

Leica TPS800 Series Powerful, efficient, reliable and intuitive

PinPoint
Technology



- when it has to be **right**

Leica
Geosystems

powerful

Leica TPS800 Performance Series...

Three classes of accuracy

TPS800 total stations are available in angular accuracies of 2" (0.6 mgon), 3" (1 mgon) and 5" (1.5 mgon). All models feature a minimum reading of 1".

Fast start-up

Start your work quickly by setting a predefined startup sequence, screen display and instrument settings.

10'000 data blocks

The reliable internal memory of the TPS800 total stations can store 10'000 data blocks.

The difference lies in the little button

Thanks to the trigger key mounted on the side of the instrument you do not lose sight of the target while measuring; this is particularly important when a lot of points need to be measured.

Endless drives

Faster operation with no more awkward clamping and loosening due to the sliding clutch and endless loop drive.

Laser plummet

Easy to centre 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 lightning conditions. Eliminates the time consuming task of centering with an optical plummet.



PIN-code

Lock your equipment effectively to make it unattractive for being stolen.

Electronic Guide Light

Practical alignment aids to speed up staking out. Helps the rodman to line up the reflector quickly and exactly on the line of sight.

Clear visibility

Leica's precision optic provides for clear target visibility.

PinPoint

PinPoint-Reflectorless Distance measurement

The PinPoint technology enables a reflectorless distance measurement to any surface and an exceptional range of over 500 m. ("ultra"- models).

Dual distance measuring technologies

With the TCR range of instruments you can select between two measuring modes. Choose between reflectorless measurement to all surfaces, or precise measurement to prisms and tapes at the press of a button.

Everything at a glance

The large high resolution display keeps you informed about all important aspects at a glance. With the alphanumeric keyboard you can enter numbers, letters and special characters as quickly and as easily as you are used to with your mobile phone.



...with an application for every task

On board software and application programs simplify and speed up work in the field. The user is guided through the routines by clear menus and measurement prompts.



Surveying & Orientation

With the Surveying program, measurements of an unlimited number of points is supported. Included are the functions of defining the set-up station and determining the orientation from measurements up to five points.



Reference Line and Arc

For setting-out or checking points along a defined line or arc. Orthogonal stakeout elements of the target points are calculated in relation to the defined reference. Reference lines can be shifted with parallel offsets or even rotated to match predefined setting-out instructions.



Remote Height

The position of an inaccessible point can be computed by measuring to a base point and then aiming at the remote point. This can be used to determine the ground clearance of a structure.



Free Station

Set up your instrument anywhere and calculate station coordinates, elevation and Hz circle orientation. Up to five orientation points may be used with any combination of directions and distances in one or two faces.



Tie Distance

Tie Distance determines the distance, grade, azimuth and height difference between two points. The distances can be calculated continuously (traversing) or from a central point. The Tie Distance between the last two measured points can be checked instantly while surveying.



Hidden Point

Easily measure points that are not directly visible by using a hidden point rod. The length of the rod and the spacing between the reflectors is configurable. The rod can be held at any angle when measured and the program calculates the hidden point as if it were observed directly.



Stake Out

Points can be staked from manually entered data or from an uploaded file stored in the instrument memory. 3D stakeout elements are calculated using the point coordinates and the station data.



Area (3D) & Volume

This program calculates the area, volume and perimeter of plan and slope surfaces. The points used can be measured, entered manually or selected from the instruments memory.



Construction

The layout of a construction site can be defined relative to construction lines. Points can be staked out relative to the selected line. Graphic displays show the position of the instrument, prism and stake out point relative to the construction line.

reliable

Leica TPS800 an overview of the models



RoadWorks 3D

The **optional**, powerful new Roadworks 3D application significantly extends the functionality of your Leica TPS800. It adds a complete road alignment package to your instrument and thus increases your flexibility on alignment and slope stake out on the entire worksite. Easy to learn and use, it only requires a minimum of learning time and is characterized by an intuitive and straight-forward workflow.

Roadworks 3D manages horizontal and vertical alignments made up of different elements. Alignments can be uploaded with the supplied PC software or easily be created on the instrument.

Use Roadworks 3D to improve your work when you perform alignment and slope stake out as well as check measurement tasks!



COGO Routines (Optional)

Coordinate Geometry offers you a wide range of calculation functions. These include inverse, traverse, intersections using combinations of bearings, distances or lines, offset calculations and line extensions. Computed coordinates can immediately be staked out.

Leica TC802/3/5	-Distance Measurement on Reflector (IR)
Leica TCR802/3/5 power	-Distance Measurement on Reflector (IR) -PinPoint R100 Reflectorless Distance Measurement (RL)
Leica TCR802/3/5 ultra	-Distance Measurement on Reflector (IR) -PinPoint R300 Reflectorless Distance Measurement (RL)

Technical data	TPS802	TPS803	TPS805
Angle measurements (Hz, V)			
Method	Absolute continuous		
Display resolution	1" (0.1 mgon)		
Standard deviation (ISO 17123-3)	2" (0.6 mgon)	3" (1 mgon)	5" (1.5 mgon)
Telescope			
Magnification	30 x		
Field of view	1° 30' (26 m at 1 km)		
Minimum target distance	1.7 m		
Reticle	illuminated		
Compensator			
System	Electronic 2 axis oil compensator		
Setting accuracy	1"	1"	1.5"
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)	< 1 sec/< 0.5 sec/< 0.15 sec		
PinPoint- Reflectorless Distance measurement (RL)			
Range:	PinPoint R100 ("power")	170 m (90 % reflective)	
(Medium atmospheric conditions)	PinPoint R300 ("ultra")	> 500 m (90 % reflective)	
	Laser at GPR circular reflector	7'500 m	
Standard deviation (ISO 17123-4) (Normal/Tracking)	3 mm + 2 ppm/5 mm + 2 ppm		
Time per meas. (Normal/Tracking)	typ. 3 s/1 s		
Point size at 100 m	12 mm x 40 mm		
Communication			
Internal data storage	10'000 data blocks		
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)	IP54		
Humidity	95 %, non condensing		
Weight			
Weight including battery and tribrach	5.4 kg		
Operating period with GEB121	approx. 6 hours		
Number of distance measurements with GEB121	approx. 9'000		

...with many included extras



PinPoint Technology

with its accurately and extremely bundled visible Laser provides you the:

- highest degree of pointing and measurement accuracy.
- Measurement of wall corners and inaccessible points without special applications.
- Reliability even under hardest conditions like rain and snow.

All these unique features have been combined in the two reflectorless models:

- R100 in the "TPS800power" with a range of up to 200 m
- and the R300 in the "TPS800ultra" with a range of over 500 m.

The link between spot size and accuracy:



Easy to learn Simple to use

Start regular surveys immediately with a definable start-up sequence. Easy and direct operations using the function keys.

Frequently used tasks are assigned to the numeric keys for increased productivity. Coding and settings can be selected with one button push. These features have been designed to save your time.



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, other survey instruments and GPS. The required programs are delivered with the instrument.



Compatible accessories

Leica Geosystems accessories are designed to withstand tough survey conditions. An accessory kit suitable to the specifications of the instrument, consisting of 2 batteries, a quick charger, data cable, mini prism set, tribrach and instrument height meter, fit into the instrument container for convenient and secure transportation.



External connections

Information can be exchanged between the instrument and a computer by standard RS232 cable, USB connection or wireless Bluetooth® Wireless-Technology. Data can be configured to enable communication with most data collectors.



Does your crew speak different languages? Ours does.

The TPS800 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.



Theft-protection

The PIN-code feature prevent unauthorized persons from using the instrument. 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 downloaded directly from the instrument in dxf-format and read into AutoCAD, on a PC without any intermediate steps.

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.

Illustrations, descriptions and technical specifications are not binding and may change.
Printed in Switzerland – Copyright Leica Geosystems AG, Heerbrugg, Switzerland, 2006.
742613en – 1.07 – RDV



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 R100/R300):
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

Guide light (EGL):
LED class 1 in accordance with IEC 60825-1 resp. EN 60825-1

The **Bluetooth®** word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Leica Geosystems AG is under license. Other trademarks and trade names are those of their respective owners.



Leica TPS400
Product brochure



Leica TPS700
Product brochure



Leica TPS1200
Product brochure



Leica Accessories
Product brochure