

Technical Specifications

Distance Measurement

Range using Geodimeter prism
571 125 021. Standard Clear

With one prism: _____ 2 000m (1.3miles)
With triple prism: _____ 2 900m (1.8miles)
With eight prisms: _____ 3 800m (2.4miles)

Shortest possible range: _____ 0.2m (0.7ft)

Distance Accuracy M.S.E

Arithmetic Mean Value (D-bar)
Within -5°C to +40°C: _____ $\pm(2\text{mm} + 2\text{ppm})$
 $\pm(0.007\text{ft} + 2\text{ppm})$
Within -20°C to + 50°C: _____ $\pm(3\text{mm} + 2\text{ppm})$
 $\pm(0.01\text{ft} + 2\text{ppm})$

Standard Measurement: _____ $\pm(3\text{mm} + 3\text{ppm})$
 $\pm(0.01\text{ft} + 3\text{ppm})$

Fast Tracking – max 4m (13ft)/sec: _____ $\pm(10\text{mm} + 3\text{ppm})$
 $\pm(0.03\text{ft} + 3\text{ppm})$

Distance reading (least count)

Standard Measurement: _____ 1mm (0.005ft)
Fast Tracking: _____ 10mm (0.01ft)
Arithmetic Mean Value: _____ 0.1mm (0.0005ft)

Measuring Time

Standard: _____ 3.5 seconds
Tracking: _____ 0.4 seconds

Light source: _____ Infrared GaAs diode

Beam divergence: _____ 1.5mrad (15cm/100m)
(5ft/0.6miles)

Atmospheric correction: _____ - 60 to 195 continuously

Angle Measurement

Angle Accuracy

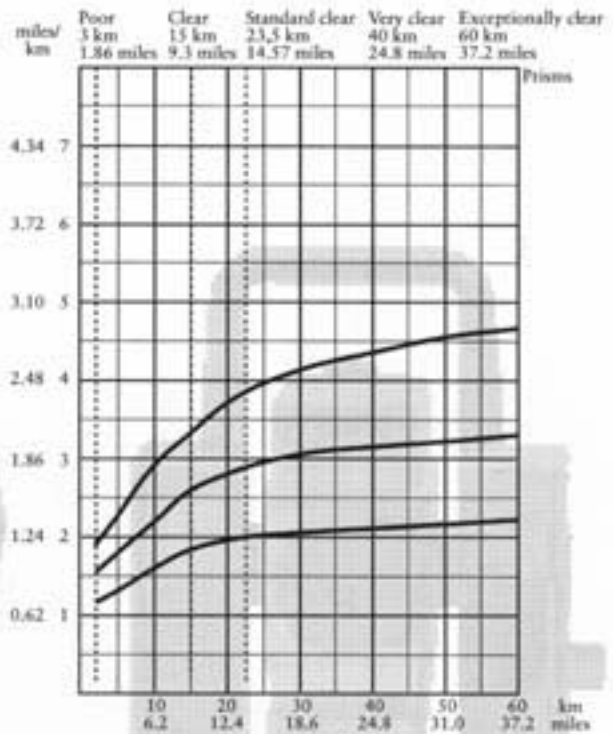
Standard Measurement/Arithmetic Mean Value (D-bar): _____ $0.3\text{mgon} = 3^{\text{cc}} (1^{\circ})$ Standard deviation based on DIN 18723.

Angle reading (least count)

Arithmetic Mean Value (D-bar): _____ $0.01\text{mgon} = 0.1^{\text{cc}} (0.1^{\circ})$ (horizontal angle)
Standard Measurement: _____ $0.1\text{mgon} = 1^{\text{cc}} (1^{\circ})$
Fast Tracking: _____ $0.5\text{mgon} = 5^{\text{cc}} (2^{\circ})$
Number of decimals can be specified by the user.

Automatic Level Compensator

Two-axis compensator with working range of: _____ $\pm 100\text{mgon} = 10^{\text{c}} (6')$



Maximum range with Geodimeter prism 571 125 021.
The range is also dependent on atmospheric conditions and background radiation.

Poor: Strong haze or very bright sunlight with severe heat shimmer.

Clear: Light haze or moderate sunlight with light heat shimmer.

Standard

clear: No haze, overcast or moderate sunlight with very light heat shimmer.

Very

clear: No haze, overcast with no heat shimmer or clear with no heat shimmer.

Geodimeter 540

General	Numerical	Alpha	Numerical/ Servo	Alpha/ Servo
Keyboard/Display: _____	20-keys numeric 4-row LCD, 16 charac./row illumination	33-keys Alpha- numeric 4-row LCD, 20 charac./row illumination	20-keys numeric 4-row LCD, 16 charac./row illumination	33-keys Alpha- numeric 4-row LCD, 20 charac./row illumination
Aiming: _____	Two-speed fine adjustment Slow-motion screws	Two-speed fine adjustment Slow-motion screws	Servo-driven Endless fine adjustment	Servo-driven Endless fine adjustment
Weight				
Instrument: _____	6.2 kg (13.7 lbs)	6.2 kg (13.7 lbs)	7.5 kg (16.5 lbs)	7.5 kg (16.5 lbs)
Tribrach: _____	0.9 kg (2 lbs)	0.9 kg (2 lbs)	0.9 kg (2 lbs)	0.9 kg (2 lbs)
Internal Battery: _____	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)	0.3 kg (0.66 lbs)
Levelling				
Circular level in tribrach: _____	8/2mm			
Electronic 2-axis level in the LC-display with a resolution of: _____	2mgon = 20 ^{cc} (6")			
Centering: _____	Optical plumb in tribrach			
Telescope: _____	Coaxial			
Magnification: _____	30X			
Focussing range: _____	1.3m to infinity			
Field of view: _____	2.6m at 100m			
Illuminated Crosshair: _____	Yes			
Operating Temperature: _____	-20°C to +50°C (-5°F to +122°F)			
Data Input/Output: _____	Geo I/O Two-way communication, RS-232C Two-way communication			
Batteries: _____	Internal rechargeable NiCd batteries 12V, 1Ah. External rechargeable NiCd batteries 12V, 2Ah, 6Ah			
Power Consumption: _____	0.3A - 0.5A <i>Depending on measurement mode and use of servo.</i>			
Number of measurements/Operating time	<u>Standard*</u>	<u>Tracking / D-bar**</u>	<i>*Based on one distance and angle meas. every 10 sec.</i>	
Internal Battery 1Ah: _____	900 points	2 hours		
External Battery 2Ah: _____	1800 points	4 hours	<i>**Based on continuous contact with the prism.</i>	
External Battery 6Ah: _____	5400 points	12 hours		
Tracklight (option): _____	Built in dual intensity lamp			
Software available as options: _____	UDS, View, Edit, Pcode, StnEst incl. free station, Z/IZ, SetOut, RoadLine, RefLine, DistOb, Area/Vol.Calc and future software			
Memory Devices (options): _____	Internal Memory 1 000, 5 000 or 10 000 points External Memory 3 000 points			