

# LEICA TPS400 Series



*Easy, quick, reliable!*

**Leica**  
Geosystems

# TPS400 Series

## The perfect solution for every construction site

Measuring with the new 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.

### 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
- Robust and reliable – made for the construction site



### 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. 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.

### Individual data exchange

Data exchange has been implemented in such a flexible way that just about any format can be created and transferred from the instrument to your computer. The required programs are delivered with the instrument. You can also create your personal instrument configuration that can be transferred to other instruments of the TPS400 family.

**Rough and tough**  
The TPS400 series was specially designed for the construction site. It is splash and dust proof (IP54) and thus well protected against adverse environmental influences.





### **Reflectorless measurements**

Inaccessible measuring points are a thing of the past! TPS400 instruments also measure without reflector quickly and precisely. Circumvent any obstacle at the construction site. The visible laser beam is ideal for setting out.



### **Dual axis compensator**

A fully automatic dual axis compensator performs fine leveling and guarantees perfect horizontal alignment. For applications from mobile platforms the compensator may be deactivated.



### **Data exchange**

All models are equipped with a RS232 serial interface. Stored data can be exchanged between the instrument and a computer. Individually configurable data filters permit data output to be set to your personal preferences.



### **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.



# TPS400 Series

## Leader in Quality and Innovation

### Features

- Unique display
- Reflectorless measuring
- Endless fine drive
- Laser plummet
- Dual axis compensator

### Applications

- Reference line
- Stake outs
- Free Station
- Height transfers
- Area calculations
- Tie distance
- Height of inaccessible points

#### EGL:

LED class 1 in accordance with IEC 60825-1 and EN 60825-1

#### Distancer (infrared):

Laser class 1 in accordance with IEC 60825-1 and EN 60825-1  
Laser class I in accordance with FDA 21 CFR Ch. I § 1040

#### Distancer (visible laser) and laser plummet:

Laser class 2 in accordance with IEC 60825-1 and EN 60825-1  
Laser class II in accordance with FDA 21 CFR Ch. I § 1040

### CAUTION

LASER RADIATION – DO NOT STARE INTO BEAM  
620-690nm/0.95mW max.  
CLASS II LASER PRODUCT

Technical Data	TC/TCR 403	TC/TCR 405	TC/TCR 407
<b>Telescope</b>			
Magnification		30 x	
Field of view		1°30' (26m at 1km)	
Min. target distance		1.7m	
Reticle		illuminated	
<b>Angle measurements</b>			
Method		Absolute, continuous	
Display resolution		1" / 0.5 mgon / 0.01 mil	
Standard deviation (DIN 18723, ISO 12857)	3" (1 mgon)	5" (1.5 mgon)	7" (2 mgon)
<b>Compensator</b>			
System		Electronic 2 axis oil compensator	
Working range		+/-4' (0.7 gon)	
Setting accuracy	1"	1.5"	2"
<b>Distance measurement to prism (TC/TCR)</b>			
Measuring range with circular prism GPR1	3500 m (1 prism) / 5400 m (3 prisms) / 7000 m (long range)		
Measuring with reflective foil (60 mm x 60 mm)		250 m	
Accuracy (fine/quick/tracking)	2 mm + 2 ppm / 5 mm + 2 ppm / 5 mm + 2 ppm		
Time for a measurement (fine/quick/tracking)		< 1 s / < 0.5 s / < 0.3 s	
<b>Distance measurement without reflector (TCR)</b>			
Measuring range with target plate (Kodak GRAY)		Laser class 2/II 80 m	
Accuracy (short/tracking)		3 mm + 2 ppm / 5 mm + 2 ppm	
Time for a measurement (short/tracking)		(3s + 1s/10 m) / (1s + 0.3 s/10 m)	
<b>Communication</b>			
Internal data storage		10'000 Data blocks	
Interface		RS232	
Data formats		GSI / IDEX / ASCII / Freely definable formats	
<b>Operation</b>			
Display		Alpha numeric, 6 lines x 31 characters	
Keyboard		4 function keys; 2nd keyboard possible	
<b>Laser plummet</b>			
Type		Laser point, brightness adjustable in steps	
Accuracy		1.5 mm (2 sigma) @ 1.5 m instrument height	
<b>Environmental conditions</b>			
Temperature range (operation)		-20 °C to +50 °C	
Splash and dust proof (IEC529)		IP54	
Temperature range (storage)		-40 °C to +70 °C	
<b>Dimensions and weights</b>			
Length x width x height		151 mm x 203 mm x 316 mm	
Weight (Instrument / Battery / Tripod)		4.2kg / 0.2kg / 0.6kg	
<b>Power supply</b>			
Battery type		NiMH / standard camcorder	
Voltage/capacity		6V/1800 mAh; GEB 111 / 6V/3600 mAh; GEB 121	
External feed		via interface (11.5..14V)	
Operating period with GEB121		approx. 6 hours	
Number of distance measurements with GEB121		approx. 9000	

Your dealer:



**Total Quality Management –  
Our commitment to total  
customer satisfaction**

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

**Leica**  
Geosystems

Leica Geosystems AG  
CH-9435 Heerbrugg  
(Switzerland)

Phone +41 71 727 31 31  
Fax +41 71 727 46 73

[www.leica-geosystems.com](http://www.leica-geosystems.com)

Illustrations, descriptions and technical data are not binding and may be changed. Printed in Switzerland.

Copyright Leica Geosystems AG, Heerbrugg, Switzerland, 2002.  
732270en – VII.02 – RVA