Professional, efficient programs for all your survey tasks
LEICA TPS1100 Application Programs
Powerful software for every application

Reliable and professional results in the shortest time is what every surveyor wants. Application software that simplifies and speeds up work in the field and allows the user to perform necessary calculations on-board is therefore becoming more and more important.

For the Leica TPS1100 Professional Series total stations a complete range of efficient and sophisticated application programs is available for the various surveying tasks, including construction and cadastral surveying, engineering surveying, and high precision monitoring surveys. Leica’s TPS1100 application programs are specifically designed for surveying, and feature excellent functionality and ease of use. Clear, well-structured menus guide the users through all routines and support them in measurements and calculations. Each application program creates a logfile and can be configured to the users specific needs.

Use the Leica TPS1100 application software to enhance the efficiency of your TPS1100 total station and increase your productivity while ensuring professional results.

Unique features of TPS1100 application software
- Easy to use
- Logfiles for each program
- Configurable to users needs
- A program for every task
- Designed for the surveying practice
An application for every task

Remote Height
Use Remote Height to calculate the position and elevation of inaccessible points. By measuring to a base point and afterwards aiming at the remote point you can easily determine not only the coordinates of the inaccessible point but also the clearance between base and remote points.

Area
This program calculates the area of a closed polygon. You can define an area by any sequence of straight lines and arcs. Arcs are defined by three points or two points and a radius. The points used to define the area can be measured, imported from a file, or entered manually. View the shape of your defined area with the plot function.

Auto Record**
Automate data recording according to your wishes. Recording modes include distance between recorded positions, time between positions, and stationary prism time, or any combination of these. Once configured the program starts tracking the target and positions are recorded with no further input from the operator.

Hidden Point
Easily measure points that are not directly visible by using a hidden point rod with 2-3 reflectors attached. The rod can be held at any angle and the spacing between reflectors is configurable. The program calculates the measurements to the hidden point as if it were observed directly.

Sets of Angles
Measure sets of angles to targets. Distance measurements are optional. The program provides you with field checks and analysis of measurements by computing the average direction of all sets, the standard deviation for each observed direction, and the standard deviation of the average of all directions. With Automatic Target Recognition the measurement process can be fully automated.

Traverse
Using direction and distance data, Traverse continuously computes the coordinates of the station and aligns your horizontal circle. After traverse closure the program displays the closing error, providing you with a field check of the traverse measurements. With the plot function Traverse also provides you with a visual check.
**Local Resection**

Determine station coordinates and orientation in a local coordinate system from measurements to two points. The first point forms the centre of the local coordinate system and the second point determines the direction of the positive N-axis. This is a quick and easy way to define a local coordinate system.

**Face Scan***

Automatic scanning of surfaces. You define the boundaries of the area to be scanned and the grid size. The program completes the measurements automatically, always displaying the time left.

**Reference Plane**

Reference Plane lets you define a plane using 2-10 points. An adjustment always ensures the best fit of the plane to your points. After the definition, measure points on the plane simply by aiming at them. The program determines the point of intersection with the plane and calculates its coordinates. If you measure a distance, measurement results include the orthogonal offset of the point from the plane.

**DTM stakeout**

Use DTM-Stakeout to compare field measurements against a stored Digital Terrain Model (reads standard *.dxf format). The program calculates and displays the CUT or FILL values between existing ground and the DTM.

**RoadPlus**

Stake out and control routes and cross sections of roads or other curvilinear projects, both horizontally and vertically. This powerful program can also interpolate cross sections at any station and take superelevations into account. RoadPlus comes with an on-board Road Data Editor to view, edit, and even create new project files.

**Monitoring***

Monitoring is designed to assist you by automatically repeating measurements to defined targets at pre-defined measurement intervals. It is ideal for small-scale monitoring applications without the need of a fixed PC set-up at the reference.

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* only available for motorised instruments with reflectorless option (TCRM, TCRA)
** only available for instruments with Automatic Target Recognition (TCA, TCRA)
LEICA TPS1100 Application Programs
Made by Surveyors for Surveyors

**Free-Station**
Set up your instrument anywhere and calculate station coordinates, elevation, and H2 circle orientation from measurements (any combination of directions and distances in one or two faces) to up to ten points. Automatic error detection and the possibility to turn off, delete, or remeasure points and then recalculate ensure maximum reliability and flexibility. The plot function displays the point distribution around your instrument station.

**Stakeout**
Stake out points using one of four different methods. Three-dimensional stakeout elements are calculated from stored point coordinates and station data. Scaleable graphics help guide you quickly to the precise position and your motorised total station can automatically position to the next point.

**Orientation & Height Transfer**
Set up on a known point and determine the orientation and elevation of your instrument station from measurements to up to ten points. Orientation and elevation can either be set simultaneously or only one of the calculated values can be stored.

**Reference Line**
Set out points along a defined line or arc. The orthogonal setting-out 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.

**Tie Distance**
Tie Distance determines the distance, azimuth, and height difference between two points. The distances can be calculated continuously (traversing) or from a central point. The points used can be measured, imported from a file, or you can enter them manually.

**Cogo**
Coordinate Geometry offers you a wide range of functions such as calculation of azimuth and distance between known points, coordinate determination given azimuth and distance, arc and line intersections, offset calculations and much more. After calculation call up Stakeout to directly set out the new point.
Higher performance and productivity with the right software

TPS1100 software packages

Even the best hardware is greatly enhanced by the right user programs. With the TPS1100 Professional Series, Leica Geosystems has placed a strong emphasis on giving you the right programs for your tasks. These are powerful, field-proven application programs matched to your specific requirements. Choose from the extensive list the programs you need for your work or get one of the economical application packages offered by Leica Geosystems.

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