Leica TPS800 Series

Powerful, efficient, reliable and intuitive

PinPoint Technology

- when it has to be **right**

Leica Geosystems

powerful

Leica TPS800 Performance Series...
...with many included extras

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.

Large internal memory
The reliable internal memory can store 12'500 measurements or 18'000 fixpoints.

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.

Electronic Guide Light
Practical alignment aids to speed up staking out. Helps the rodman to line up the reflector quickly.

The link between spot size and accuracy:

PinPoint R1000

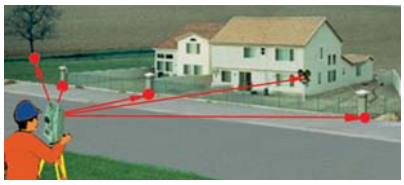
PinPoint-Reflectorless Distance measurement
The PinPoint technology enables a reflectorless distance measurement of over 1000 m to any surface with an exceptional accuracy. Because Leica TPS800 has the best reflectorless electronic distance measurement technology in combination of range, accuracy, measurement time and laser spot size in the market.

Select the reflectorless model which fits best for your needs: "TPS800power" with R400 and a range of over 400 m or "TPS800ultra" with R1000 and a range of over 1000 m.

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.

Free Station
Set up your instrument anywhere and calculate station coordinates, elevation and Hz circle orientation. Up to ten orientation points may be used in one or two faces. Remeasuring and recalculation is possible.

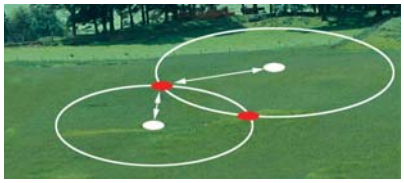
Stake Out
Points can be staked from manually entered data or from an uploaded file stored in the instrument memory. 3D stakeout elements are calculated using the point coordinates and the station data.

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.

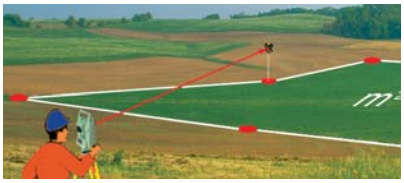
Reference Grid
For easily setting-out a grid relative to a reference line. Just enter chainage, increment in length and cross direction.

Line Segmentation
For subdividing a reference line into segments and setting-out the new points on the line.

Reference Plane
It is used to measure points relative to a reference plane. Define your reference plane (e.g. wall) by measuring three points on the plane and measure your target points. The program calculates the local coordinates and the coordinates of the intersection point which also can be staked out.



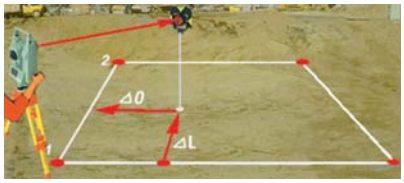
COGO Routines
Coordinate Geometry offers you a wide range of calculation functions. These include inverse, traverse, intersections using combinations of bearings, distances or lines, offset calculations and line extensions. It's graphics make the application easy to use. Computed coordinates can immediately be staked out.



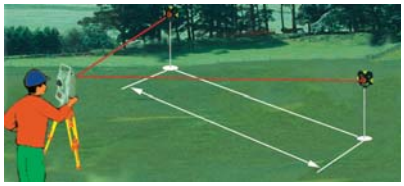
Area (3D) & Volume
This programm calculates the area, volume and perimeter of plan and slope surfaces. The points used can be measured, entered manually or selected from the instruments memory.

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.

Remote Height
The position of an inaccessable 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.



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



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.

RoadWorks 3D

The **optional,** powerful 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!

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.

TraversePro

The **optional**, intelligent and new TraversePRO application fulfills one of the most common operations done by surveyors. It provides a complete solution to establish control networks used in conjunction with other survey operations such as topographic surveys, point, line or road stake outs. Select one of the methods: 2D Helmert transformation, Compass rule or Transit rule for whichever best suits your needs. Observe side shots whenever you want and control your traverse by measuring to check points. At the end of the traverse, results are displayed and an adjustment can be immediately calculated in the field.

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.

Leica TPS800
an overview of the models

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.

direct.dxf

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.

Multi lingual

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.

Leica TC802/3/5	-Distance Measurement with Reflector (IR-Mode)
Leica TCR802/3/5 power	-Distance Measurement with Reflector (IR-Mode) -PinPoint R400 Distance Measurement without Reflector (RL-Mode)
Leica TCR802/3/5 ultra	-Distance Measurement with Reflector (IR-Mode) -PinPoint R1000 Distance Measurement without Reflector (RL-Mode)

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		0.5"	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)			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			5.4 kg	
Operating period with GEB121			approx. 6 hours	
Number of distance measurements with GEB121			approx. 9'000	

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.

TQM
ISO 9001 / ISO 14001

Total Quality Management – Our commitment to total customer satisfaction

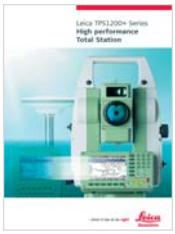
Ask your local Leica Geosystems dealer for more information about our TQM program.

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-Mode):
Laser class 1 in accordance with IEC 60825-1 resp. EN 60825-1

Leica TPS400
Product brochure



Leica TPS1200+
Product brochure

Leica Accessories
Product brochure

Leica Customer Care Packages
Product brochure

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