



 ROHS 2 according to 2011/65/EU  
REACH according to EC 1907/2006  
WEEE according to 2002/96/EC

 10 x 5 mm

 For a temperature of 20°C and a relative humidity of ≤ 50 %:  
Analogue and digital response time: ≤ 100 ms. Holding of digital display: ≥ 100 ms.


 Supply: 4 batteries AA 1,5 V, type LRC 6.  
Power consumption: ≈ 7 mW/3,5 V.  
Probe supply voltage: 0,7 V.  
Supply frequency: 13 ± 0,65 kHz

 For a temperature of 20°C and a relative humidity of ≤ 50 %:  
Zero drift and signal amplification: ≤ 0,005 %/°C.  
Display frequency limit with respect to input signal: 10 Hz

 IP63 (IEC 60529)

 2004/ 108/EC  
EN 61326-1  
annex A

 RS232 via TLC connector


 100 x 170 x 38 mm  
(W x D x H)

 LCD display size:  
70 x 62 mm

 500 g  
(including batteries)

 5 decades plus minus sign

 ± 1 digital step

 Value limit for a temperature of 20°C and a relative humidity of ≤ 50 %:  
Analogue display: 1 %  
Digital display: 1 %

## TESATRONIC TWIN-T10 probe display unit

- Portable display TESATRONIC TWIN-T10 for TESA inductive probe.
- Autonomous instrument used during assembly, on an inspection workstation of a production line, for final inspection or directly on a machine on the shop floor.
- Frequently used with a GT 31 lever probe for geometry measurements: form tolerances (straightness, flatness etc.) or orientation tolerances (parallelism, perpendicularity, etc.).
- Function TOL for measurements with tolerances.
- Memory function for values MAX, MIN or MAX-MIN for dynamic measurements.
- Function for zero-setting of the display, for easy comparative measurements with a reference part.
- Special ZOOM mode for a more detailed visualization of the analogue scale. This mode simplifies the alignment and fine adjustment during assembly.

### Other features:

- 4 or 7 measuring ranges from ± 5 µm to ± 5 mm, or switchable automatically depending on the measured value.
- Access to functions by direct keys.
- Millimetre/inch conversion.
- 1 probe signal input.
- Power supply by standard AA batteries.
- RS232 digital output (TLC connector).



TWIN-T10



Designation



Number of probe inputs



Automatic conversion of range



Analogue scale zoom x5



Memory function for values MAX, MIN, MAX-MIN

04430013

TESATRONIC TWIN-T10 1

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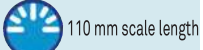




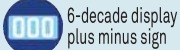
Run-out measurement with TWIN-T10 and GT 31 lever probe

#### STANDARD ACCESSORIES:

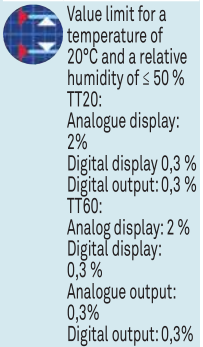
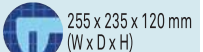
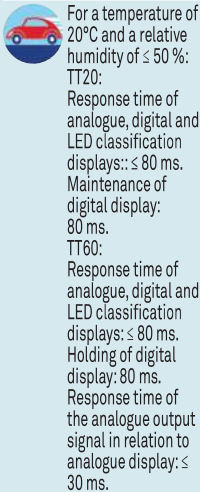
03210802	GT31 lever probe, $\pm 0,3$ mm, $F = 0,10$ N, standard version
04768000	Hand switch for manually triggering data transfer. Jack plug connector, 1,8 m - TESA SPC PRINTER printer - TESATRONIC TT display units
04768001	Foot switch for triggering data transfer. Jack plug, 1,8 m - TESA SPC PRINTER printer - TESATRONIC (TT) display units
04760181	TESA TLC-USB CABLE for instruments with a TLC connector
04760182	TLC-DIGIMATIC CABLE for instruments with a TLC connector
04760180	TESA TLC-TWIN wireless transceiver. Compatible with any instrument equipped with a TLC connector (TESA Link Connector)
05030012	TWIN-STATION Receiver for wireless TLC-TWIN transceiver
04981001	DATA-DIRECT software and dongle
04981002	STAT-EXPRESS Software and dongle
01460008	Back with central lug
01460009	Back with offset lug

DIN 32876  
Part 1

110 mm scale length

6-decade display  
plus minus sign

12,5 x 6,6 mm

126 x 62 mm  
LCD display,  
with 50 scale  
divisionsValue limit for a  
temperature of  
20°C and a relative  
humidity of ≤ 50 %  
TT20:  
Analogue display:  
2%  
Digital display 0,3 %  
Digital output: 0,3 %  
TT60:  
Analog display: 2 %  
Digital display:  
0,3 %  
Analogue output:  
0,3%  
Digital output: 0,3%± 1 numerical  
interval255 x 235 x 120 mm  
(W x D x H)Resistant plastic  
materialFor a temperature of  
20°C and a relative  
humidity of ≤ 50 %:  
TT20:  
Response time of  
analogue, digital and  
LED classification  
displays: ≤ 80 ms.  
Maintenance of  
digital display:  
80 ms.  
TT60:  
Response time of  
analogue, digital and  
LED classification  
displays: ≤ 80 ms.  
Holding of digital  
display: 80 ms.  
Response time of  
the analogue output  
signal in relation to  
analogue display: ≤  
30 ms.

## TESATRONIC TT20 and TT60 Probe Display Units

- Functional reliability.
- User-friendly.
- Essential for inspection in production or metrology laboratory.

### TESATRONIC TT20

Combined digital and analogue indication

2 probe inputs for single measurements, sum and difference measurements

- Large LC display for comfortable and error-free reading.
- Pseudo-analogue bargraph indication for a better repeatability and negligible hysteresis.
- Choice between pointer or bargraph indication.
- LCD display for all functions.
- 7 measuring ranges, switchable manually or automatically according to the measured value.
- Direct conversion from metric to inch units.
- Touch button for the indication setting of of each measuring channel.
- Keys for introducing limit values.
- Classification of values (3 classes) and display through colour LEDs with signal outputs.
- Locking of displayed values for step by step measurement routines.
- Automatic recognition of the type of connected TESA probe with adaptation of the measurement signals to the value of output connected (valid only for TESA probes produced from 1997 onwards).
- Opto-coupled RS232 output, bidirectional.
- Power supply through mains adapter.

### TESATRONIC TT60

Same features as TESATRONIC TT20, but with following added functions:

- Memory for retaining extreme values "max.", "min.", "max.-min." along with mean value obtained from "max." minus "min.".
- Dynamic measurement with acquisition of >100 single values.
- Value classification with output signals through contact relay for 5, 10, 20 or 40 acceptable classes.
- Analogue output for exterior processing of signals.



TT60



TT20

Measuring range  
zoom x5

Memory

04430009 TESATRONIC TT20 Display unit for 1 or 2  
inductive probes

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–

04430010 TESATRONIC TT60 Display unit for 1 or 2  
inductive probes

–

●



		
	Number of probe inputs	Automatic switching of range
TESATRONIC TT60 Display unit for 1 or 2 inductive probes		●
TESATRONIC TT20 Display unit for 1 or 2 inductive probes		●

#### DELIVERED WITH THE FOLLOWING ACCESSORIES:

<b>04761054</b>	Battery charger 100 ÷ 200 VAC 50 ÷ 60 Hz, 6,6 V DC, 750 mAh supplied without power cable
<b>04761055</b>	Mains cable EU for charger 0471054

#### OPTIONAL ACCESSORIES:

<b>04768000</b>	Hand switch for manually triggering data transfer. Jack plug connector, 1,8 m – TESA SPC PRINTER printer – TESATRONIC TT display units
<b>04768001</b>	Foot switch for triggering data transfer. Jack plug, 1,8 m – TESA SPC PRINTER printer – TESATRONIC (TT) display units
<b>04761062</b>	Opto-USB cable, Duplex, 2m Bidirectional communication
<b>04761049</b>	Opto-RS cable, Duplex, 2m Bidirectional communication



For a temperature of 20°C and a relative humidity of ≤ 50 %:  
TT20:  
Response time of analogue, digital and LED classification displays: ≤ 80 ms.  
Maintenance of digital display: 80 ms.  
TT60:  
Response time of analogue, digital and LED classification displays: ≤ 80 ms.  
Holding of digital display: 80 ms.  
Response time of the analogue output signal in relation to analogue display: ≤ 30 ms.



RS232 opto-coupled output



TT60: Voltage Range: ± 2 V to ± 10 V. Output current: ≤ 2 mA. Load adjustment: ≥ 5 kΩ. Background noise (probe at electrical zero) ≤ 1 mV. Reference potential: ground 0 V.



Supply: 6,5 V DC up to 7,3 V DC. Supply frequency: 13 ± 0,65 kHz. Power consumption: 2 W. Monitored voltage variations. Probe supply voltage: 3 V.



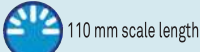
Protection of frontal face: IP54 (IEC 60529, DIN 40 050)



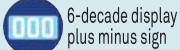
IEC/EN 61326-1  
USA: CFR47, Part 15, Subpart B, Class B, Digital Device



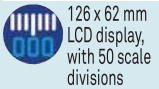
1,1 kg

DIN 32876  
Part 1

110 mm scale length

6-decade display  
plus minus sign

12,5 x 6,6 mm

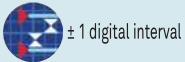
126 x 62 mm  
LCD display,  
with 50 scale  
divisionsLimit value for a  
temperature of  
20°C and a relative  
humidity of  
≤ 50 %:Analog display: 2 %  
Digital display:  
0,15 %

Analog output:

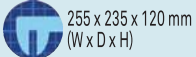
0,3 %

Digital output:

0,15 %



± 1 digital interval

255 x 235 x 120 mm  
(W x D x H)

Resistant plastic

## TESATRONIC TT 80 and TT 90 Probe Display Units

High resolution display units

Combined analogue/digital display

Two probe inputs for single, sum and difference measurements.

In addition to TESATRONIC TT60 functions, TT 80 has the following additional functions:

- 9 measuring ranges with digital steps of 0,01  $\mu\text{m}$  or 0.000001 in.
- Memorisation of extreme values "max.", "min.", "max. minus min." as well as the mean of the two values "max." and "min."
- Dynamic measurement with acquisition of more than 10 single values per second.
- Classification of measured values with a contact relay providing output signals for 5, 10, 20 or 40 acceptable classes.
- Analogue output for external processing of signals.

In addition to TESATRONIC TT60 functions, TT 90 has the following additional functions:

- 9 measuring ranges with digital step of 0,01  $\mu\text{m}$  or 0.000001 in.
- Memorisation of extreme values "max.", "min.", "max. minus min." plus the mean of both values "max." and "min."
- Dynamic measurement with acquisition of more than 10 single values per second.
- Classification of measured values with output signals through contact relay for 5, 10, 20 or 40 acceptable classes.
- Analogue output for external signal processing.
- Output for bolt retraction control.
- Selection of stabilisation time for measuring cycles.
- RS digital output for values to the micron.



TT 90



TT 80



Application: TT 80 with  
a SIP (Société gene-  
voise d'instruments de  
physique) high preci-  
sion measuring bench

Measuring range  
zoom x5

Memory

04430011

TESATRONIC TT80  
High precision electronic display

–

●

04430012

TESATRONIC TT90  
High precision electronic display

–

●



Number of probes inputs

Automatic conversion of range

TESATRONIC TT80 High preci-  
sion electronic display

2

●

TESATRONIC TT90 high preci-  
sion electronic display

2

●





## DELIVERED WITH THE FOLLOWING ACCESSORIES:

<b>04761054</b>	Battery charger 100 ÷ 200 VAC / 50 ÷ 60 Hz, 6,6 V DC, 750 mAh, supplied without power cable
<b>04761055</b>	Mains cable EU for charger 0471054

## OPTIONAL ACCESSORIES:

<b>04768000</b>	Hand switch for manually triggering data transfer. Jack plug connector, 1,8 m - TESA SPC PRINTER printer - TESATRONIC TT display units
<b>04768001</b>	Foot switch for triggering data transfer. Jack plug, 1,8 m - TESA SPC PRINTER printer - TESATRONIC (TT) display units
<b>04761062</b>	Opto-USB cable, Duplex, 2m Bidirectional communication
<b>04761049</b>	Opto-RS cable, Duplex, 2m Bidirectional communication



For a temperature of 20°C and a relative humidity of ≤ 50 %: Response time analogue, digital and LED displays classification: ≤ 100 ms. Holding of digital display: 100 ms. Response time of the analogue output signal in relation to analogue display: ≤ 30 ms.



For a temperature of 20°C and a relative humidity of ≤ 50 %: Zero drift and signal amplification: ≤ 0,005 %/°C. No drift of stored values. Frequency limit for all displays frequency, analog output and memory in relation to input signal: 10 Hz



RS232 opto-coupled output



Voltage range of ± 2 V to ± 10 V. Output current: ≤ 2 mA. Load adjustment: ≥ 5 kΩ. Background noise (probe to 0 electric) ≤ 1 mV. Reference potential: analog ground 0 V



6,5 Vdc up to 7,3 V DC. Consumption: 2 W. Monitored voltage fluctuation. Supply voltage for probe: 3 V



Protection of frontal face: IP54 (IEC 60529, DIN 40 050)




IEC/EN 61326-1 USA: CFR47, Part 15, Subpart B, Class B, Digital Device




1,1 kg


 DIN 32876  
Part 1



 Length: 100 mm



 Limit value for a temperature of 20°C and a relative humidity of ≤ 50 %: Analog Display: 1,5 % Analog output: 0,3 %


 Display: negligible. Classification signals: 5 %


 258 x 190 x 158 mm (W x D x H)


 Die-cast aluminum case, designed for the workshop


 For a temperature of 20°C and a relative humidity of ≤ 50 %: Response time of the analogue display: ≤ 1 ms. Response time of the analogue output signal from the analog display: 20 ms. Response time for classification signals: 10 ms.


 For a temperature of 20°C and a relative humidity of ≤ 50 %: Zero drift: ≤ ± 0,005 % / °C. No drift of stored values. Frequency limit for analogue display: 1 Hz. Frequency limit for analogue output: 50 Hz. Frequency limit for classification: 30 Hz

## TESATRONIC TTA20 Probe Display Unit





Compact design with analogue indication and value classification of measured values.

Aluminium housing, designed for shop floor applications, user-friendly.

- Easy-to-read analogue display with mirror strip in order to avoid parallax error.
- 6 measuring ranges.
- Metric/Inch conversion.
- Zero setting potentiometer for display.
- 2 probe inputs for single, sum or difference measurements.
- 1 auxiliary signal input, e.g. for all correction values.
- Colour LEDs of green for "Good", yellow for "Rework" and red for "Scrap".
- Potentiometer for setting limit tolerances.
- Polarity reverse switch for classification signals (internal or external dimensions).
- Switch for locking or unlocking a displayed value.
- Analogue output for a display unit or external recording.



TTA20





					
		Number of measuring ranges Min range / Max range max (µm)	Measuring range zoom x5	Memory	Power supply
04430003	TTA20	6 / min ± 3 max ± 1000	–	–	Network


### DELIVERED WITH THE FOLLOWING ACCESSORIES:

03160015	Mains cable CH 2 m
03160016	Mains cable, EU, 2 m
03160017	Mains cable without plug, 2 m for TTA20

### OPTIONAL ACCESSORY:

04460004	Connector 15 pins for analogue output and classification signal of TTA20
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µm	µm	in	in
± 1000	50	± 0.1	0.005
± 300	10	± 0.03	0.001
± 100	5	± 0.01	0.0005
± 30	1	± 0.003	0.0001
± 10	0,5	± 0.001	0.00005
± 3	0,1	± 0.0003	0.00001

	
Number of probe inputs	Automatic conversion of range
2	–



## Accessories for TESATRONIC TT Units



04761055



04761056



04761054



03160017



03160015



03160016

Voltage:  $\pm 1$  V. Output current  $\leq 3$  mA. Adjustment load  $\geq 2$  k $\Omega$ . Residual ripple (at electrical zero):  $\leq 1$  mV. Reference potential: analogue ground 0 V

Supply voltage 230 or 115 V -10 % to +20 %, 50-60 Hz. Virtual power: 20 VA. Supply voltage for probe: 1,5 Vrms -10 % to +5 %. Frequency: 13 kHz  $\pm 0,5$  %.

Level of protection: IP40 (IEC 60529)

EN 50081-1  
EN 50081-2  
EN 50082-1  
EN 50082-2

3,4 kg

No	=
04761054	Battery charger 100 ÷ 200 VAC 50 ÷ 60 Hz, 6,6 V DC, 750 mAh supplied without power cable
04761055	Mains cable EU for charger 04761054
04761056	Mains cable US for charger 04761054
03160015	Mains cable CH, 2 m for TTA20
03160016	Mains cable EU, 2 m for TTA20
03160017	Mains cable without plug, 2 m for TTA20
04460004	Connector 15 pins for analogue output and classification signal of TTA20