

Leica FlexLine TS09 Total Station



Leica FlexLine TS09 Total Station – Performance guaranteed

A true performance orientated Total Station that continually delivers regardless how demanding the task may be. Designed especially for mid-to-high accuracy applications. By including all FlexLine features from removable USB memory, *Bluetooth*[®] wireless technology, Electronic Guide Light to a complete range of application software, your TS09 guarantees maximum performance.

Whether you measure to prisms, or prefer direct measurements to objects, the choice is always yours. A selection of EDM options delivers exactly what you need.

With a FlexLine TS09 Total Station you have complete confidence of total performance for every application.



Bluetooth[®], USB, Keyboard

- Bluetooth[®] cable-free connection
- USB memory stick for flexible data transfer (GSI, DXF, ASCII, LandXML, CSV)
- Mini-USB for fast data transfer
- Alpha-numerical keyboard for rapid entry



Electronic Distance Measurement

- Prism: 3500 m, 1 mm+1.5 ppm accuracy
- Non-Prism: 30 m FlexPoint
- Non-Prism: >400 m PinPoint – Power
- Non-Prism: >1000 m PinPoint – Ultra



Angular Accuracy

- 1", 2" or 3" angular accuracy
- Quadruple axis compensation to guarantee accurate and reliable angle measurement

- when it has to be **right**

Leica
Geosystems

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Angle Measurement (Hz, V)		
Accuracy (Standard deviation ISO-17123-3)	1" (0.3 mgon), 2" (0.6 mgon), 3" (1 mgon)	optional
Method	Absolute, continuous, diametrical	
Display resolution	0.1" / 0.1 mgon / 0.01 mil	
Compensation	Quadruple axis compensation (Setting On, Off)	
Compensator Setting accuracy	0.5", 0.5", 1"	



Distance Measurement with Reflector		
Range Round prism GPR1	3'500 m	
Range Reflective tape (60 mm x 60 mm)	250 m	
Accuracy / Measurement time (Standard deviation ISO-17123-4)	Standard: 1 mm+1.5 ppm / typ. 2.4 s, Fast: 3 mm+2 ppm / typ. 0.8 s, Tracking: 3 mm+2 ppm / typ. <0.15 s	



Distance Measurement without Reflector		
Range (90% reflective)		optional
FlexPoint	30 m	optional
PinPoint – Power	> 400 m ³¹	
PinPoint – Ultra	> 1000 m ³¹	
Accuracy / Measurement time (Standard deviation ISO-17123-4)	2 mm+2 ppm ² / typ. 3 s	
Laser dot size	At 30 m: approx. 7 mm x 10 mm, At 50 m: approx. 8 mm x 20 mm	



Data storage / Communication		
Extended Internal memory	Max.: 100'000 fixpoints, Max.: 60'000 measurements	
USB memory stick	1 Gigabyte, Transfer time 1'000 points/second	
Interfaces	Serial (Baudrate 1'200 to 115'200) USB Type A and mini B, Bluetooth® Wireless	
Data formats	GSI / DXF / LandXML / CSV / user definable ASCII formats	



Electronic Guide Light		
Working Range (average atmospheric conditions)	5 m – 150 m	
Positioning accuracy	5 cm at 100 m	



General		
Telescope		
Magnification	30 x	
Resolving power	3"	
Field of view	1° 30' (1.66 gon) / 2.7 m at 100 m	
Focusing range	1.7 m to infinity	
Reticle	Illuminated, 5 brightness levels	
Keyboard and Display		
Display	Graphics, 160 x 280 pixels, illuminated, 5 brightness levels	
Keyboard	Alpha-numerical keyboard Second keyboard	
Operating System		
Windows CE	5.0 Core	
Laserplummet		
Type	Laser point, 5 brightness levels	
Centering accuracy	1.5 mm at 1.5 m Instrument height	
Battery		
Type	Lithium-Ion	
Operating time	approx. 20 hours ¹	
Weight		
Total station including GEB211 and tribrach	5.4 kg	
Environmental		
Temperature range (operation)	-20° C to +50° C (-4° F to +122° F) Arctic Version -35° C to 50° C (-31° F to +122° F)	optional
Dust & splash proof (IEC 60529)	IP55	
Humidity	95%, non condensing	



FlexField Onboard Software		
Application programs	Topography (Orientation & Surveying), Stake Out, Resection, Height Transfer, Construction, Area (Plan & Surface), DTM Volume calculation, Tie Distance (MLM), Remote Height, Hidden Point, Backsight Check, Offset, Reference Line, Reference Arc, Reference Plane, COGO, Road 2D, Roadworks 3D, TraversePRO	

¹ Single Measurement every 30 second by 25° C. Battery time may be shorter if battery is not new. Internal battery GEB 221.

² Range >500 m 4 mm+2 ppm

³ Atmospheric conditions: Day, night and twilight



**Total Quality Management –
our commitment to total
customer satisfaction.**

Guide light (EGL):
LED class 1 in accordance
with IEC 60825-1 resp.
EN 60825-1

Distance meter:
(PinPoint R400 / R1000):
Laser class 3R in accordance
with IEC 60825-1 resp.
EN 60825-1

Laser plummet:
Laser class 2 in accordance
with IEC 60825-1 resp.
EN 60825-1

Distance meter:
(Prism Mode)
Laser class 1 in accordance
with IEC 60825-1 resp.
EN 60825-1

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