Leica TS13
Data sheet





Sometimes you need your instrument to grow with your projects. The **Leica TS13** empowers you to start with two-person mode and upgrade the instrument gradually to a robotic total station. You decide when to upgrade it – you can choose a different **keyboard**, add **lock** to follow a moving target or include **robotic capabilities** with **SpeedSearch** and controller **connectivity** via a radio handle. The TS13 comes with **AutoHeight**, helping you to setup your instrument error-free.

LEICA TS13 TOTAL STATION: COLLECT IT.

- **Efficient data collection for mapping projects:** measurements, adjustments, and computations – all supported by powerful coding and linework routines.
- **Easy-to-use and data-centric field software:** efficient data collection, management, visualisation, import and export.
- **Upgradeable total station for measurement and layout tasks:** starting with two-person, scalable to one-person operation.
- **Accurate and effective stakeout and construction measurements:** automated routines for both two-person and one-person design data layout, as-built checks, and BIM tasks.

Leica TS13 Total Station

Basic variant



ANGLE MEASUREMENT		
Accuracy [1] Hz and V	■ Absolute, continuous, diametrical	1'' (0.3 mgon), 2'' (0.6 mgon), 3'' (1 mgon), 5'' (1.5 mgon)
DISTANCE MEASUREMENT		
Range [2]	■ Prism (GPR1, GPH1P) [3] ■ Non-Prism / Any surface [4]	0.9 m to 3,500 m R500: 0.9 m to >500 m R1000: 0.9 m to >1,000 m
Accuracy / Measurement time	■ Single (prism) [2,5] ■ Single (prism fast) [2,5] ■ Single (any surface) [2,4,5,6]	1 mm + 1.5 ppm / typically 2.4 s 2 mm + 1.5 ppm / typically 1.5 s [10] 2 mm + 2 ppm / typically 2 s [9]
Laser dot size	At 50m	8 mm x 20 mm
Measurement technology	System analyser	Coaxial, visible red laser
AUTOMATIC AIMING - ATR		
Target aiming range [2]	■ Circular prism (GPR1, GPH1P) ■ 360° prism (GRZ4, GRZ122)	■ 1,000 m ■ 800 m
Accuracy [1,2] / Measurement time	ATR angle accuracy Hz, V	1'' (0.3 mgon), 2'' (0.6 mgon), 3'' (1 mgon), 5'' (1.5 mgon) / typically 3-4 s
GUIDE LIGHT (EGL)		
Working range / Accuracy		5 - 150 m / typically 5 cm @ 100 m
GENERAL		
Processor	TI OMAP4430 1 GHz Dual-core ARM® Cortex™- A9 MPCore™	
AutoHeight module for automatic instrument height measurement	■ Distance accuracy ■ Distance range	1.0 mm (1 Sigma) 0.7 m to 2.7 m
Power management	Exchangeable Lithium-Ion battery	Operating time up to 8 h
Field software	Leica Captivate with apps	Running on field controller
Data storage	■ Internal memory 2 GB ■ SD card 1 GB or 8 GB	On field controller
Interfaces	RS232, USB, Bluetooth®, WLAN	
Weight	Total station including battery	5.0 kg
Environmental specifications	■ Working temperature range ■ Dust / Water (IEC 60529) / Humidity	■ –20°C to +50°C ■ IP55 / 95%, non-condensing

Upgrades [7]



KEYBOARD DISPLAY UNIT (Optional)		
Keyboard with display	Face I and face II optional	5'' (inch), WVGA, colour, touch 25 keys, illumination
Field software	Leica Captivate including apps	Running on TS13 instrument
Data storage	Internal memory 2 GB SD card 1 GB or 8 GB	On TS13 instrument
Weight	Total station including battery	5.3 kg
TARGET LOCK (Optional)		
Target locking range [2]	■ Circular prism (GPR1, GPH1P) ■ 360° prism (GRZ4, GRZ122)	■ 800 m ■ 600 m
ROBOTIC SURVEYING including PRISM FAST SEARCH (Optional) [11]		
SpeedSearch range / Search time	360° prism (GRZ4, GRZ122)	300 m / Typically 7 s
Robotic range with long-range Bluetooth® [8]	To CS20 internal long-range Bluetooth® To CTR20 expansion pack	500 m 1,000 m

[1] Standard deviation ISO 17123-3
[2] Overcast, no haze, visibility about 40 km, no heat shimmer
[3] 0.9 m to 2,000 m for 360° prisms (GRZ4, GRZ122)
[4] Object in shade, sky overcast, Kodak Gray Card (90% reflective)
[5] Standard deviation ISO 17123-4
[6] Distance > 500 m: Accuracy 4 mm + 2 ppm, Measurement time typically 6 s
[7] Initial or after sales, independent from each other
[8] Under good radio conditions
[9] Up to 50 m, max. measurement time 15 s for full range
[10] Initial measurement time typically 2 s
[11] Available also without prism fast search



Laser radiation, avoid direct eye exposure.
Class 3R laser product in accordance with IEC 60825-1:2014.

Integrate with LOC8 – Lock & Locate
For more information visit: **leica-geosystems.com/LOC8**

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- when it has to be **right**

Leica Geosystems

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