

FlexLine

## Leica FlexLine TS03/TS07 Manual Total Stations

## LEICA FLEXLINE TS03/TS07 MANUAL TOTAL STATIONS

- n Work faster: measure more points per day due to faster measurement and stakeout procedures (endless drives, trigger key, drives on both sides, pinpoint EDM and more), supported by our comprehensive and user-friendly Leica FlexField software.
- n **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.
- n Choose products that are built to last: FlexLine operates with the same high level of quality even after years of use under harsh conditions (like mud, dust, blowing rain, extreme heat and cold).
- n Control your investment: reliability, speed and accuracy ensure a lower investment over the product lifetime and a higher resell value.
- n Save time with AutoHeight: measure, read and set the instrument height automatically with this revolutionary feature in the FlexLine TS07 (optional). Errors are minimised and the setup process onsite is faster.

The Leica FlexLine TS03 and TS07 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 instruments are equipped with a comprehensive application-based software package - Leica FlexField software - that enables most survey and stakeout tasks to be carried out easily and efficiently. The new FlexLine manual total stations work reliably and deliver accurate results even in harsh environments.





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- when It has to be **right** 

## Leica FlexLine TS03/TS07





Leica FlexLine TS03

Leica FlexLine TS07

ANGULAR MEASUREMEN			
Accuracy Hz and V	Absolute, continuous, diametrical <sup>1</sup> n Display resolution: 0.1" (0.1 mgon) n Quadruple axis compensation n Compensator setting accuracy <sup>2</sup> : 0.5" / 1"/ 1.5" / 2" n Compensator range: +/- 4' n Electronic level resolution: 2" n Circular level sensitivity; 6' / 2 mm	2" / 3" / 5"	1" / 2" / 3" / 5" / 7"
DISTANCE MEASUREMEN	NT		
Range	n Prism (GPR1, GPH1P): 0.9 m to 3,500 m n Prism GPR1 (Long Range mode) > 10,000 m	<b>v</b>	<ul> <li></li> </ul>
	Non-Prism / Any surface n R500 <sup>3</sup> n R1000 <sup>4</sup>	×	۲ •
Accuracy / Measurement time	Single prism n Precise+ / Once: 1 mm + 1.5 ppm (typical 2.4 s) n Precise&Fast / Once&Fast: 2 mm + 1.5 ppm (typical 2 s) n Tracking/Continously: 3 mm + 1.5 ppm (typical < 0.15 s) n Averaging: 1 mm + 1.5 ppm n Long Range mode / > 4 km: 5 mm + 2 ppm (typical 2.5 s)	J	v
	Non-Prism / Any surface n 0 m - 500 m: 2 mm + 2 ppm (typical 2.4 s <sup>6</sup> ) n > 500 m: 4 mm + 2 ppm	<ul> <li></li> </ul>	~
Laser dot size	n At 30 m: 7 mm x 10 mm n At 50 m: 8 mm x 20 mm n At 100 m: 16 mm x 25 mm	~	V
Telescope	n Magnification: 30x n Resolving power: 3" n Focusing range: 1.55 m / 5.08 ft to infinity n Field of view: 1°30' / 1.66 gon / 2.7 m at 100 m	<ul> <li></li> </ul>	v

GENERAL

2* keybaard     1	Display and keyboard		3.5" (inch), 320 x 240 px QVGA, grayscale, 28 keys <sup>6a</sup>	3.5" (inch), 320 x 240 px QVGA, colour, touch, 28 keys <sup>eb</sup>
Operation       n Endless drives for HZ & V       v       v         Operation       n Endless drives for HZ & V       n Trigger-Key: user definable with 2 functions       v       v         Power management       n Operating time with GEB361       up to 30 h       up to 30 h       up to 30 h         Power management       n Operating time with GEB361       up to 15 h       up to 15 h       up to 15 h         Battery charging time with GEB361 / GEB331       3 h 30 min / 3 h       3 h 30 min / 3		2 <sup>nd</sup> keyboard	×	•
operation       n Trigger-Key: user definable with 2 functions.       V       V         Power management       n Operating time with GEB361       up to 30 h       up to 30 h         Power management       n Operating time with GEB361       3 h 30 min / 3 h       3 h 30 min / 3 h         Battery charging time with n GRLS41 charger tor GEB361 / GEB331       6 h 30 min / 3 h 30 min / 3 h       3 h 30 min / 3 h         n Nominal voltage 13.0 V DC & 16 W max       V       V         Data storage       n Internal memory: 2 GB Flash       V       V         Processor       n Operating system – Windows EC7       V       V         Nobile Data sidecover: LTE-Modem for internet access       I       ·       ·         Guide Light (EGL)       n Position accuracy: 5 cm at 100 m       J       ·       ·         Guide Light (EGL)       n Position accuracy: 5 cm at 1.5 m instrument height       V       V       V         AutoHeight module for automatic instrument Light       n Distance accuracy: 1.0 mm (1 Sigma)       X       ·       ·         Weight       n Norking temperature range: -20°C to +50°C11       V       V       ·       ·         Butecoshing range: 5 m to 2.7 m       n Distance accuracy: 1.0 mm (1 Sigma)       X       ·       ·       ·         Butecosh *       n		Key illumination	×	V
Power management     n Operating time with GEB361     up to 30 h     up to 30 h       Battery charging time with n Operating time with n GKL341 charger for GEB361 / GEB331     3 h 30 min / 3 h     3 h 30 min / 3 h       Battery charging time with n GKL341 charger for GEB361 / GEB331     6 h 30 min / 3 h     3 h 30 min / 3 h       Determine     6 h 30 min / 3 h     3 h 30 min / 3 h       Image: Stermal supply Voltage     V     V       Data storage     n Internal memory: 2 GB Flash     V       Data storage     n Internal memory: 2 GB Flash     V       Processor     n TI OMAP4430 10Hz Dual-core ARM@ Cortex <sup>TM</sup> A9 MPCore <sup>TM</sup> V       Processor     n TI OMAP4430 10Hz Dual-core ARM@ Cortex <sup>TM</sup> A9 MPCore <sup>TM</sup> V       Processor     n TI OMAP4430 10Hz Dual-core ARM@ Cortex <sup>TM</sup> A9 MPCore <sup>TM</sup> V       Mobile Data sidecover: LTE-Modem for internet access     J     ·       Sudde Light (EGL)     n Vorking range: 5 m to 150 m     V     V       Sudde Light (EGL)     n Poistance carcey: 5 cm at 10 m     V     V       Nutroheight module for automatic instrument height measurement (Laserclass 2)     n Distance accuracy: 1.0 mm (1 Sigma)     X     ·       Neight module for automatic instrument height measurement (Laserclass 2)     n Distance accuracy: -0.7 m (2.7 m     V     V       Neight module for automatic instrument height measurement (Laserclass 2)     n Vor	Operation	n Trigger-Key: user definable with 2 functions	<b>v</b>	<b>v</b>
h GKL 341 charger for GEB361 / GEB331 3 h 30 min / 3 h 6 h 30 min / 3 h 0 min / 3	Power management	n Operating time with GEB361 n Operating time with GEB331		
n     Nominal voltage 13.0 V DC & 16 W max     V       n     Internal memory: 2 GB Flash     Nemory card: GB or 8 GB       n     USB memory stick: 1 GB or 8 GB     V       Processor     n     TI OMAP4430 16Hz Dual-core ARM® Cortex <sup>TM</sup> A9 MPCore <sup>TM</sup> V       Optocessor     n     Operating system - Windows EC7     V       Interfaces     R5232 <sup>P</sup> , USB device     V     V       Bluetooth® <sup>0</sup> , WLAN <sup>10</sup> X     V       Bluetooth® <sup>0</sup> , WLAN <sup>10</sup> X     V       Suide Light (EGL)     n     Working range: 5 m to 150 m     X       n     Position accuracy: 5 cm at 100 m     X     V       Accuracy     n     Working range: 5 m to 150 m     X       n     Novelength red /orange: 617 nm / 593 nm     V     V       Accuracy     n     Plumb line deviation: 1.5 mm at 1.5 m instrument height     V       n     Diameter of laser point: 2.5 mm at 1.5 m instrument height     V     V       n     Distance accuracy: 1.0 mm (1 Sigma)     X     V       n     Distance arange: 0.7 m to 2.7 m     V     V       Weight     n     Working temperature range: -20°C to +50°C <sup>11</sup> V       n     Distance range: 0.7 m to 2.7 m     V     V       Neight     n     Distance range: 0.7 m to 2.7 m		n GKL341 charger for GEB361/GEB331 n GKL311 charger for GEB361/GEB331		6 h 30 min / 3 h 30 min
Data storage       n       Memory card: SD card 1 GB or 8 GB n USB memory stick: 1 GB       v       v         Processor       n       Dyrating system – Windows EC7       v       v         Interfaces       R5232 <sup>1</sup> , USB device       v       v       v         Bluetooth® <sup>1</sup> , WLAN <sup>10</sup> X       v       v         Bluetooth® <sup>1</sup> , WLAN <sup>10</sup> X       v       v         Guide Light (EGL)       n       Working range: 5 m to 150 m n Position accuracy: 5 cm at 100 m n Wavelength red/orange: 617 nm / 593 nm       X       v         Laser plummet (Laserclass 2)       Accuracy n Plumb line deviation: 1.5 mm at 1.5 m instrument height n Diameter of laser point: 2.5 mm at 1.5 m instrument height n Distance accuracy: 1.0 mm (1 Sigma)       X       •         Meight       n Distance accuracy: 1.0 mm (1 Sigma)       X       •         n Norking temperature range: -20°C to +50°C <sup>11</sup> n On-condensing       X       •         n Norking temperature range: -20°C to +50°C <sup>11</sup> n On-condensing       X       v         n Dust/ Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       V       v         n Military Standard 810G, Method 506.5       v       v       v			~	V
Processor       n Operating system – Windows EC7       V         Interfaces       RS232 <sup>®</sup> , USB device       V         Bluetooth® <sup>o</sup> , WLAN <sup>10</sup> X         Mobile Data sidecover: LTE-Modem for internet access       V         n Working range: 5 m to 150 m       V         n Working range: 5 m to 150 m       V         n Wavelength red /orange: 617 nm / 593 nm       V         Accuracy       n Plumb line deviation: 1.5 mm at 1.5 m instrument height         n Diameter of laser point: 2.5 mm at 1.5 m instrument height       V         n Distance accuracy: 1.0 mm (1 Sigma)       X         n Sustance range: 0.7 m to 2.7 m       4.3 kg         Weight       Norking temperature range: -20°C to +50°C <sup>11</sup> n Accir version: -35°C to +50°C       X         n Dust/ Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       V         non-condensing       Notking temperature stoces         n Military Standard 810G, Method 506.5       V	Data storage	n Memory card: SD card 1 GB or 8 GB	×	~
Bluetooth®®, WLAN®       X       ✓         Mobile Data sidecover: LTE-Modem for internet access       X       •         Guide Light (EGL)       n Working range: 5 m to 150 m       X       •         n Working range: 5 m to 150 m       X       •         n Working range: 5 m to 150 m       X       •         n Working range: 5 m to 150 m       X       •         n Working range: 5 m to 150 m       X       •         n Wavelength red/orange: 617 nm / 593 nm       X       •         Accuracy       n Plumb line deviation: 1.5 m m at 1.5 m instrument height       •       •         Accuracy       n Plumb line deviation: 1.5 m m at 1.5 m instrument height       •       •         AutoHeight module for       Accuracy       n Distance accuracy: 1.0 mm (1 Sigma)       X       •         n Distance accuracy: 1.0 mm (1 Sigma)       n Distance range: 0.7 m to 2.7 m       •       •       •         Neight       m Ovrking temperature range: -20°C to +50°C <sup>11</sup> V       •       •         environmental       n Arctic version: -35°C to +50°C       X       •       •         specifications       n Dust Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       ✓       ✓       ✓         n Military Standard 810G, Method 506.5	Processor		V	<b>v</b>
Mobile Data sidecover: LTE-Modem for internet access       i       •         Suide Light (EGL)       n Working range: 5 m to 150 m       i       i         n Working range: 5 m to 150 m       n Position accuracy: 5 cm at 100 m       i       i         n Wavelength red/orange: 617 nm / 593 nm       i       i       i         Accuracy       n Plumb line deviation: 1.5 mm at 1.5 m instrument height       i       i         Laserclass 2)       n Diameter of laser point: 2.5 mm at 1.5 m instrument height       i       i         AutoHeight module for       Accuracy       n Distance accuracy: 1.0 mm (1 Sigma)       i       i         n Distance accuracy: 1.0 mm (1 Sigma)       in Distance range: 0.7 m to 2.7 m       i       i         Neight       n Overking temperature range: -20°C to +50°C11       i       i       i         n Nvironmental specifications       n Dust/ Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       i       i       i         non-condensing       n Military Standard 810G, Method 506.5       i       i       i       i	nterfaces	RS232 <sup>8</sup> , USB device	V	V
Buide Light (EGL)       n       Working range: 5 m to 150 m n       X       (R1000)         Laser plummet Laser class 2)       n       Plumb line deviation: 1.5 mm at 1.5 m instrument height n       V       V         wutoHeight module for uutomatic instrument height neasurement (Laserclass 2)       n       Distance accuracy: 1.0 mm (1 Sigma) n       X       V         Weight       0       Distance accuracy: 1.0 mm (1 Sigma) n       X       •       •         Invironmental pecifications       n       Working temperature range: -20°C to +50°C <sup>11</sup> n       V       V         invironmental pecifications       n       Dust / Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing n       V       V		Bluetooth®9, WLAN10	×	<ul> <li>✓</li> </ul>
Builde Light (EGL)       n       Position accuracy: 5 cm at 100 m       X       (R1000)         aser plummet       n       Wavelength red /orange: 617 nm / 593 nm       X       Y         aser plummet       n       Plumb line deviation: 1.5 mm at 1.5 m instrument height       Y       Y         utoHeight module for       Accuracy       N       Diameter of laser point: 2.5 mm at 1.5 m instrument height       Y       Y         utoHeight module for       Accuracy       n       Distance accuracy: 1.0 mm (1 Sigma)       X       •         n Distance range: 0.7 m to 2.7 m       n       Distance range: 0.7 m to 2.7 m       •       •         Veight       n       Accuracy       Accuracy       •       •         nvironmental pecifications       n       Working temperature range: -20°C to +50°C11       Y       •         n Arctic version: -35°C to +50°C       X       •       •       •         non-condensing       n       Multiary Standard 810G, Method 506.5       ✓       ✓       ✓		Mobile Data sidecover: LTE-Modem for internet access	×	•
aser plummet Laserclass 2)       n       Plumb line deviation: 1.5 mm at 1.5 m instrument height       ✓       ✓         utoHeight module for nutomatic instrument height       Accuracy       Accuracy       ✓       ✓         n       Distance accuracy: 1.0 mm (1 Sigma)       X       •       •         m       Distance accuracy: 1.0 mm (1 Sigma)       X       •         m       Distance range: 0.7 m to 2.7 m       ✓       ✓         Weight       1       Morking temperature range: -20°C to +50°C11       ✓       ✓         invironmental pecifications       n       Dust / Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       ✓       ✓         n       Military Standard 810G, Method 506.5       ✓       ✓       ✓	Guide Light (EGL)	n Position accuracy: 5 cm at 100 m	X	
nutomatic instrument height neasurement (Laserclass 2)       n Distance accuracy: 1.0 mm (1 Sigma) not 2.7 mm       X       •         Weight Neasurement (Laserclass 2)       n Distance range: 0.7 m to 2.7 mm       4.3 kg       4.3 - 4.5 kg         Neight Neasurement (Laserclass 2)       n Working temperature range: -20°C to +50°C <sup>11</sup> V       V         Invironmental specifications       n Dust/Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing       V       V         n Military Standard 810G, Method 506.5       V       V       V		n Plumb line deviation: 1.5 mm at 1.5 m instrument height	v	V
n Working temperature range: -20°C to +50°C <sup>11</sup> / / / / / / / / / / / / / / / / / /	automatic instrument height	n Distance accuracy: 1.0 mm (1 Sigma)	×	•
nvironmental specifications n Arctic version: -35°C to +50°C n Dust/Water (IEC 60529) /Humidity: IP66 / 95%, non-condensing non-condensing n Military Standard 810G, Method 506.5 v	Weight		4.3 kg	4.3 - 4.5 kg
	nvironmental	n Arctic version: -35°C to +50°C n Dust / Water (IEC 60529) / Humidity: IP66 / 95%, non-condensing	×	· · ·
	2222		<b>v</b>	

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 (0.9 m to >500 m), Kodak gray 18% reflective (0.9 m to >200 m) 4. R1000: Kodak gray 90% reflective (0.9 m to >1000 m), Kodak gray 18% reflective (0.9 m to >500 m) 5. Up to 50 m, max. measurement time 15 s

(a) Face I standard, (b) Face I standard, face II optional
 Distance/angle measurement every 30 seconds
 5 PIN Lemo-0 for power, communication and data transfer
 For communication and data transfer
 To rinternet access, communication and data transfer, WLAN range upto 200 m
 Storage temperature: -40°C to +70°C



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

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✓ = Included • = Optional × = Not available