

Leica TPS400 Series

Easy, quick, reliable
and powerful

PinPoint
Technology



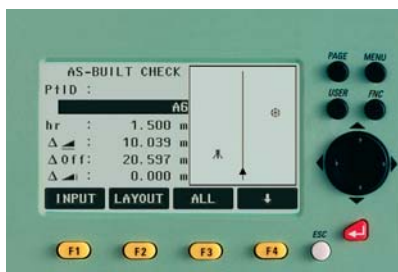
- when it has to be **right**

Leica
Geosystems

Leica TPS400 Series

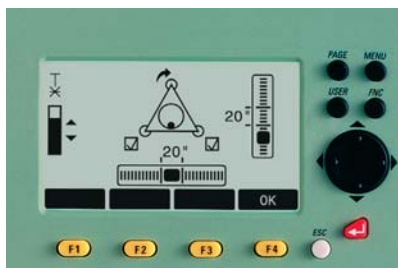
The perfect solution for every construction site

Measuring with the TPS400 series of total stations could not be easier! With a laser plummet and electronic level the instrument is quickly set up and ready to measure. The proven endless fine drive and the accurate Leica telescope with 30-times magnification precisely targets each measuring point. The integrated electronic distance meter measures to target plates, prisms or even reflectorless to any given surface. These features save time and money.



Easy to learn – Simple to use

The new generation of total station was designed to be simple to use. With only four function keys the instrument can be used to its fullest. The large illuminated display is clear and easy to read. The graphical concept further simplifies the measuring tasks. All models of the TPS400 series support you with simple menu structures and integrated measuring programs that provide quick and simple solutions for your setting out & surveying tasks.



Your advantages in the field

- Easy and direct operations using the function keys
- Large, high resolution screen guarantees a clear display
- Intuitive program structure
- Integrated application programs
- Compatible with external data storage
- Definable start-up screen



Reflectorless measurements

PinPoint
R1000

Inaccessible measuring points are a thing of the past! Measure without reflector to more than 1000 m in true PinPoint accuracy. PinPoint's tightly bundled laser marks the point exactly with a small red dot. Wall corners and inaccessible points can be measured without special applications. Because TPS400 has the best reflectorless electronic distance measurement technology in combination of range, accuracy, measurement time and laser spot size in the market. All these unique features have been combined in the two reflectorless models:

- R400 in the "TPS400power" with more than 400 m range and the
- R1000 in the "TPS400ultra" with a range of over 1000 m.

The link between spot size and accuracy





Theft-protection

The PIN-code feature prevent unauthorized persons from using the instrument. This increases your data security. Without correct code, the Equipment can't be operated, data erased and makes it unattractive to steal. This protects you from having damages, increases your safety and possibly lowers your insurance rates.



Direct.dxf

With "Direct.dxf" functionality, data can be read directly from the instrument in DXF-format and read into AutoCAD® on a PC without any intermediate steps. Coordinates, codes and point numbers can be stored in different layers.



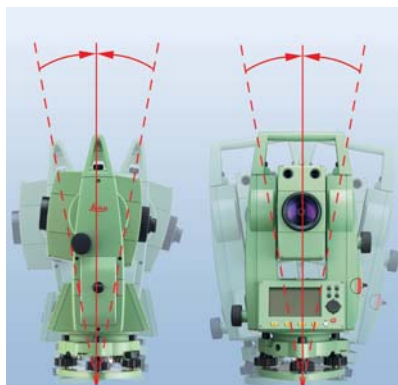
Laser plummet

Easy to center over a set up point thanks to the laser plummet. The intensity of the laser point can be adjusted step-by-step to maintain visibility even in critical lighting conditions. The time consuming task of centering with the optical level is now redundant.



Fully automatically compensation combined with collimation function

A fully automatically dual axis compensator corrects the vertical and horizontal reading. The collimation function corrects the deviation of the telescope's mechanical axis. The combination of both guarantees accurate and reliable angle measurements.



Individual Data exchange

Data exchange has been implemented in such a flexible way that just about any format can be created. This allows data to be transferred to any software directly from the compatible for transfer to other survey instruments and GPS. The required programs are delivered with the instrument. Information can be exchanged between the instrument and a computer by standard RS232 cable, USB connection or *Bluetooth*® Wireless-Technology. Data can be configured to enable communication with most data collectors.

Leica TPS400

Technical specifications and System features



Applications

In your daily work the TPS400 total stations supports you with a whole range of integrated easy to use programs.

- Surveying
- Reference line
- Stake Out
- Free Station
- Height transfers
- Area 3D
- Volume
- Tie distance
- Construction
- Remote height
- Hidden point
- Target Offsets
- Reference Plane (optional)
- Cogo (optional)

Does your crew speak different languages? Ours does.



The TPS400 is the only instrument of its class with multiple languages onboard. This allows

the user to choose the preferred language – simply and with only one keystroke, for improved efficiency and convenience.

Leica TC403/5/7	-Distance Measurement with Reflector (IR-Mode)
Leica TCR403/5/7 power	-Distance Measurement with Reflector (IR-Mode) -PinPoint R400 Distance Measurement without Reflector (RL-Mode)
Leica TCR403/5/7 ultra	-Distance Measurement with Reflector (IR-Mode) -PinPoint R1000 Distance Measurement without Reflector (RL-Mode)

Technical data	TPS 403	TPS 405	TPS 407
Angle measurements (Hz, V)			
Method	Absolute continuous		
Display resolution	1" / 0.1 mgon / 0.01 mil		
Standard deviation (ISO 17123-3)	3" (1 mgon)	5" (1.5 mgon)	7" (2 mgon)
Telescope			
Magnification	30x		
Field of view	1° 30' (26 m at 1 km)		
Min. target distance	1.7 m		
Reticle	illuminated		
Compensator			
System	Electronic 2 axis oil compensator		
Setting accuracy	1"	1.5"	2"
Distance Measurement on Reflector (IR)			
Measuring range with circular prism GPR1	3'500 m		
Measuring with reflective foil (60 mm x 60 mm)	250 m		
Standard deviation (ISO 17123-4) (fine/quick/tracking)	2 mm + 2 ppm/5 mm + 2 ppm/5 mm + 2 ppm		
Time for a measurement (fine/quick/tracking)	typ. 2.4 s / 0.8 s / < 0.15 s		
PinPoint-Reflectorless Distance measurement (RL)			
Range:	PinPoint R400 ("power")	> 400 m (90% reflective)	
(Medium atmospheric conditions)	PinPoint R1000 ("ultra")	> 1000 m (90% reflective)	
	Laser at GPR circular reflector	7'500 m	
Standard deviation (ISO 17123-4)	0-500 m	2 mm + 2 ppm	
	> 500 m	4 mm + 2 ppm	
Time per meas.	typ. 3 - 6 s, max. 12 s		
Point size at 100 m	12 mm x 40 mm		
Communication			
Internal data storage	12'500 measurements or 18'000 fixpoints		
Interface	RS232		
Data formats	GSI/IDEX/ASCII/DXF/Freely definable formats		
Operation			
Display	Graphics 160 x 280 pixels, Alphanumeric 8 lines x 31 characters		
Laser plummet			
Type	Laser point, brightness adjustable in steps		
Accuracy	1.5 mm at 1.5 m instrument height		
Environmental conditions			
Temperature range (operation)	-20° C to +50° C (-4° F to +122° F)		
Dust and splash proof (IEC 60529)	IP55		
Humidity	95 %, non condensing		
Weight			
Weight including battery and tribrach	5.2 kg		
Operating period with GEB121	approx. 6 hours		
Number of distance measurements with GEB121	approx. 9'000		

Rough & tough



Whether you want to survey a parcel of land or objects on a construction site, determine measured points on facades or in rooms, gather the coordinates of a bridge or a tunnel – Leica Geosystems' total stations provide the right solution for every application.

They unite reliable results with easy operation and user-friendly applications. Our total stations are designed to meet your specific requirements. Modern technology enables you to work fast and productively, thanks to the straightforward and clearly structured range of functions.

When it has to be right.

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Total Quality Management – Our commitment to total customer satisfaction

Ask your local Leica Geosystems
dealer for more information
about our TQM program.

**Distance meter
(PinPoint R400/R1000):**
Laser class 3R in accordance with
IEC 60825-1 resp. EN 60825-1

Laser plummet:
Laser class 2 in accordance with
IEC 60825-1 resp. EN 60825-1

Distance meter (IR):
Laser class 1 in accordance with
IEC 60825-1 resp. EN 60825-1

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