## Leica TS13

# Data sheet

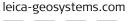


Sometimes you need your instrument to grow with your projects. The Leica TS13 empowers you to start with two-person mode and upgrade the instrument gradually to a robotic total station. You decide when to upgrade it - you can choose a different keyboard, add lock to follow a moving target or include 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 <sup>1</sup> Hz and V                                | Absolute, continuous, diametrical                                                                                                              | 1" (0.3 mgon), 2" (0.6 mgon), 3" (1 mgon),<br>5" (1.5 mgon)                                                     |
| DISTANCE MEASUREMENT                                          |                                                                                                                                                |                                                                                                                 |
| Range <sup>2</sup>                                            | <ul><li>Prism (GPR1, GPH1P)<sup>3</sup></li><li>Non-Prism / Any surface<sup>4</sup></li></ul>                                                  | 0.9 m to 3,500 m<br>R500: 0.9 m to >500 m<br>R1000: 0.9 m to >1,000 m                                           |
| Accuracy / Measurement time                                   | <ul> <li>Single (prism) <sup>2,5</sup></li> <li>Single (prism fast) <sup>2,5</sup></li> <li>Single (any surface) <sup>2,4,5,6</sup></li> </ul> | 1 mm + 1 ppm / typically 2.4 s<br>2 mm + 1 ppm / typically 1.5 s $^{10}$<br>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 <sup>2</sup>                              | <ul><li>Circular prism (GPR1, GPH1P)</li><li>360° prism (GRZ4, GRZ122)</li></ul>                                                               | ■ 1,000 m<br>■ 800 m                                                                                            |
| Accuracy <sup>1,2</sup> / Measurement time                    | ATR angle accuracy Hz, V                                                                                                                       | 1" (0.3 mgon), 2" (0.6 mgon), 3" (1 mgon),<br>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 | <ul><li>Distance accuracy</li><li>Distance range</li></ul>                                                                                     | 1.0 mm (1 Sigma)<br>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                                                  | <ul><li>Internal memory 2 GB</li><li>SD card 1 GB or 8 GB</li></ul>                                                                            | On field controller                                                                                             |
| Interfaces                                                    | RS232, USB, Bluetooth®, WLAN                                                                                                                   |                                                                                                                 |
| Weight                                                        | Total station including battery                                                                                                                | 5.0 kg                                                                                                          |
| Environmental specifications                                  | <ul><li>Working temperature range</li><li>Dust / Water (IEC 60529) / Humidity</li></ul>                                                        | <ul><li>-20°C to +50°C</li><li>IP55 / 95%, non-condensing</li></ul>                                             |

## Upgrades<sup>7</sup>



### **KEYBOARD DISPLAY UNIT (Optional)**

| Keyboard with display             | Face I and face II optional                                                      | 5" (inch), WVGA, colour, touch<br>25 keys, illumination |
|-----------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------|
| Operating System / Field Software | Windows EC7 / Leica Captivate with apps                                          | Running on TS13 instrument                              |
| Data storage                      | Internal memory 2 GB<br>SD card 1 GB or 8 GB                                     | On TS13 instrument                                      |
| Weight                            | Total station including battery                                                  | 5.3 kg                                                  |
| TARGET LOCK (Optional)            |                                                                                  |                                                         |
| Target locking range <sup>2</sup> | <ul><li>Circular prism (GPR1, GPH1P)</li><li>360° prism (GRZ4, GRZ122)</li></ul> | ■ 800 m<br>■ 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   | To CS20 internal long-range Bluetooth® | 500 m                 |
| Bluetooth <sup>® 8</sup>        | To CTR20 expansion pack                | 1,000 m               |

- <sup>1</sup> Standard deviation ISO 17123-3
- Overcast, no haze, visibility about 40 km, no heat shimmer
   0.9 m to 2,000 m for 360° prisms (GRZ4, GRZ122)
- Object in shade, sky overcast, Kodak Gray Card (90% reflective)
   Standard deviation ISO 17123-4
- $^{\rm 6}$  Distance > 500 m: Accuracy 4 mm + 2 ppm, Measurement time typically 6 s

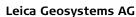


Laser radiation, avoid direct eye exposure.
Class 3R laser product in accordance with IEC 60825-1:2014.

The Bluetooth® trademarks are owned by Bluetooth SIG, Inc. Windows is a registered trademark of Microsoft Corporation. Other trademarks and trade names are those of their respective owners. Copyright Leica Geosystems AG, 9435 Heerbrugg, Switzerland. All rights reserved. Printed in Switzerland – 2020. Leica Geosystems AG is part of Hexagon AB. 929650en – 01.21

- <sup>7</sup> 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
- <sup>10</sup> Initial measurement time typically 2 s <sup>11</sup> Available also without prism fast search





Heinrich-Wild-Strasse 9435 Heerbrugg, Switzerland +41 71 727 31 31

