

# 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*<sup>®</sup> wireless technology, Emitting 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<sup>®</sup>, USB, Keyboard**

- *Bluetooth*<sup>®</sup> cable-free connection
- USB memory stick for flexible data transfer
- 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

# Leica FlexLine TS09 Total Station – Performance guaranteed



Angle Measurement (Hz, V)		
Accuracy (Standard deviation ISO-17123-3)	1" (0.3 mgon), 2" (0.5 mgon), 3" (1 mgon)	optional
Method	Absolute, continuous, diametrical	
Display resolution	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)		
FlexPoint	30 m	optional optional
PinPoint – Power	>400 m	
PinPoint – Ultra	>1000 m	
Accuracy / Measurement time (Standard deviation ISO-17123-4)	2 mm+2 ppm <sup>2</sup> / 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 / user definable ASCII formats	



Emitting 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 <sup>1</sup>	
Weight		
Total station including GEB211 and tribrach	5.4 kg	
Environmental specifications		
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)	
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), Volume calculation, Tie Distance (MLM), Remote Height, Hidden Point, Offset, Reference Line, Reference Arc, Reference Plane, COGO, Road 2D, Roadworks 3D, TraversePRO	

<sup>1</sup> Single Measurement every 30 second by 25° C. Battery time may be shorter if battery is not new.

<sup>2</sup> Range >500 m 4 mm+2 ppm



**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

Illustrations, descriptions and technical data are not binding. All rights reserved. Printed in Switzerland –  
Copyright Leica Geosystems AG, Heerbrugg, Switzerland, 2008. 768727enUS – IX.08 – RDV

Leica Geosystems AG  
Heerbrugg, Switzerland  
[www.leica-geosystems.com](http://www.leica-geosystems.com)

- when it has to be **right**

