

Accuracy

Angle Measurement

Accuracy (Standard deviation based on DIN 18723)

Angle reading (least count) Number of decimals can be specified by the user

Arithmetic mean value (D-bar):

Standard measurement:
Fast tracking:

Automatic level compensator

Dual-axis compensator with a working range of:

Distance Measurement

Accuracy M.S.E.

Arithmetic mean value (D-bar):

Standard measurement (STD):
Fast standard (FSTD)

Fast tracking - max 4m/sec. (TRK):

Shortest possible range:

Least count

Arithmetic mean value (D-bar):

Standard measurement (STD):
Fast standard (FSTD):

Fast tracking (TRK):

Measuring time:

Arithmetic mean value (D-bar):

Standard measurement (STD):
Fast standard (FSTD):

Fast tracking (TRK):

Light source:

Beam divergence:

Atmospheric correction:

| | 7 | 1 | 2 | 3 | 4 |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| | 650S PRO | 640S PRO | 620S PRO | 610S PRO | 608S PRO |
| Accuracy (Standard deviation based on DIN 18723) | 0.3 mgon = 3" (1") | 0.3 mgon = 3" (1") | 0.5 mgon = 5" (2") | 1.0 mgon = 10" (3") | 1.5 mgon = 15" (5") |
| Angle reading (least count) Number of decimals can be specified by the user | | | | | |
| Arithmetic mean value (D-bar): | 0.01 mgon = 0.1" (0.1") | 0.01 mgon = 0.1" (0.1") | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") |
| Standard measurement: | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") | 0.1 mgon = 1" (1") |
| Fast tracking: | 0.5 mgon = 5" (2") | 0.5 mgon = 5" (2") | 0.5 mgon = 5" (2") | 0.5 mgon = 5" (2") | 0.5 mgon = 5" (2") |
| Automatic level compensator | | | | | |
| Dual-axis compensator with a working range of: | ±100 mgon = 10' (6') | ±100 mgon = 10' (6') | ±100 mgon = 10' (6') | ±100 mgon = 10' (6') | ±100 mgon = 10' (6') |
| Distance Measurement | | | | | |
| Accuracy M.S.E. | | | | | |
| Arithmetic mean value (D-bar): | ±(1 mm + 1 ppm) | ±(2 mm + 2 ppm) | ±(2 mm + 2 ppm) | ±(2 mm + 2 ppm) | ±(3 mm + 3 ppm) |
| Standard measurement (STD): | ±(2 mm + 2 ppm) | ±(3 mm + 2 ppm) | ±(3 mm + 2 ppm) | ±(3 mm + 2 ppm) | ±(5 mm + 3 ppm) |
| Fast standard (FSTD) | ±(4 mm + 2 ppm) | ±(8 mm + 2 ppm) | ±(8 mm + 2 ppm) | ±(8 mm + 2 ppm) | ±(8 mm + 3 ppm) |
| Fast tracking - max 4m/sec. (TRK): | ±(6 mm + 2 ppm) | ±(10 mm + 2 ppm) | ±(10 mm + 2 ppm) | ±(10 mm + 2 ppm) | ±(10 mm + 3 ppm) |
| Shortest possible range: | 0.2 m | 0.2 m | 0.2 m | 0.2 m | 0.2 m |
| Least count | | | | | |
| Arithmetic mean value (D-bar): | 0.1 mm | 0.1 mm | 1 mm | 1 mm | 1 mm |
| Standard measurement (STD): | 1 mm | 1 mm | 1 mm | 1 mm | 1 mm |
| Fast standard (FSTD): | 1 mm | 1 mm | 1 mm | 1 mm | 10 mm |
| Fast tracking (TRK): | 10 mm | 10 mm | 10 mm | 10 mm | |
| Measuring time: | | | | | |
| Arithmetic mean value (D-bar): | Users decision | Users decision | Users decision | Users decision | Users decision |
| Standard measurement (STD): | 3.5 sec. | 3.5 sec. | 3.5 sec. | 3.5 sec. | 3.5 sec. |
| Fast standard (FSTD): | 1.3 sec. | 1.3 sec. | 1.3 sec. | 1.3 sec. | 1.3 sec. |
| Fast tracking (TRK): | 0.4 sec. | 0.4 sec. | 0.4 sec. | 0.4 sec. | 0.4 sec. |
| Light source: | Infrared GaAs diode | Infrared GaAs diode | Infrared GaAs diode | Infrared GaAs diode | Infrared GaAs diode |
| Beam divergence: | 1.6 mrad (16 cm/100 m) | 1.6 mrad (16 cm/100 m) | 1.6 mrad (16 cm/100 m) | 1.6 mrad (16 cm/100 m) | 1.6 mrad (16 cm/100 m) |
| Atmospheric correction: | -60 till 195 ppm continuously | -60 till 195 ppm continuously | -60 till 195 ppm continuously | -60 till 195 ppm continuously | -60 till 195 ppm continuously |

Range

Range using Geodimeter prism 571 125 021. Standard clear*

With one prism:

1 prism long range mode:

With triple prism:

| | 1 | 2 | 3 | 4 | 5 |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Module 1 | Module 2 | Module 3 | Module 4 | Module 5 |
| Range using Geodimeter prism 571 125 021. Standard clear* | | | | | |
| With one prism: | 2500 m (1.6 miles) | 2000 m (1.2 miles) | 1500 m (0.9 miles) | 1800 m (1.1 miles) | 1200 m (0.7 miles) |
| 1 prism long range mode: | 3500 m (2.2 miles) | 2800 m (1.7 miles) | | | |
| With triple prism: | 3500 m (2.2 miles) | 2800 m (1.7 miles) | 2100 m (1.3 miles) | 2500 m | 1800 m |