Leica Laser Tracker for Hand-Tools

Superior by Any Measure – LT(D)800

Leica Geosystems

Specifications

(All accuracy specifications are 2 Sigma values!)

	LT800	LTD800
Compatibility		
T-CAM700 for dynamic 6DOF tracking	No	No
T-CAM800 for dynamic 6DOF tracking	Yes, after ADM upgrade	Yes
T-Probe for wireless probing	Yes, after ADM upgrade	Yes
T-Scan for hand held scanning	Yes, after ADM upgrade	Yes
Tracking		
Maximal target speed		
· At right angles of the laser beam	> 4 m/s	
· In the direction of laser beam	> 6 m/s	
Max acceleration		
· At right angles of the laser beam	> 2 g	
· In the direction of laser beam	Unlimited	
Measurement volume		
· Horizontal	± 235°	
· Vertical	± 45°	
· Measurement range	0 – 40 m	
Measuring rate		
· Measurement rate	3'000 points/sec	
· Measurement rate output	1'000 points/sec	
Laser Interferometer		
Principle of operation	single beam heterodyne interferometer	
Safety class	21 CFR: Safety class II IEC / EN: class 2	
Maximal output power	< 0.3 mW/CW	
Wave length	633 nm (visible)	
Beam diameter	≈ 4.5 mm	
Beam divergence	no divergence (collimated)	
Distance resolution	1.26 micron	
Reproducibility of a coordinate	± 5 micron/m	
Absolute accuracy		
· Wave length stabilization	± 0.5 micron/m	
· Initial distance with bird bath	± 10 micron	
Angular Measurements		
Angular resolution	0.14 arc sec	
Repeatability		
· Near (0 – 2.5 m)	± 12 micron	
· Far (2.5 m to max distance)	± 5 micron/m	
Absolute accuracy		
· For non moving target (0 – 2.5 m)	± 25 micron	
· For non moving target (2.5 to max)	± 10 micron/m	
· For slow moving target	± 20 micron/m	
· For fast moving target	± 40 micron/m	
Absolute Distance Meter for Automation	Upgradeable	
Principle of operation		Light polarization modulation
Resolution		1 micron
Accuracy		± 25 micron
Measurement range		1.5 – 40 m
Safety class		21 CFR: class I IEC/EN class 1
Maximum output power		< 0.5 mW/2 sec
Wave length		780 nm (infrared)
Beam diameter		≈ 9 mm
Beam divergence		no divergence (collimated)
Ambient Conditions		
Working temperature (three ranges)	+0° to +40° C +32° to +104° F	
Storage Temperature	-10° to +60° +14° to +140° F	
Relative humidity	10 – 90%, (non condensing)	
Elevation for operation (air pressure)	0 – 5'000 m 0 – 16'500 ft	
Elevation for storage (air pressure)	0 – 12'000 m 0 – 40'000 ft	
Dimensions and Weight – Sensor		
Dimensions sensor	220 mm x 280 mm x 875 mm 8.7" x 11" x 31.5"	
Transit axis height	815 mm (32.1")	
Weight	32.6 kg 71.9 lb	34.1 kg 75.2 lb
Dimensions and Weight – Controller		
Dimensions controller	510 mm x 485 mm x 200 mm 20.0" x 19.1" x 7.9"	
Weight controller	17.0 kg (37.5 lb)	
Marks of comformity	CB-certified by SEV, CE,	

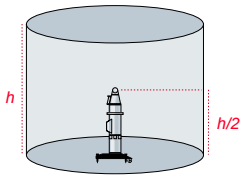
LT(D)800 is manufactured under the following US patents: Nr. 4714339 and Nr. 5530549.
Other US and international patents pending.

Making Metrology Mobile

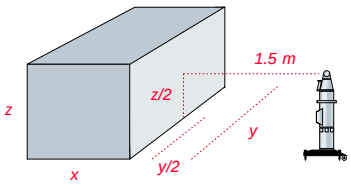
New Standards – More Applications

The Leica Laser Tracker LTD800 sets new standards in portable coordinate measurement. Based on proven technology used by operators in every major industry, we once again set new standards by introducing the LTD800, which will give you more features and advantages than any other tracker on the market. Add to this the LTD800's compatibility with an upcoming series of accessories enabling 6DOF tracking; armless, wireless probing; and handheld, non-contact 3D-scanning, and you can go beyond tracking tasks towards a complete PCMM solution, giving you a wider perspective – in all dimensions.

Combined measurement uncertainty for length according to ISO "Guide to the Expression of Uncertainty in Measurements" and NIST Technical Note 1297



r (m)	h (m)	Uc (mm)
2	2	± 0.055
5	5	± 0.085
10	10	± 0.156
20	20	± 0.297



x (m)	y (m)	z (m)	Uc (mm)
1	1	1	± 0.051
1	2	1	± 0.053
2	2	2	± 0.067
3	3	3	± 0.083
3	6	3	± 0.092
3	10	3	± 0.110

The Leica LTD800 sets new standards, giving you more features and advantages than any other tracker on the market.

Featuring...	*Giving you...*
· View finder for remote and automatic measurements	· Safer, more convenient and faster measurement processes
· Highly accurate and user-friendly leveling device	· Fast and precise measurement leveling
· Measurement range 0 – 40 m	· Largest measurement volume ever
· Fastest measurement cycle in the world: 3'000 pts per second	· Highest point density even when measuring fast moving objects
· Reliable automatic beam capture with absolute distance meter (ADM)	· Faster measurement processes
· 50% more accurate ADM	· Highest precision for your measuring processes
· Extended specifications for environmental conditions	· Use of the Leica Tracker under practically all conditions
· Laser Tracker browser control	· Intranet enabled tracker operations enabling 100% digital and remote processes
· Completely open and programmable client/server interface	· Seamless integration with your standard software or with automated processes
· Proven track record with over 1'000 Leica Tracker in the market	· Highest reliability on the market
· Compatible with the upcoming All-in-One Solution	· One large-volume PCMM enabling tracking; armless, wireless probing; and handheld, non-contact scanning
· Full automation features	· Completely automated inspection processes

Choose more functionalities...
Choose Leica

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