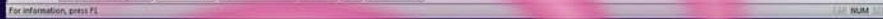


A-1



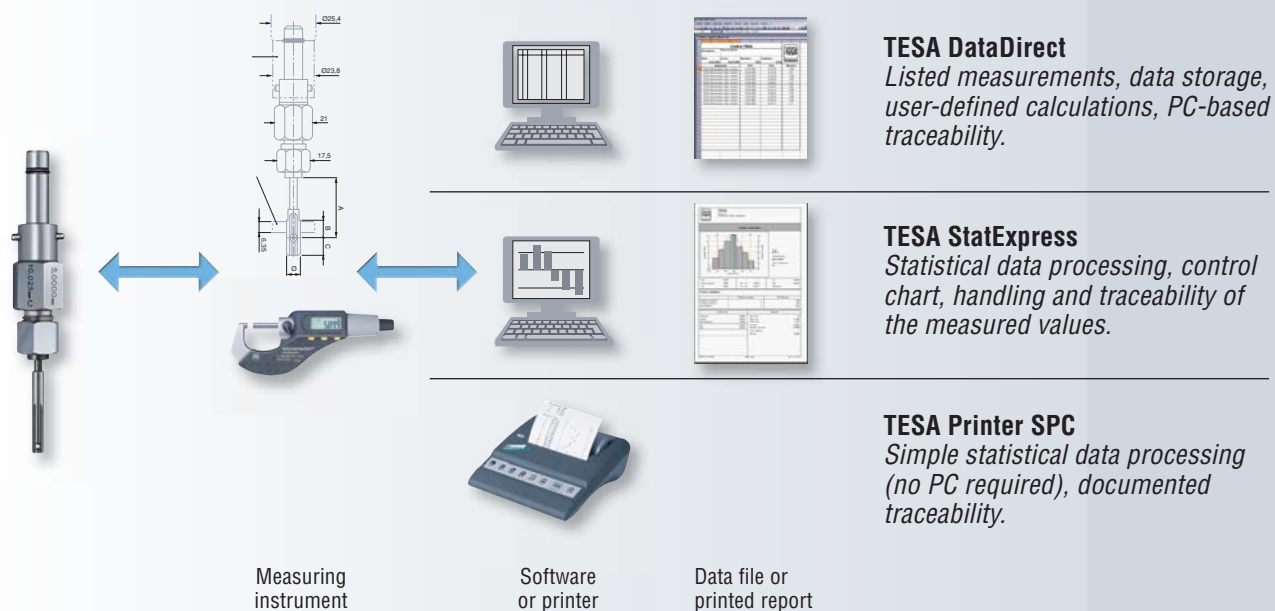
TESA LINK

Inspection, traceability and cost reduction have a growing significance in all industrial sectors. This involves high quality metrology products, but also a suitable evaluation and further application of the measurements carried out.

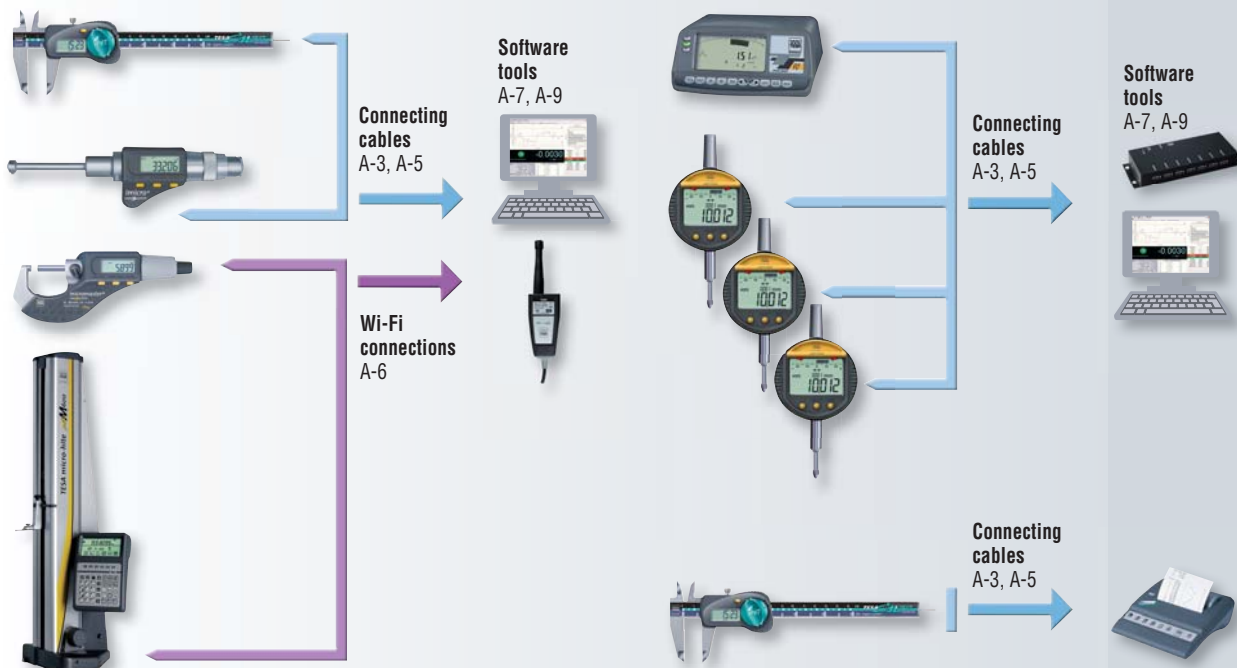
Manufacturing Inspection

Evaluation

Documentation



Besides Software tools, TESA also offers a wide variety of cable links between the precision tool and the computer in order to optimize your manufacturing processes, improve quality and help you originate any document needed for traceability.



OPTO and Sub-D standard connections

Any cable connection is defined through both connectors fitted at each cable end to link the computer, but mainly the measuring instrument being used.

To achieve highest compatibilities, TESA uses standardized and proven connectors essentially.

Common systems



TESA Printer SPC



Computer*

Compatible connectors



Sub-D 9p/f



Ansley 10p/f



USB



Sub-D 9p/f

*Some computers are provided with other interfaces or do no longer have a serial port (Sub-D 9p).

OPTO Connection



RS 232 opto-coupled, monodirectional or bidirectional



The table below contains the cables convenient for precision tools fitted with an OPTO connector, such as TESA-CAL IP67, IP65, INTERAPID Light, TESA Micromaster, TESA Imicro, TESA Alesometer, TESA Digico 10 - 11 - 205 - 305 - 400 - 500 - 600 - 705, TESATRONIC TT20-60-80-90, among others.



No		L in m	System
04761062	Opto-USB DUPLEX Comes with drivers and software in DEMO version on CD.	2	USB
04761046	Opto-RS Simplex For data transfer from handtool t to host computer. Allows a single request only.	2	Sub-D 9p/f Simplex
S47010022	Same as item 04761046, except for the length.	5	
04761049	Opto-RS Duplex avec possibilité d'envoi de Setting commands can be sent to the precision tool.	2	Sub-D 9p/f Duplex
S47010024	Same as item 04761049, except for the length.	5	
04761027	Connecting cable alone	2	w/o connector

Sub-D Connexion



RS 232, Sub-D 9p/m connector



Connecting cables for the following CMMs or precision handtool:

TESA Micro-Hite, TESA-Hite, TESA μ Hite, TESA TG.



Nº	=		System
		L in m	
04761063	Sub-D USB Comes with drivers and software in DEMO version on CD	2	USB
04761052	Uncrossed cable.	2	Sub-D 9p/f
S47010025	Same as item 04761052, except for the length.	10	Sub-D 9p/f

USB Accessories

Nº	=		L in m
S47120002	USB Adapter Comes with drivers on CD, USB Sub-D connector, 9p/m		0,1
S47120003	Multiplexer, 7 USB ports 2.0 Robust steel housing, external powering using a C-type AUX connector, 4 pins. (4 ports for 04761062 and 04761063) <i>Furnished with:</i> DC mains adapter (EU) Connecting cable to PC. Recommended highest number of ports: 49 USB ports connectable on 2 levels.		1,5
04761071	USB Foot Switch Direct connection to any USB port. Takes DataDirect or StatExpress into account when transferring the measured values from all connected measuring tools.		2



S47120002



S47120003



04761071

Connecting cables and cable adapters

N°			System	Instrument
		L in m		
04761023	Connecting cable for TT10 – TESA Micro-Hite, versions 10/11/12	2	Sub-D 9p/f	MiniDIN 8p/m
04761024	Connecting cable to matrix printer for TT10 – TESA Micro-Hite, versions 10/11/12	2	Sub-D 25p/m	
04761038	Connecting cable for TESA Digico 1 and 2, also with power outlet	3	Sub-D 25p/f	Special Digico 1-2
S47078588	Connecting cable for TESA Digico 1 and 2 – TESA Printer SPC	2	Ansley 10p/f	
04761060	Connecting cable for TESA Digico 12 – Electronic dial test indicator	2	Sub-D 9p/f	Special Digico 12
03969007	Connecting cable, RS232 serial for TESA-SCOPE – Reflex 1 – Readouts TS100 – 300	3	Sub-D 9p/f	
04761017	Cable adapter		Sub-D 25p/m Sub-D 9p/m	
S47001891	Cable adapter for OPTO simplex used to link DIGIMATIC	0,2	Sub-D 9p/m Ansley 10p/f	
S53300165	Connecting cable for Clinobevel 1	1,8	USB	Special Clinobevel
S53070174	Connecting cable for Clinobevel 2	2,5	Sub-D 9p/f	

Accessories

N°			
		L in m	Connectors
04761054	Mains adapter, 100 to 240 VAC 50 to 60 Hz, 6,6 Vdc, 750 mAh (provided w/o mains cable)	2	DC-Jack
04761055	EU cable for mains adapter N° 04761054	1,5	
04761056	US cable for mains adapter N° 04761054	1,5	
04761037	Mains adapter, 230 VAC, 9 Vdc, 22 mAh, 1,8 VA – TESA Digico 1 or 2	2	Special Digico 1-2
04761057	Mains adapter, 110 VAC, 9 Vdc, 22 mAh, 1,8 VA – TESA Digico 1 or 2	2	
04761058	Adapter cable with mini-jack cable entry for hand switch or foot switch		Sub-D 9p/m Sub-D 9p/f
04768000	Hand switch for triggering data transfer – Adapter cable 04761058 – TESA Printer SPC	2	
04768001	Foot switch for triggering data transfer – Adapter cable 04761058 – TESA Printer SPC	2	



047681058



04768000



04768001

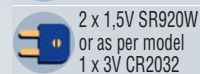
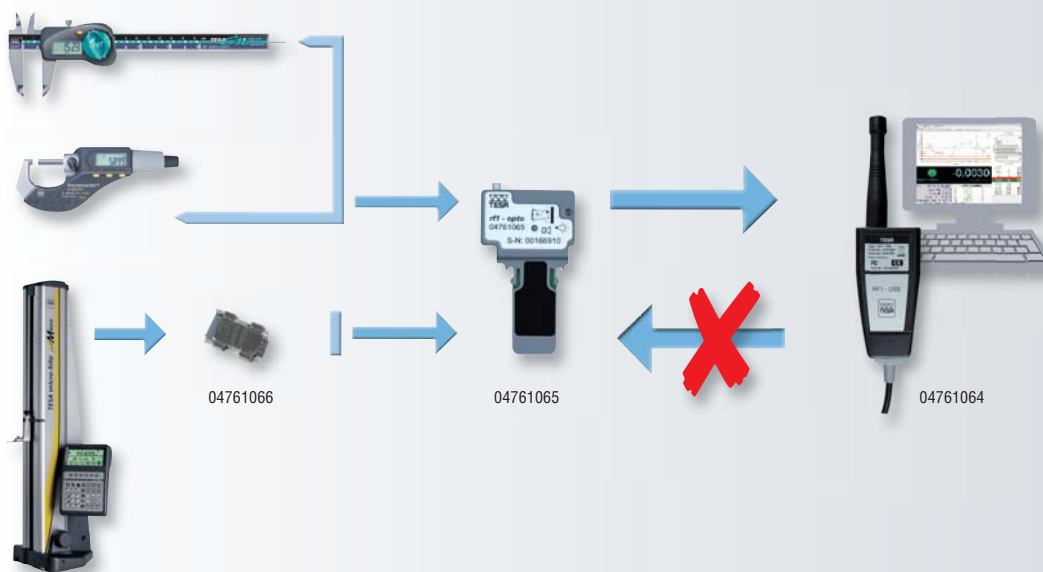
Wireless Connection

The solution for a freely move. The use of this technology ensures full flexibility and makes the measuring instrument easily traceable owing to a distinct address with acknowledgment.



Scale 1:1

Possible connection of up to 120 precision handtools to a single or several host computers (max. distance 150 m). Where data transmission cannot visually be checked for correctness, the combined acoustic/optical signal lets you get a confirmation that data transfer has occurred, so that no data can be lost.



Nº			mm	g
04761064	Rf-USB Receiver, type rf-USB, for host computer, provided with utility for setting purpose (SimKey)	USB	47 x 275 x 30	≈ 175
04761065	Opto-rf1 Transmitter, type rf, for Opto connector (except for TESA Digico and calipers >500 mm)	OPTO	25 x 42 x 12	≈ 8
04761066	Opto - Sub-D Opto-adaptor Sub-D for serial interface (Sub-D)	Sub-D 9p/m	31 x 51 x 17	≈ 10
04761067	RS 232 - rf Transmitter, type Sub-D, for CMMs along with mains supply	Sub-D 9p/m	47 x 275 x 30	≈ 175
04761068	Digico 12 - rf Transmitter specially designed for TESA Digico 12 and electronic dial test indicator	Special	35 x 49 x 11	≈ 10
04761069	Opto - rf Digico Transmitter, type rf, for TESA Digico 205, 305, 400, 500, 600, 705	OPTO	30 x 50 x 11	≈ 8

DataDirect is provided with serial input/output drivers specially configured for TESA's products, but also for those purchased from other manufacturers. It works effectively for data transfer to your data sheets, database, statistical modules or any other Windows-based applications.

ected to this PC. Data received will be
active application.

Diagnosic Language

TESA Data Direct

TESA Data Direct
Utility to receive data from gauges connected to this PC. Data received will be
send on the window of the currently active application.

General Channels Actions Functions Options Diagnostic Language

Additional data output

☒ After data, send also

☒ Add date & time

Date & time

☐ Uses comma as decimal sep.

☒ Add channel desc before d

Right ARROW

Number of decimals 4

Operations

☐ Add offset value

0.012

Main window

Microsoft Excel - tesa_support_measure.xls

File Edit View Format Tools Window Help

DESCRIPTION: Piece no. 342.23

Date: 12.03.2009 13.10.0678 Operator: XXX Customer: TESA

Instrument	Measure	Date	Time
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:06
USB Probe GT21	-1.033	21.01.2010	12:06:06
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:07
USB Probe GT21	-1.033	21.01.2010	12:06:07
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:07
USB Probe GT21	-1.033	21.01.2010	12:06:08
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:09
USB Probe GT21	-1.033	21.01.2010	12:06:09
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:10
USB Probe GT21	-1.033	21.01.2010	12:06:10
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:12
USB Probe GT21	-1.033	21.01.2010	12:06:12
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:19
USB Probe GT21	-1.033	21.01.2010	12:06:19
OPTO-USB - cal IP 67	1.640	21.01.2010	12:06:19
USB Probe GT21	-1.033	21.01.2010	12:06:19

Command Button Bar

UTE CALIPER MRD

inch

datarequest

preset?

serial number

0.291

(Default) Data Request on COM1

User-defined commands

Direct value displaying

**TESA DataDirect**

Software including:

CD for installation
USB dongle
Instruction manual (PDF)

For information on functionalities and compatibilities, see page A-9.

StatExpress

This dedicated software lets quality assurance enter into your manufacturing processes in that it makes it possible for your quality-oriented control charts to be conveniently downloaded, reported, swapped and stored.

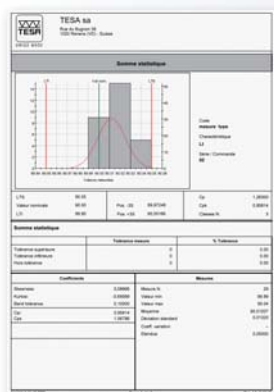
StartExpress is compatible with all TESA's products – from the caliper up to the CMM or Vision machine. As integrated component, DataDirect provides the needed flexibility for easy data transfer to most of the electronic gauges currently available on the market.

Running StatExpress you will have the ability to create protocols including the measured values obtained from a single or several handtools, assign tolerances, calculate statistics, print out various measurement reports, compute XR control charts, and much more.



Simultaneous measuring of multiple parts.

Main window with or without instructions



Detailed report for each measured part features



Report by measured parts with number of the part series



XR control chart



04981002 TESA StatExpress
Extended programme version



04981003 TESA StatExpress Light
Lightened programme version (see next page)

provided with:

CD for installation – USB dongle – Instruction manual (PDF)

For information on fonctionnalités and compatibilities, report to page A-9.

TESA Software Tools

This overview shows the main functionalities and compatibilities using a TESA's software for data acquisition and data processing.

Ask your local distributor or visit our web site www.tesabs.ch and get access to the free software version available for evaluation.

Minimum requirements:

Pentium 4 or alike – 512 MB RAM – 10 GB HD – Windows XP or 7 (32 bits).



			04981001 DataDirect	04981003 StatExpress Light	04981002 StatExpress
Compatible instruments and systems					
OPTO-RS / USB			●	●	●
Height gauges (TESA-HITE, MICRO-HITE)			●	●	●
USB probes			●	●	●
Rugosurf 10, 10G, 90G			●	–	●
Micro-Hite 3D Reflex, TS 300			●	–	●
TPS			●	●	●
BPI intelligent probe boxes			–	–	●
Custom made instruments, type RS 232			●	●	●
Instruments from other makers (Mitutoyo, DMX3 - DMX8, Steinwald single 6, etc.)			●	●	●
Wireless TESA systems			●	●	●
Options available					
Export CSV data files			●	●	●
ASCII commands			●	–	–
Dynamic displaying (Direct displaying of the measured value on used monitor - Not available with a wireless system)			●	–	–
TESA DataDirect included			–	–	●
Import CSV data files			–	–	●
Table with all measured values included			–	●	●
XR control chart			–	–	●
Report by measured parts			–	–	●
Report by measured feature			–	●	●
Simultaneous data acquisition			–	–	●
Overall report			–	●	●
Protection according to Users skills level			–	●	●
Inspection report in PDF, HTML or other format.			–	●	●
Setting option for USB type inductive probes, BPI probe boxes. Zero-setting procedure and plausibility test.			–	–	●

TESA Portable Printer

Intelligent printer designed for the inspection of finished parts or incoming goods – Provides SPC statistics and prints out measurement results with graphical representations.



TESA PRINTER SPC

Can be connected to TESA measuring instruments, but also to those provided with a DIGIMATIC output – Your TESA PRINTER SPC is capable to recognise the plug in tool and will execute the appropriate configuration, automatically.

	«Normal»	«Tolerance»
Statistical features		
Lower limit of size (LSL)	–	●
Upper limit of size (USL)	–	●
Tolerance	–	●
Number of captured values:		
– sampling extent	●	●
– < lowest size	–	●
– > highest size	–	●
– out of tolerances in per-cent	–	●
Lowest list value	●	●
Highest list value	●	●
Value dispersion R	●	●
Arithmetical mean $\bar{x}$	●	●
Standard deviation σ_n, σ_{n-1}	●	●
Process capability C_p, C_{pk}	–	●
Graphical Representations		
Position of each single value within the tolerance range (10 classes)	–	●
Histogramme	–	●
Display (luminous LEDs)		
Sorting of each single value with green for <i>Good</i> , yellow for <i>Rework</i> and red for <i>Reject</i>	–	●

- Memory capacity: 9999 single values for one feature per sample.
- Two operating modes: «Normal» and «Tolerance».
- Limits of size quickly set on the display of the connected instrument with subsequent transfer to TESA PRINTER SPC.
- Output of statistical values printed out with graphical representations.
- Output of reports with headings to be filled in by the operator.
- Hardcopies printed in preferred language (English, German, French, Italian or Spanish).
- Battery-powered (6 V) printer unit for use on the fly (optional).



Matrix printer using thermal paper roll

Paper width: 110 mm.
Print mode:

40 signs/line

RS232 for data inputs (9-pin male, trapezoid connector)
DIGIMATIC (Ansley connector, 10-pin)
Connector with mini-jack for remote triggering of data transfer

Mains adapter 100 to 240 Vac, 6,6 Vdc.
Optional accessory: 6 V battery pack, rechargeable

10°C to 40°C

–10°C to 60°C

IP40 (IEC 60529)

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

180x180x84 mm (W x D x H)

0,55 kg

Shipping packaging

Identification number

Declaration of conformity



06430000



TESA PRINTER SPC

Printer with SPC capability, value classification and memory; prints all results with graphical representations using the matrix printer provided with a 110 mm wide thermal paper roll; RS232 interface.

Supplied with the following accessories:

04765013 1 Thermal paper roll, 110 mm in width

04761054 1 Adapter 100 to 240 Vac, 50 to 60 Hz, 6,6 Vdc, 750 mA

04761055 1 EU adapter cable

Optional accessories

04768035 Battery pack, 6V

04761056 US adapter cable