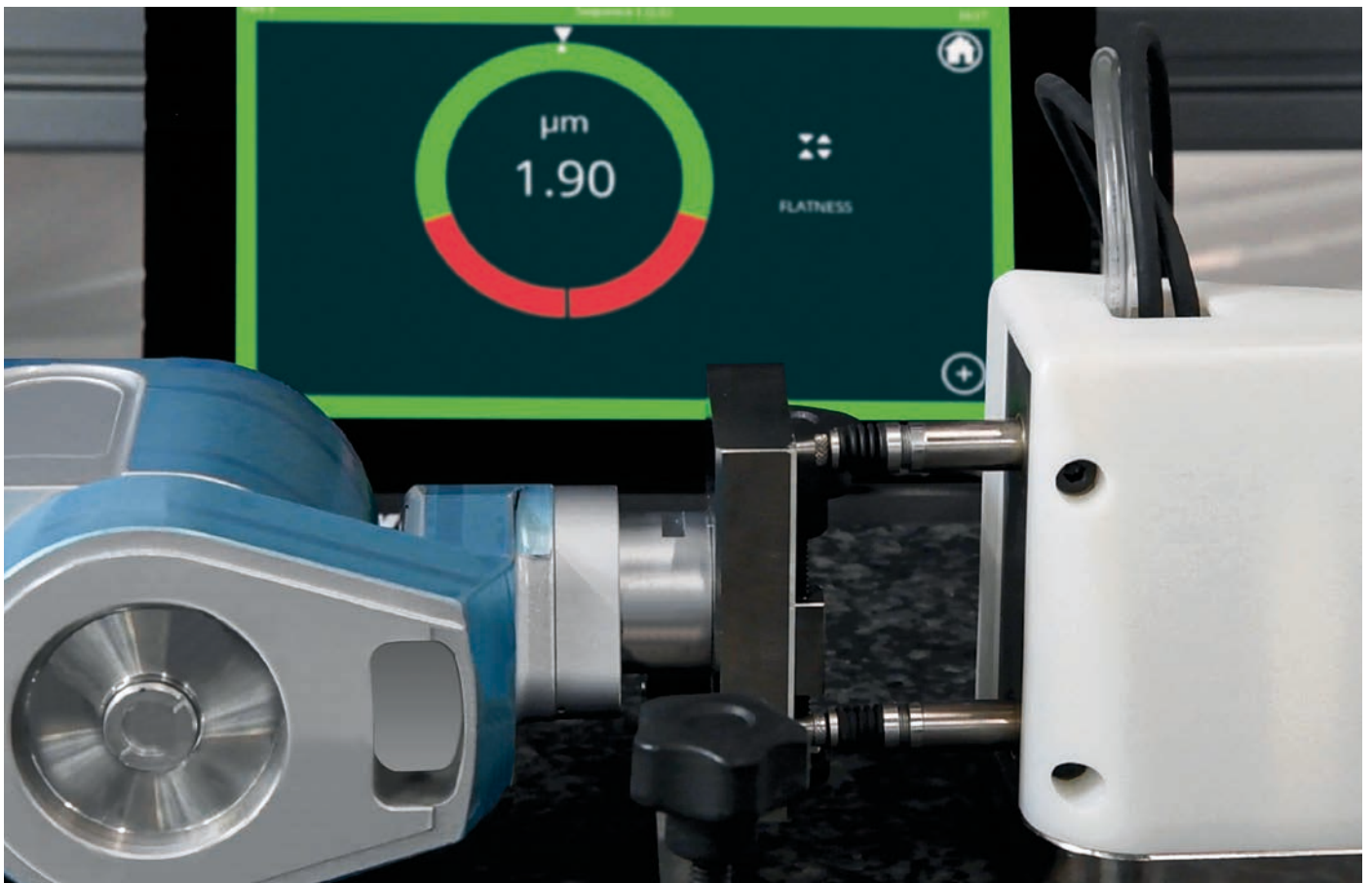
Rotating indicator display, two values

- 1 The "Numerical indicators" type display allows access to changes of the dynamic modes (min., max., max.-min., median, (max.-min.)/2) and changes of the calibration value directly from the measurement screen.
- 2 The "rotating indicators" display shows an additional value if the measurement result is out of tolerance. This value indicates the difference in value to bring the measurement back to nominal value.

## Applications



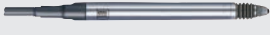





Gauge block control compared with a high-resolution display of the value of the inductive probe connected.



Position control during assembly operation.

## Range at a glance



		TWIN-T10 04430013	TWIN-T20 04430014	TWIN-T20 ultimate 04430022	TWIN-T20 nano 04430020	TWIN-T40 04430015
Instruments	 TESA probe  DIN 5p	1	2	2	—	4
	 USB instrument  USB A	—	2	2	2	4
	 HEIDENHAIN probe  SUB-D 15p	—	—	—	2	—
Resolution		0,1 µm	0,1 µm	0,001 µm	0,001 µm	0,1 µm
Values displayed		1	2	2	2	4
Functions	Sequences	—	2	2	2	4
	Measuring programs	—	2	2	2	4
	Classifications	—	8	8	8	16
	Mathematical functions	—	—	—	—	✓