



Electronic probe and read-out unit

Inductive, absolute electronic probe for precision measurements. The measured value is displayed both digitally and digital-analogous. The 2-axis model of the read-out unit has an addition function for the probes.

Electronic probe

- Measuring range: ± 1 mm.
- Resolution: 0.1 µm.
- Accuracy: ± 3.5 µm.
- Measuring force: 1.2 N.
- Clamping stem: Ø 8 mm.



Digital read-out units

- Measuring range: 2 mm.
- Resolution: 0.1 µm.
- Digital-analogous graduation: 100/20/10/2/1/0.2/0.1 µm.
- Range: ± 20x graduation.
- µm/inch conversion.
- ABS/INC switchable.
- On/off switch.
- Reset/preset.
- Hold function.
- Addition function: ± A ± B (only 907.858).
- Adjustable tolerance limits.
- Power supply: 3 batteries type AA.



Item No.	Description
907.790	Electronic probe
907.791	Read-out unit, 1 axis
907.858	Read-out unit, 2 axes
Option:	
495.111	Spare battery (3 needed)

907.791

907.790



TESA TWIN-T10 display unit for inductive probe

Portable electronic display unit for TESA inductive probe with a very long battery operating time (up to 400 hours). The function keys can be operated separately and the soft rubber casing makes the TWIN-T10 very robust and easy to hold.

The large display with a high contrast and the design of the detailed segmentation of the analog scale (5-fold zoom function) makes it possible to visualize very precise movements and slight variations in form or to detect the reversal point. The TWIN-T10 features max, min, max-min and tolerance functions. The TWIN-T10 is very suitable for the evaluation of straightness, run-out, form or geometry during fine adjustment, alignment or fitting of mechanical parts.

The probe is automatically recognized. In the display 7 different measuring ranges can be set and an automatic setting. With the calibration function it is possible to tune the TWIN-T10 in combination with the connected probe, or with a dummy probe. With the TLC-USB cable or the TLC-BLE transmitter (for wireless data transfer) bidirectional communication is possible with the PC. Digimatic data output is also possible with the TLC-Digimatic cable.

- 7 measuring ranges: ± 5 mm, ± 2 mm, ± 500 µm, ± 200 µm, ± 50 µm, ± 20 µm, ± 5 µm and an automatic setting.
- Digital and digital-analog read-out.
- Resolution: 1 µm or 0.1 µm.
- 1 probe input.
- Measure with or without tolerance limits; Go/NoGo indication on display.
- Offset function: within 200 µm directly set to zero.
- Memory for min., max. and max-min. value.
- mm/inch conversion.
- Frequency limit: 10 Hz (relative to the input signal).
- Response time: ≤ 100 ms.
- Calibration with gauge blocks or dummy probe.
- Bidirectional data transfer.
- RS232C data output.
- On/off switch.
- Automatic switch-off.
- Key lock function.
- Reversible measuring direction.
- Operating temperature: 10 to 40°C.
- Autonomy: up to 400 hours.
- Dimensions: 170 x 100 x 38 mm.
- Protection: IP63 (except connections for probe and switch).
- DIN 32876-1.
- Delivery with batteries and a declaration of conformity.
- Power supply: 4 batteries type AA.

NEW



783.468



Item No.	Description
783.468	TESA TWIN-T10

Options:

Item No.	Description
495.111	Spare battery (4 needed)
780.652	GT31 probe
780.951	Hand switch 1.8 m
780.952	Foot switch 1.8 m
783.301	TESA Link Connector USB
783.302	TESA Link Connector Digimatic
783.555	TESA Link Connector Bluetooth
783.037	DATA-Direct software for data acquisition
783.038	STAT-Express for statistical analysis
779.982	Back support with centered lug
779.981	Back support with off-centered lug



Tesatronic TT20, TT60 and TT80

The TT20, TT60 and TT80 are provided with two probe inputs for single, sum or difference measurements. The instrument automatically recognizes the type of the connected probe and sets the measuring range. This increases the ease of operation and ensures the reliability of the measurement. The combination of the digital and digital-analog display simplifies the reading of the correct measurement value considerably.

- Two probe inputs.
- Automatic display setting of the probes used (only applies to TESA probes).
- Digital (6 digits) and digital-analog read-out.
- 7 measuring ranges: ± 5000 µm ± 5 µm and an automatic setting.
- Resolution: 0.1 µm.
- Opto-RS232C data output.
- Hold function.
- Addition function: ± A ± B.
- Measure with or without tolerance limits.
- LEDs for classification: green=Go, yellow=process, red=NoGo.
- Relays output of the classification.
- Switch over polarity, choice between internal and external measurement.
- Memory of the setup when switching off.
- Reference point to be adjusted per channel.
- Stackable casing.
- Dimensions: 255 x 235 x 120 mm.
- Protection: IP54 (front).
- DIN 32876 T1.
- Delivery with AC adapter and a declaration of conformity.
- Power supply: AC adapter (230 Vac - 7.3 Vdc).

Only TT60 and TT80

- Memory for min., max., difference and average between max. and min. value.
- Dynamic measuring (more than 100 measurements per second).
- Output for 5, 10, 20 or 40 "Go" measurements.
- Analog output ± 2 V or ± 10 V to connect a recorder or a separate display.

Only TT80

- 9 measuring ranges: ± 5000 µm ± 0.5 µm.
- Resolution: 0.01 µm.



781.885



781.884



Item No.	Type/description
781.884	Tesatronic TT20
781.885	Tesatronic TT60
782.367	Tesatronic TT80

Option:
781.999 Opto-RS232C cable 9p, bidirectional (2 m)

Display-unit for measuring probes

Robust, splashproof display-unit, machined from a solid aluminum block, that can be employed in both simple and complex measurements. Both analog and digital display of up to 32 dimensions simultaneously, with (green, yellow, red) tolerance assessment per dimension. The display-unit is universally applicable due to its compatibility with many probe brands, and powerful due to its ability to display up to 32 dimensions at the same time and its trigonometrical-, statistical and PLC functions. The device is very suitable for efficient quality control without the need for a PC in the workspace.

- 7" colour touch screen.
- Up to 99 probes can be connected.
- Display up to 32 dimensions.
- Store up to 128 measurement configurations.
- Memory for max, min, difference, average.
- Dynamic or static measurements.
- mm/inch conversion.
- ABS/INC switchable.
- RS232C input and output.
- Hold function.
- Statistical functions, e.g. histograms with Gauss curve, Pareto graph, q-q plot, CM, CMK.
- Configuration protection by password.
- Multilingual software, e.g. English, French, German, Dutch.
- I/O via Modbus TCP module.
- Dimensions: 200 x 151.6 x 143 mm.
- Storage of measuring data.
- Power supply: AC adapter.
- Modules can be mounted on a standard DIN rail.

Connections:

- Footswitch.
- USB port for USB stick.
- Ethernet (ASCII/Modbus TCP).
- RS232 (ASCII/Modbus RTU).
- M-Bus input for probes.



Item No.	Type/description	Price EUR
857.880	Display-unit	

- Options:**
857.881¹ Module for 8 TESA probes
857.882¹ Module for 2 Magnescape probes
857.883¹ Module for 4 Magnescape probes
857.884² Power module
348.287 Connecting cable display-unit/probe module (3 m)

¹ Modules for other probes on request, e.g. Heidenhain, Sylvac and Mitutoyo.
² For applications using more than 30 analog TESA probes, or 4 Magnescape probes on 1 display-unit.



TESA analog and digital probes

- Measuring range: ± 1.5 , ± 2 or ± 5 mm.
- Protection: IP65.
- Other models, ranges and voltages available on request.
- Also available wireless probes or as a model with detachable cable.

TESA analog DC probes

Probes that produce a linear voltage proportional to displacement that can be connected to AD converters in a PC or PLCs and X-t plotters.

The probe consists of two parts that are connected by a cable (2 m):
 a. a conventional analog probe (diameter 8 mm),
 b. the electronics module that converts the signal to DC.

- Accuracy: from $(0.2 + 3.5L^2) \mu\text{m}$ (L in mm).
- Signal output: 782.977/978: ± 2 Vdc, 782.979/980: ± 5 Vdc.
- Power supply: ± 15 Vdc.

TESA digital USB probes

USB probes are easy to connect, using plug & play and without using interface boards. High accuracy guaranteed within the complete measuring range.

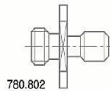
- Compatible with software Data-Direct, Stat-Express and Data-Viewer.
- Simple link with for example Excel files.



Item No.	Type	Measuring range/mm
Analog DC probes:		
782.977	GTL21DC	± 2
782.978	GTL22DC	± 2
782.979	GT61DC	± 5
782.980	GT62DC	± 5
Digital USB probes:		
783.097	GTL21 USB	± 2
783.098	GTL22 USB	± 2
783.226	GTL222 USB	± 1.5
783.099	GT61 USB	± 5
783.100	GT62 USB	± 5

Option:
 780.802* Air tube connector, M4 thread for tube $\phi 4.7/\phi 2$ mm

* Also other models available.



Type	Protection	Measuring force/N	Repeatability μm	Accuracy μm (L in mm)	Max. travel/mm	Cable exit	Probe movement
GTL21DC	IP65	0.63	0.1	$0.2 + 3.5L^2$	4.3	axial	spring, extend
GTL22DC	IP65	0.63	0.1	$0.2 + 3.5L^2$	4.3	square	vacuum, retract
GT61DC	IP65	0.9	0.1	$1 + 4L$	10.3	axial	spring, extend
GT62DC	IP65	0.9	0.1	$1 + 4L$	10.3	square	vacuum, retract
GTL21 USB	IP65	0.63	0.1	$0.4 + 0.8L$	4.3	axial	spring, extend
GTL22 USB	IP65	0.63	0.1	$0.4 + 0.8L$	4.3	square	vacuum, retract
GTL222 USB	IP65	1.2	0.1	$0.4 + 0.8L$	3.1	square	air pressure
GT61 USB	IP65	0.9	0.24	$0.8 + 0.8L$	10.3	axial	spring, extend
GT62 USB	IP65	0.9	0.24	$0.8 + 0.8L$	10.3	square	vacuum, retract

TESA BPX44 interface

For the connection and management of TESA probes using a PC. The BPX44 can besides direct connection to a PC also be used autonomously using the digital output connection.

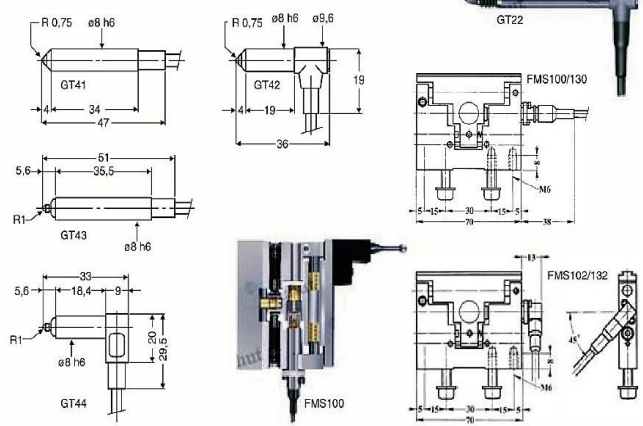
- USB data output.
- Dimensions: 55 x 172 x 155 mm.
- TESA Interface Software TIS included.
- Connect up to 4 probes to an interface.
- Connect up to 16 interfaces (64 instruments maximum).



TESA analog probes

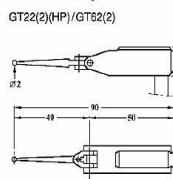
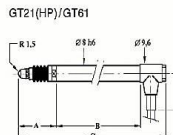
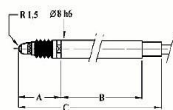
For years, TESA measuring probes have been used in both complex and simple measuring systems. The top quality and absolute reliability of these probes is reason enough to use TESA probes again and again.

- Sensitivity: 73.75 mV/V/mm (GT61 and GT62: 29.5 mV/V/mm).



TESA analog probes (continued)

The most popular half-bridge probes, delivered calibrated, are noted in the following table. For more information, also on LVDT probes, please refer to the comprehensive TESA catalog.



Item No.	Type	Measuring range/mm	Dimensions/mm
			A B C
780.654	GT21	± 1	20.5 61.5 92
780.687	GT21HP	± 0.2	20.5 61.5 92
780.662	GT22	± 1	20.5 47 81.5
780.673	GT22HP	± 0.2	20.5 47 81.5
780.692	GT61	± 5	29.5 81 120
780.693	GT62	± 5	29.5 67.2 110.7
781.945	GT622	± 5	29.5 67.2 110.7
780.667	GT41	± 0.3	- - -
780.668	GT42	± 0.3	- - -
780.686	GT43	± 1	- - -
780.670	GT44	± 1	- - -
780.652	GT31	± 0.3	- - -
780.672	FMS100	± 2	- - -
780.679	FMS102	± 2	- - -
781.946	FMS130	± 2.9	- - -
781.947	FMS132	± 2.9	- - -
782.328	Set (10 pcs.) GT21	-	-
782.329	Set (10 pcs.) GT22	-	-

- Options:**
 783.225 DIN/USB adapter for analog probes with measuring range ± 2 mm
 783.284 DIN/USB adapter for analog probes with measuring range ± 5 mm

Type	IEC 60529	Measuring force/N	Repeatability μm	Maximum inaccuracy/ μm	Max. travel/mm	Cable exit	Probe movement
GT21	IP65	0.63	0.01	$0.2 + 3L^3$	4.3	axial	spring, extend
GT21HP	IP64	0.63	0.01	$0.07 + 0.4L$	4.3	axial	spring, extend
GT22	IP65	0.63	0.01	$0.2 + 3L^3$	4.3	square	vacuum, retract
GT22HP	IP64	0.63	0.01	$0.07 + 0.4L$	4.3	square	vacuum, retract
GT61	IP65	0.9	0.05	$1 + 4L$	10.3	axial	spring, extend
GT62	IP65	0.9	0.05	$1 + 4L$	10.3	square	vacuum, retract
612-A ¹	IP50	1.0	0.05	$1 + 4L$	10.3	axial	air pressure
GT622	IP65	2.0	0.05	$1 + 4L$	10.3	square	1.1 bar, extend
GT41	IP65	0.63	0.01	$0.2 + 5L^2$	0.7	axial	spring, extend
GT42	IP65	0.63	0.01	$0.2 + 5L^2$	0.7	square	vacuum, retract
GT43	IP65	0.4	0.1	$0.2 + 5L^2$	2.1	axial	spring, extend
GT44	IP65	0.4	0.1	$0.2 + 5L^2$	2.1	square	vacuum, retract
GT31	IP40	0.1	0.1	$0.2 + 50L^2$	0.7	square	-
FMS100	IP50	2.0	0.5	$0.2 + 3L^3$	5.8	parallel	air pressure
FMS102	IP50	2.0	0.5	$0.2 + 3L^3$	5.8	square	air pressure
FMS130	IP50	2.0	0.5	$0.2 + 3L^3$	5.8	parallel	air pressure
FMS132	IP50	2.0	0.5	$0.2 + 3L^3$	5.8	square	air pressure

¹ No below.

Analog probes

- Half-bridge probes.
- Measuring range: ± 0.25 to ± 10 mm.
- Repeatability: $< 0.15 \mu\text{m}$.
- Non-linearity: $< 0.3\%$.
- All non-pneumatic probes with cable guide have a cable exit square to probe body.



Feather Touch probes

Probes with a very small measuring force to measure sensitive materials like electronic components and thin-walled glass products.

Item No.	Type	Measuring range/mm	Max. travel mm	Measuring force/N	Total length mm
Feather Touch probes with a small measuring force and tungsten carbide probe tip:					
360.964	PRFC2P	± 1	3	0.18/1.10 ¹	75.6
360.965	PRFC5P	± 2.5	6	0.18/1.10 ¹	99.6
360.966	PRFC10P	± 5	11	0.18/1.10 ¹	130.1
360.960	PRFC2S	± 1	2.5	0.30	61.3
360.962	PRFC5S	± 2.5	6	0.30	96.3
360.963	PRFC10S	± 5	11	0.30	118.3

- Option:**
 360.967 Nylon probe tip

Item No.	Type	Measuring range/mm	Max. travel mm	Measuring force/N	Total length mm
Probes with regular measuring force²:					
360.916	PR05	± 0.25	0.6	0.70	26
360.917	PR1	± 0.5	1.5	0.70	30.5
360.911	PR2	± 1	2.5	0.70	62
360.912	PR2P	± 1	3.5	0.80 ²	67
360.926	PR101P	± 1	11	0.70 ²	117.5
360.913	PR3	± 1.5	4	0.70	83.5
360.906	PR5	± 2.5	6	0.70	87.5
360.914	PR5P	± 2.5	6	0.85 ²	96.5
360.910	PR10	± 5	11	0.70	118
360.909	PR10P	± 5	11	0.70 ²	117
360.905	PR20	± 10	21	0.70	176
360.904	PR20P	± 10	21	0.70 ²	169

Measuring range, measuring force and extended probe length defined at electrical zero.
 P = Pneumatic, probe is operated by air pressure.

¹ Air pressure 0.3 bar (nominal) / Air pressure 1.0 bar (nominal).

² Air pressure 0.4 bar (nominal).

³ Protection: IP65.

Digital absolute measuring probes

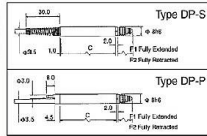
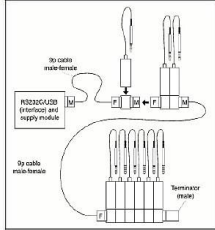
The measuring probe, which replaces the conventional analog probe more and more. These probes, that combine the advantages of the analog and not absolute digital models, are a solution to measuring systems which have to process the measuring data in a PC.

Configuration:

- Probe (clamping shaft 8h6) fixed via a cable (2 m) to the electronics module.
- T-CON connector.
- Cable (standard up to 5 m).
- Supply module (necessary with RS232C module, and with more than five probes on a board or module).
- RS232C/USB module or digital absolute measuring probe board (supports up to 100 probes).

Technical data:

- A maximum of 240 measurements per second.
- Repeatability: <math><0.15 \mu\text{m}</math>.
- Accuracy:
 - DP-2S, DP-2P: $\pm 1 + 0.05 \%$,
 - DP-5S, DP-5P: $\pm 1 + 0.05 \%$,
 - DP-10S, DP-10P: $\pm 1 + 0.06 \%$,
 in which K is the displacement (in mm).
- Protection: IP65.
- Measuring force S-types: 0.7 N, P-types (at 0.4 bar pressure): 0.8 N.
- Also available on request as low measuring force *Feather Touch* models.



Item No.	Type	Measuring range/mm	Max. travel/mm	Probe movement	Dimensions/mm		
					C	F1	F2
360.880	DP-2S	± 1	3	spring push	46	13.9	10.9
360.881	DP-5S	± 2.5	6	spring push	65	17.4	11.4
360.882	DP-10S	± 5	11	spring push	89	25.4	14.4
360.883	DP-2P	± 1	3	pneumatic push	52	13.9	10.9
360.884	DP-5P	± 2.5	6	pneumatic push	71	17.4	11.4
360.885	DP-10P	± 5	11	pneumatic push	96	25.4	14.4
360.852	T-CON connector (has to be ordered separately per probe)						
360.835	Supply module (required when using a RS232C module and when connecting more than five probes to a board or module, excl. power cable)						
420.300	Power cable						
360.890	Digiprobe PCI board Orbit 3						
360.888	Digiprobe USB module Orbit 3						
348.287	Cable 3 m between electronic module and board/module						
348.288	Cable 5 m between electronic module and board/module						

PROBE ACCESSORIES

Clamping bush



Item No.	Description
780.398	Clamping bush VKE
780.397	Clamping screw VKD

Clamping bush

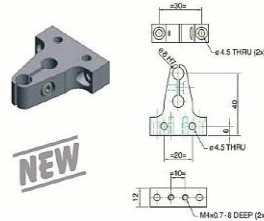


Item No.	Description
906.497	Clamping bush

Probe holder

Probe holder for for surfacemounting.

- Clamping shaft: $\phi 8$ mm.
- For attaching with M4 bolts.
- Material: anodized aluminum.



Item No.	Description
993.054	Probe holder

Inserts

Many inserts with thread M2.5 are available. See the dial indicator accessories section for more information.



Retraction levers

Universal retraction levers, bottom or top mounted, compatible with a wide range of probes and dial indicators. You can find various models in the dial indicator accessories section.



Retraction device DZ801

Pneumatic retraction device for Magnescale and TESA gauges, with 1 meter hose and air tube connector.

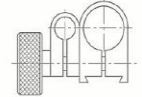


Item No.	Description
344.465	Retraction device

Clamp collar with dovetail

For clamping TESA GT31 probes and e.g. lever type dial indicators.

- Fastening points: $\phi 5.6$ mm, $\phi 9.5$ mm and with dovetail.



Item No.	Description
780.208	Clamp collar