

GEODIMETER SYSTEM 400



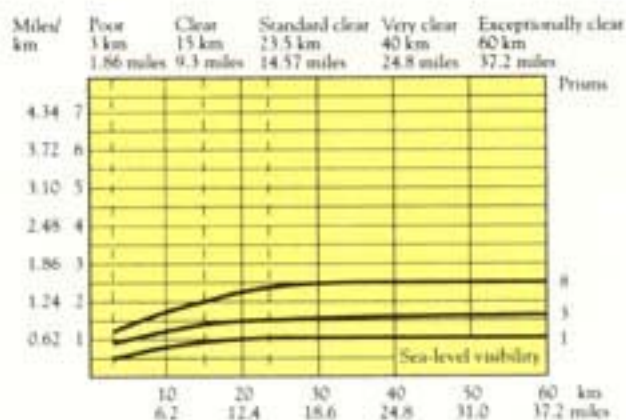
TECHNICAL SPECIFICATIONS

GEODIMETER® 408

DISTANCE MEASUREMENT

Range using Geodimeter Prism 571 125 021	Number of Prisms 1 3 8	Standard Clear 1 000 m (0.6 miles) 1 600 m (1.0 miles) 2 200 m (1.4 miles)
Shortest Possible Range	0.2m (0.7 ft)	
Distance Accuracy (M.S.E)	Standard Measurement: $\pm(5 \text{ mm} + 5 \text{ ppm})$ (0.02 ft + 5 ppm) Fast tracking - max 4 m/s (13 ft/s): $\pm(10 \text{ mm} + 5 \text{ ppm})$ (0.03 ft + 5 ppm) Arithmetic Mean Value (\bar{D}): $\pm(5 \text{ mm} + 3 \text{ ppm})$ (0.02 ft + 3 ppm)	
Distance Reading (least count)	Standard Measurement 1 mm (0.005 ft) Fast tracking 10 mm (0.01 ft) Arithmetic Mean Value (\bar{D}) 1 mm (0.005 ft)	
Measuring Time	Short Range 5 s Long Range 7 s Fast Tracking 0.4 s	
Light Source	Infrared GaAs diode	
Beam Divergence	2.5 mrad (25 cm/100m) (2.5 ft/1000 ft)	
Atmospheric Correction	-60 to 195 ppm continuously	

Range/Visibility



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.

ANGLE MEASUREMENT

Angle Accuracy (DIN 18723)	Standard Measurement/Tracking/ Arithmetic Mean Value (\bar{D}): 1.5 mgon = 15 ^{CC} (5°) Standard deviation based on DIN 18723	Angle Reading (least count)	Standard Measurement/Tracking: 0.5 mgon = 5 ^{CC} (2°) Arithmetic Mean Value (\bar{D}): 0.1 mgon = 1 ^{CC} (1°) Number of decimals can be specified by the user.
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GENERAL

Automatic Level Compensator	1-axis compensator with working range of $\pm 100 \text{ mgon} = 10^{\text{CC}}$ (6°)	Power Consumption	6W, 0.5 A
Levelling	Circular level on tribrach 10 ¹ / ₂ mm. Electronic 2-axis level in the LC-display with a resolution of 2 mgon = 20 ^{CC} (6°)	Battery	Internal rechargeable NiCd battery 12 V, 1 Ah. Operating time 2 h (when using 6W) External rechargeable NiCd batteries are available for up to 12 h operating time
Centering	Optical plumb on tribrach	Aiming	Two speed fine adjustment slow-motion screws
Telescope	Magnification 30X. Focussing range 1.3 m - ∞	Weight	7.9 kg (17.4 lbs) incl. internal battery and tribrach
Operating Temperature	-20°C to +50°C (-5°F to +122°F) -30°C (-22°F) on request		
Unicom Transmitter	100% modulation Range 1 000 m (0.6 miles)		
Tracklight (Optional)	Built in dual-intensity lamp		
Data Input/Output	Geo I/O Two-way communication RS-232C		

GEODIMETER® 412

DISTANCE MEASUREMENT

	Number of Prisms	Standard Clear
Range using Geodimeter Prism 571 125 021	1	1 600 m (1.0 miles)
	3	2 200 m (1.3 miles)
	8	3 100 m (1.9 miles)

Shortest Possible Range 0.2m (0.7 ft)

Distance Accuracy (M.S.E)
 Standard Measurement:
 $\pm(5 \text{ mm} + 5 \text{ ppm})$ (0.02 ft + 5 ppm)
 Fast tracking – max 4 m/s (13 ft/s):
 $\pm(10 \text{ mm} + 5 \text{ ppm})$ (0.03 ft + 5 ppm)
 Arithmetic Mean Value (\bar{D}):
 $\pm(5 \text{ mm} + 3 \text{ ppm})$ (0.02 ft + 3 ppm)

Distance Reading (least count)
 Standard Measurement 1 mm (0.005 ft)
 Fast tracking 10 mm (0.01 ft)
 Arithmetic Mean Value (\bar{D}) 1 mm (0.005 ft)

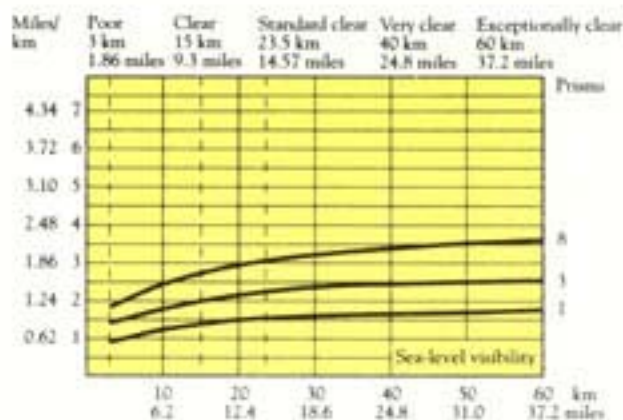
Measuring Time
 Short Range 5 s
 Long Range 7 s
 Fast Tracking 0.4 s

Light Source Infrared GaAs diode

Beam Divergence 2.5 mrad (25 cm/100m) (2.5 ft/1000 ft)

Atmospheric Correction -60 to 195 ppm continuously

Range/Visibility



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.

ANGLE MEASUREMENT

Angle Accuracy (DIN 18723)
 Standard Measurement/Tracking/
 Arithmetic Mean Value (\bar{D}):
 1.0 mgon = 10^{CC} (3°)
 Standard deviation based on DIN 18723

Angle Reading (least count)
 Standard Measurement/Tracking:
 0.5 mgon = 5^{CC} (2°)
 Arithmetic Mean Value (\bar{D}):
 0.1 mgon = 1^{CC} (1°)
 Number of decimals can be specified by the user

GENERAL

Automatic Level Compensator 2-axis compensator with working range of $\pm 100 \text{ mgon} = 10^{\text{C}}$ (6°)

Levelling Circular level on tribrach 10/2 mm. Electronic 2-axis level in the LC-display with a resolution of 2 mgon = 20^{CC} (6°)

Centering Optical plumb on tribrach

Telescope Magnification 30X. Focussing range 1.3 m – ∞

Operating Temperature -20°C to +50°C (-5°F to +122°F)
 -30°C (-22°F) on request

Unicom Transmitter 100% modulation
 Range 1 000 m (0.6 miles)

Tracklight (Optional) Built in dual-intensity lamp

Data Input/Output Geo I/O Two-way communication
 RS-232C

Power Consumption 6W, 0.5 A

Battery Internal rechargeable NiCd battery 12 V, 1 Ah. Operating time 2 h (when using 6W)
 External rechargeable NiCd batteries are available for up to 12 h operating time

Aiming Two speed fine adjustment slow-motion screws

Weight 7.9 kg (17.4 lbs) incl. internal battery and tribrach

Software Software available as options:
 UDS 400, View 400 and Edit 400

Memory Devices (options) Internal Memory 32k (900 points)
 External Memory 32k (1 500 points)

GEODIMETER® 422/422Lr

DISTANCE MEASUREMENT

	Number of Prisms	Standard Clear 422/422Lr
Range using Geodimeter Prism 571 125 021	1	2 300/3 300m (1.4/2.0 miles)
	3	3 200/4 500m (2.0/2.8 miles)
	8	4 300/6 000m (2.7/3.7 miles)
	16	7 000m (4.4 miles)

Shortest Possible Range 0.2m (0.7 ft)

Distance Accuracy (M.S.E) Standard Measurement:
 $\pm(5 \text{ mm} + 5 \text{ ppm})$ (0.02 ft + 5 ppm)
 Fast tracking – max 4 m/s (13 ft/s):
 $\pm(10 \text{ mm} + 5 \text{ ppm})$ (0.03 ft + 5 ppm)
 Arithmetic Mean Value (\bar{D}):
 $\pm(3 \text{ mm} + 3 \text{ ppm})$ (0.01 ft + 3 ppm)

Distance Reading (least count) Standard Measurement 1 mm (0.005 ft)
 Fast tracking 10 mm (0.01 ft)
 Arithmetic Mean Value (\bar{D}) 1 mm (0.005 ft)

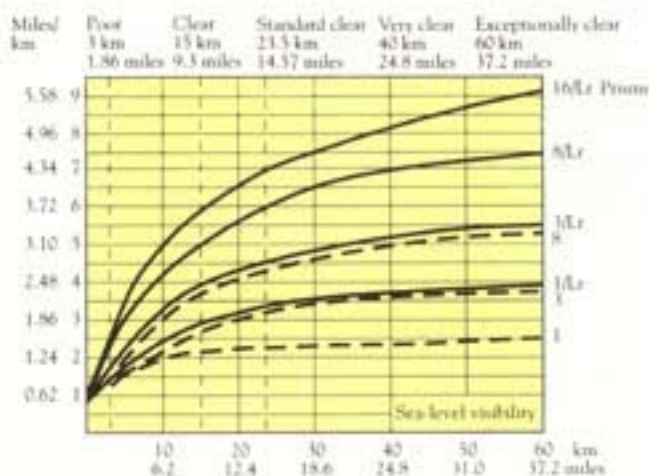
Measuring Time Short Range 5 s
 Long Range 7 s
 Fast Tracking 0.4 s

Light Source Infrared GaAs diode

Beam Divergence 2.5 mrad (25 cm/100m) (2.5 ft/1000 ft)

Atmospheric Correction -60 to 195 ppm continuously

Range/Visibility



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

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ANGLE MEASUREMENT

Angle Accuracy (DIN 18723) Standard Measurement/Tracking/
 Arithmetic Mean Value (\bar{D}):
 $0.6 \text{ mgon} = 6^{\text{CC}}(2^{\circ})$
 Standard deviation based on DIN 18723

Angle Reading (least count) Standard Measurement/Tracking:
 $0.5 \text{ mgon} = 5^{\text{CC}}(2^{\circ})$
 Arithmetic Mean Value (\bar{D}):
 $0.1 \text{ mgon} = 1^{\text{CC}}(1^{\circ})$
 Number of decimals can be specified by the user

GENERAL

Automatic Level Compensator 2-axis compensator with working range of $\pm 100 \text{ mgon} = 10^{\text{CC}}(6^{\circ})$

Levelling Circular level on tribrach $10/2 \text{ mm}$.
 Electronic 2-axis level in the LC-display with a resolution of $2 \text{ mgon} = 20^{\text{CC}}(6^{\circ})$

Centering Optical plumb on tribrach

Telescope Magnification 30X. Focussing range 1.3 m – ∞

Operating Temperature -20°C to $+50^{\circ}\text{C}$ (-5°F to $+122^{\circ}\text{F}$)
 -30°C (-22°F) on request

Unicom Transmitter 100% modulation
 Range 1 000 m (0.6 miles)

Tracklight (Optional) Built in dual-intensity lamp

Data Input/Output Geo I/O Two-way communication RS-232C

Power Consumption 6W, 0.5 A

Battery Internal rechargeable NiCd battery 12 V, 1 Ah. Operating time 2 h (when using 6W)
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Aiming Two speed fine adjustment slow-motion screws

Weight 7.9 kg (17.4 lbs) incl. internal battery and tribrach

Software Software available as options:
 UDS 400, View 400, Edit 400, Pcod 400, SetOut 400, FS/SerOut 400, DistOb 400, Roadline 400, IZ/Z 400, RefLine 400 and all future programs.

Memory Devices (options) Internal Memory 32k (900 points)
 External Memory 32k (1 500 points)