

# Leica FlexLine TS03/TS07/TS10 Manual Total Stations



FlexLine



The new Leica FlexLine TS03, TS07 and TS10 high-quality, manual total stations are based on a proven product concept that has been revolutionising the world of measurement and survey for nearly 200 years. The easy-to-use and familiar Leica FlexField software (TS03/TS07) helps you to easily and efficiently carry out surveying and stakeout tasks. The FlexLine TS10 is equipped with Leica Captivate field software, enabling you to tie into the modern 3D dataflow – including enhanced linework and coding. The new Leica FlexLine manual total stations work reliably and deliver accurate results even in harsh environments.

## LEICA FLEXLINE TS03/TS07/TS10 MANUAL TOTAL STATIONS

- **Work faster:** measure more points per day due to faster measurement and stakeout procedures (new endless drives, trigger key, drives on both sides and more), supported by our easy-to-use and familiar Leica Geosystems software.
- **Use it trouble-free:** increase productivity and minimise downtime by relying on instruments that simply work and come with a global service and support network.
- **Choose products that are built to last:** even after years of use under harsh conditions (like mud, dust, blowing rain, extreme heat and cold), FlexLine total stations still operate with the same high level of accuracy and reliability.
- **Save time with AutoHeight:** this revolutionary feature enables the manual total stations to automatically measure, read and set your instrument's height. This way errors are minimised and the setup process onsite is faster.
- **Control your investment:** reliability, speed and durability ensure a lower investment over the product lifetime.

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- when it has to be **right**

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# Leica FlexLine TS03/TS07/TS10



Leica FlexLine TS03



Leica FlexLine TS07



Leica FlexLine TS10

## ANGULAR MEASUREMENT

Accuracy Hz and V	Absolute, continuous, diametrical <sup>1</sup>	2" / 3" / 5"	1" / 2" / 3" / 5" / 7"	1" / 2" / 3" / 5"
	<ul style="list-style-type: none"> <li>■ Display resolution: 0.1" (0.1 mgon)</li> <li>■ Quadruple axis compensation</li> <li>■ Compensator setting accuracy<sup>2</sup>: 0.5" / 1" / 1.5" / 2"</li> <li>■ Compensator range: +/- 3.78' (+/- 0.07 gon)</li> <li>■ Electronic level resolution: 2"</li> <li>■ Circular level sensitivity: 6' / 2 mm</li> </ul>	✓	✓	✓

## DISTANCE MEASUREMENT

Range	<ul style="list-style-type: none"> <li>■ Prism (GPR1, GPH1P): 1.5 m to 3.500 m</li> <li>■ Prism GPR1 (Long Range mode) &gt; 10.000 m</li> </ul>	✓	✓	✓
	<b>Non-Prism / Any surface</b> <ul style="list-style-type: none"> <li>■ R500<sup>3</sup></li> <li>■ R1000<sup>4</sup></li> </ul>	✓ ✗	✓ •	✓ •
Accuracy / Measurement time	<b>Single prism</b> <ul style="list-style-type: none"> <li>■ Precise+ / Once: 1 mm + 1.5 ppm (typical 2.4 s)</li> <li>■ Precise&amp;Fast / Once&amp;Fast: 2 mm + 1.5 ppm (typical 2 s)</li> <li>■ Tracking / Continuously: 3 mm + 1.5 ppm (typical &lt; 0.15 s)</li> <li>■ Averaging: 1 mm + 1.5 ppm</li> <li>■ Long Range mode / &gt; 4 km: 5 mm + 2 ppm (typical 2.5 s)</li> </ul>	✓	✓	✓
	<b>Non-Prism / Any surface</b> <ul style="list-style-type: none"> <li>■ 0 m - 500 m: 2 mm + 2 ppm (typical 3 - 6 s)</li> <li>■ &gt; 500 m: 4 mm + 2 ppm (typical 3 - 6 s)</li> </ul>	✓	✓	✓
Laser dot size	<ul style="list-style-type: none"> <li>■ At 30 m: 7 mm x 10 mm</li> <li>■ At 50 m: 8 mm x 20 mm</li> <li>■ At 100 m: 16 mm x 25 mm</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>■ Magnification: 30x</li> <li>■ Resolving power: 3"</li> <li>■ Focusing range: 1.55 m / 5.08 ft to infinity</li> <li>■ Field of view: 1°30' / 1.66 gon / 2.7 m at 100 m</li> </ul>	✓	✓	✓

## GENERAL

Display and keyboard		3.5" (inch), 320 x 240 px QVGA, grayscale, 28 keys <sup>5a</sup>	3.5" (inch), 320 x 240 px QVGA, colour, touch, 28 keys <sup>5b</sup>	5" (inch), 800 x 480 pixels WVGA, colour, touch, 25 keys <sup>5b</sup> , (optional <sup>5c</sup> : 37 keys with function keys)
	<ul style="list-style-type: none"> <li>■ 2<sup>nd</sup> keyboard</li> <li>■ Key illumination</li> </ul>	✗ ✗	• ✓	• ✓
Operation	<ul style="list-style-type: none"> <li>■ Endless drives for HZ &amp; V</li> <li>■ Trigger-Key: user definable with 2 functions</li> </ul>	✓	✓	✓
Power management	<b>Exchangeable Lithium-Ion battery<sup>6</sup></b> <ul style="list-style-type: none"> <li>■ Operating time with GEB361</li> <li>■ Operating time with GEB331</li> </ul>	up to 30 h up to 15 h	up to 30 h up to 15 h	up to 18 h up to 9 h
	<b>Battery charging time with</b> <ul style="list-style-type: none"> <li>■ GKL341 charger for GEB361 / GEB331</li> <li>■ GKL311 charger for GEB361 / GEB331</li> </ul>	3 h 30 min / 3 h 6 h 30 min / 3 h 30 min	3 h 30 min / 3 h 6 h 30 min / 3 h 30 min	3 h 30 min / 3 h 6 h 30 min / 3 h 30 min
Data storage	<b>External supply voltage</b> <ul style="list-style-type: none"> <li>■ Nominal voltage 13.0 V DC &amp; 16 W max</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>■ Internal memory: 2 GB Flash</li> <li>■ Memory card: SD card 1 GB or 8 GB</li> <li>■ USB memory stick: 1 GB</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>■ TI OMAP4430 1GHz Dual-core ARM® Cortex™ A9 MPCore™</li> <li>■ Operating system - Windows EC7</li> </ul>	✓	✓	✓
Processor	<ul style="list-style-type: none"> <li>■ RS232<sup>7</sup>, USB device</li> <li>■ Bluetooth®<sup>8</sup>, WLAN<sup>9</sup></li> <li>■ Mobile Data sidecover: LTE-Modem for internet access</li> </ul>	✓ ✗ ✗	✓ ✓ •	✓ ✓ •
Interfaces	<ul style="list-style-type: none"> <li>■ Working range: 5 m to 150 m</li> <li>■ Position accuracy: 5 cm at 100 m</li> <li>■ Wavelength red / orange: 617 nm / 593 nm</li> </ul>	✗	✓ (R1000)	✓ (R1000)
Guide Light (EGL)	<b>Accuracy</b> <ul style="list-style-type: none"> <li>■ Plumb line deviation: 1.5 mm at 1.5 m instrument height</li> <li>■ Diameter of laser point: 2.5 mm at 1.5 m instrument height</li> </ul>	✓	✓	✓
Laser plummet (Laserclass 2)	<ul style="list-style-type: none"> <li>■ Distance accuracy: 1.0 mm (1 Sigma)</li> <li>■ Distance range: 0.7 m to 2.7 m</li> </ul>	✗	•	✓
AutoHeight module for automatic instrument height measurement (Laserclass 2)		✗	•	✓
Weight	<ul style="list-style-type: none"> <li>■ Working temperature range: -20°C to +50°C</li> <li>■ Arctic version: -35°C to +50°C</li> <li>■ Dust / Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing</li> <li>■ Military Standard 810G, Method 506.5</li> </ul>	4.3 kg ✓ ✗ ✓ ✓	4.3 - 4.5 kg ✓ • ✓ ✓	4.4 - 4.9 kg ✓ • ✓ ✓
Environmental specifications <sup>10</sup>		✓	✓	✓

### Legend:

1. 1" (0.3 mgon), 2" (0.6 mgon), 3" (1 mgon), 5" (1.5 mgon), 7" (2 mgon)
2. Angular accuracy / Compensator setting accuracy: 1" / 0.5" (0.2 mgon), 2" / 0.5" (0.2 mgon), 3" / 1.0" (0.3 mgon), 5" / 1.5" (0.5 mgon), 7" / 2.0" (0.7 mgon)
3. R500: Kodak gray 90% reflective (1.5 m to >500 m), Kodak gray 18% reflective (1.5 m to >200 m)
4. R1000: Kodak gray 90% reflective (1.5 m to >1000 m), Kodak gray 18% reflective (1.5 m to >500 m)
5. (a) Face I standard, (b) Face I standard, face II optional, (c) face I optional, face II optional

6. Distance/angle measurement every 30 seconds
7. 5 PIN Lemo-0 for power, communication and data transfer
8. For communication and data transfer
9. For internet access, communication and data transfer, WLAN range up to 200 m
10. Storage temperature: -40°C to +70°C

✓ = Included • = Optional ✗ = Not available



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

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**Leica Geosystems AG**  
Heinrich-Wild-Strasse  
9435 Heerbrugg, Switzerland  
+41 71 727 31 31



**SDM**  
S.D.M. CO., LTD.

**SDM Co., Ltd.**

1/285 moo 9 Bangphud, Pakkred, Nonthaburi THAILAND 11120 | Tel : 02 582 3509 HOTLINE : 081 514 8151

E-mail : sdmthai@sdm.co.th website : www.sdm.co.th

www.sdm.co.th

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