

## SPECIFICATION SHEET

### PERFORMANCE SPECIFICATIONS

#### Measurements

##### Angle measurement

Accuracy (Standard deviation based on DIN 18723)

1.5° model	1.5" (0.5 mgons)
3° model	3" (1.0 mgons)
5° model	5" (1.5 mgons)

##### Angle reading – Horizontal & vertical (least count)

Standard measurement	1" (0.1 mgon)
Tracking	2" (0.5 mgon)

##### Automatic level compensator

Dual-axis compensator (working range) ..... ±6" (±100 mgon)

##### Distance measurement

##### Accuracy (standard deviation)

<b>Prism</b>	
Standard measurement	±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
Tracking	±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
<b>Reflective foil</b>	
Standard measurement	±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
Tracking	±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
<b>Reflectorless mode 5–200 m (16.4 ft–656 ft)</b>	
Standard measurement	±(3 mm + 3 ppm) ±(0.01 ft + 3 ppm)
Tracking	±(10 mm + 3 ppm) ±(0.032 ft + 3 ppm)
>200 m (656 ft)	±(5 mm + 3 ppm) ±(0.016 ft + 3 ppm)

##### Shortest possible range

To prism	2 m (6.56 ft)
Reflectorless	2 m (6.56 ft)
Reflective foil	2 m (6.56 ft)

##### Measuring time

##### Prism mode

Standard measurement vs. Tracking	3 s vs. 0.4 s
<b>Reflectorless mode</b>	
Standard measurement vs. Tracking	3–7 s vs. 0.4 s

##### Range using prism\*

1 prism	2,500 m (8,200 ft)
1 prism Long Range	5,500 m (18,040 ft) (max. range)
3 prisms	3,500 m (11,480 ft)
3 prisms Long Range	5,500 m (18,040 ft) (max. range)

##### Range using reflective foil\*

Reflective foil 20 mm	180 m (590 ft)
Reflective foil 20 mm Long Range	800 m (2,624 ft)
Reflective foil 60 mm	360 m (1,181 ft)
Reflective foil 60 mm Long Range	1,600 m (5,248 ft)

##### Range Reflectorless measurement (typically)\*

Kodak Gray Card (18% reflective)**	>200 m (656 ft)
Kodak Gray Card (90% reflective)**	>600 m (1,968 ft)
Concrete	200–300 m (656–984 ft)
Wood construction	150–300 m (492–984 ft)
Metal construction	150–200 m (492–656 ft)
Light rock	150–250 m (492–820 ft)
Dark rock	100–150 m (328–492 ft)

\* Standard clear. No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions and background radiation.  
 \*\* Kodak Gray Card, Catalog number E1527795.  
 \*\*\* Dependent on selected search window.

Specifications and descriptions are subject to change without prior notice.

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### GENERAL SPECIFICATIONS

Light source ..... Pulsed laser diode 870 nm, Laser class 1

#### Beam divergence

Horizontal	0.4 mrad (4 cm/100 m) (0.13 ft/328 ft)
Vertical	0.8 mrad (8 cm/100 m) (0.26 ft/328 ft)

Atmospheric correction ..... –60 to 195 ppm continuously

#### Leveling

Circular level in tribrach	8/2 mm (8"/0.007 ft)
Electronic 2-axis level in the LC-display with a resolution of	6" (2 mgon)

Clamps and slow motions ..... Servo-drive. Endless fine adjustment

#### Centering

Centering system	3-pin
Optical plummet	Optical plummet in tribrach

Magnification ..... 2.4x

Focusing range ..... 0.5 m (1.6 ft) to infinity

#### Telescope

Magnification	26x
Trunnion axis height	205 mm (8.1 in)
Aperture	40 mm (1.57 in)

Field of view at 100 m (328 ft) ..... 2.6 m (8.5 ft)

Focusing range ..... 1.7 m (5.58 ft) to infinity

Illuminated crosshair ..... Variable (15 steps)

Operating temperature ..... –20 °C to +50 °C (–4 °F to +122 °F)

#### Power Supply

Internal battery ..... Rechargeable NiMH battery 12 V, 1.8 Ah  
 Operating time approx. 3 hours (Servo only)

External battery ..... External rechargeable NiMH batteries 12 V, 3.8–11.4 Ah  
 Operating time approx. 11 hours Autolock, 9 hours Robotic (11.4 Ah)

#### Weight

Instrument with Focus CU	6.4 kg (14.1 lb)
Instrument for Robotic Surveying	7.5 kg (16.5 lb)
Tribrach	0.7 kg (1.5 lb)
Internal battery	0.4 kg (0.9 lb)

### AUTOLOCK AND ROBOTIC SURVEYING

#### Range

Robotic*	Up to 1,200 m (3,937 ft) depending on type of RMT
Autolock*	Up to 2,200 m (7,218 ft) depending on type of RMT

Tracker pointing precision at 200 m (656 ft) (standard deviation) ..... <2 mm (0.007 ft)

#### Angle reading (least count)

Standard measurement	1" (0.1 mgon)
Tracking	2" (0.5 mgon)

Search time (typical)\*\*\* ..... 2–10 s

Search area ..... 360 degrees (400 gon)  
 or defined horizontal & vertical search window

### NOTICE TO OUR EUROPEAN UNION CUSTOMERS

For product recycling instructions and more information, please go to  
[www.spectraprecision.com/ev.shtml](http://www.spectraprecision.com/ev.shtml).

#### Recycling in Europe:

To recycle Spectra Precision WEEE (Waste Electrical and Electronic Equipment products that run on electrical power), call +31 497 53 24 30, and ask for the "WEEE Associate". Or, mail a request for recycling instructions to: Spectra Precision, c/o Menlo Worldwide Logistics, Meerheide 45, 5521 DZ Eersel, NL.



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