

## PERFORMANCE

### Angle measurement

- Sensor type: Absolute encoder with diametrical reading
- Accuracy: 1" (0.3 mgon)  
2" (0.6 mgon), 3" (0.9 mgon), or 5" (1.5 mgon)
- Angle Display (least count): 0.1" (0.01 mgon)
- Automatic level compensator
  - Type: Centered dual-axis
  - Accuracy: 0.5" (0.15 mgon)
  - Range: ± 5.4' (±100 mgon)

### Distance measurement

- Accuracy (ISO)
  - Prism mode
    - Standard mode<sup>2</sup>: 1 mm + 2 ppm (0.003 ft + 2 ppm)
- Accuracy (RMSE)
  - Prism mode
    - Standard mode: 2 mm + 2 ppm (0.0065 ft + 2 ppm)
    - Tracking mode: 4 mm + 2 ppm (0.013 ft + 2 ppm)
  - DR mode
    - Standard mode: 2 mm + 2 ppm (0.0065 ft + 2 ppm)
    - Tracking mode: 4 mm + 2 ppm (0.013 ft + 2 ppm)
    - Extended Range: 10 mm + 2 ppm (0.033 ft + 2 ppm)

### Measuring time

- Prism mode
  - Standard mode: 1.2 sec
  - Tracking mode: 0.4 sec
- DR mode
  - Standard mode: 1-5 sec
  - Tracking mode: 0.4 sec

### Measurement Range

- Prism mode (under standard clear conditions<sup>5,4</sup>)
  - 1 prism: 2500 m (8202 ft)
  - 1 prism Long Range mode: 5500 m (18,044 ft) (max. range)
  - Shortest range: 0.2 m (0.65 ft)
- DR mode

	Good <sup>6</sup>	Normal <sup>7</sup>	Difficult <sup>8</sup>
White card (90% reflective) <sup>5</sup>	1,300 m (4,265 ft)	1,300 m (4,265 ft)	1,200 m (3,937 ft)
Gray card (18% reflective) <sup>5</sup>	600 m (1,969 ft)	600 m (1,969 ft)	550 m (1,804 ft)

- Reflective foil 60 x 60 mm. 1200 m (3937 ft)
- Shortest range: 1 m (3.28 ft)
- DR Extended Range Mode
  - White Card (90% reflective)<sup>5</sup>: 2200 m (7218 ft)

## EDM SPECIFICATIONS

- Light source: Pulsed laser diode 905 nm
- Beam divergence
  - Horizontal: 4 cm/100 m (0.13 ft/328 ft)
  - Vertical: 8 cm/100 m (0.26 ft/328 ft)

## SYSTEM SPECIFICATIONS

### Laser class

- EDM: Laser class 1
- Laser pointer coaxial (standard): Laser class 2
- Overall product laser class: Laser class 2

### Leveling

- Circular level in tribrach: 8/2 mm (8/0.007 ft)
- Electronic 2-axis level in the LC-display with a resolution of 0.3" (0.1 mgon)

### Servo system

- MagDrive™ servo technology, integrated servo/angle sensor electromagnetic direct drive
  - Rotation speed: 90 degrees/sec (100 gon/sec)
  - Rotation time Face 1 to Face 2: 3.2 sec
  - Positioning time 180 degrees (200 gon): 3.7 sec
  - Clamps and slow motions: Servo-driven, endless fine adjustment

### Centering

- Optical plummet: Built-in optical plummet
- Optical plummet magnification: 2.3×
- Shortest focusing distance: 0.5 m-infinity (1.6 ft-infinity)

### Telescope

- Magnification: 30×
- Aperture: 40 mm (1.57 in)
- Field of view at 100 m (328 ft): 2.6 m at 100 m (8.5 ft at 328 ft)
- Shortest focusing distance: 1.5 m (4.92 ft)-infinity
- Illuminated crosshair: Variable (10 steps)

### Power supply

- Rechargeable Li-Ion battery: 10.8 V, 6.5 Ah
- Operating time<sup>9</sup>
  - One internal battery: up to 7.5 hours
  - Three batteries in multi-battery adapter and one internal: up to 30 hours

### Weight and Dimensions

- Instrument (Autolock™): 5.4 kg (11.35 lb)
- Instrument (Short Range Robotic): 5.4 kg (11.35 lb)
- Instrument (Long Range Robotic): 5.5 kg (11.57 lb)
- Tribrach: 0.7 kg (1.54 lb)
- Internal battery: 0.35 kg (0.77 lb)
- Trunnion axis height: 196 mm (7.71 in)

### Communication

- Autolock™ Model: USB
- Short Range Robotic Model: USB, Long Range Bluetooth<sup>®10</sup>
- Long Range Robotic Model: USB, Short Range Bluetooth<sup>®10</sup>, Long Range Radio (internal/external 2.4 GHz frequency-hopping, spread spectrum)

### Other

- Operating temperature: -20 °C to +50 °C (-4 °F to +122 °F)
- Storage temperature: -40 °C to +70 °C (-40 °F to +158 °F)
- Tracklight: Standard in all models
- Dust and water proofing: IP65
- Humidity: 100% Condensing
- Security: Dual-layer password protection

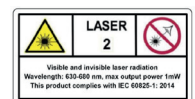
## AUTOLOCK™ TRACKING TECHNOLOGY

- Autolock™ prism-tracking technology: Standard on all models
- Range<sup>4</sup>: 700 m (2,297 ft)
- Pointing precision at 200 m (656 ft) (Standard deviation)<sup>3</sup>: <2 mm (0.007 ft)
- Shortest search distance: 0.2 m (0.65 ft)
- Search time (typical)<sup>11</sup>: 2-10 sec

## GPS SEARCH/GEOLock

- Solution acquisition time<sup>12</sup>: 15-30 sec
- Target re-acquisition time: <3 sec

1. Standard deviation according to ISO17123-3.
2. Standard deviation according to ISO17123-4.
3. Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.
4. Range and accuracy depend on atmospheric conditions, size of prisms and background radiation.
5. Kodak Gray Card, Catalog number E1527795.
6. Good conditions (good visibility, overcast, twilight, underground, low ambient light)
7. Normal conditions (normal visibility, object in the shadow, moderate ambient light).
8. Difficult conditions (haze, object in direct sunlight, high ambient light).
9. The capacity in -20 °C (-5 °F) is 75% of the capacity at +20 °C (68 °F).
10. Bluetooth type approvals are country specific. Contact your local Spectra Geospatial Authorized Distribution Partner for more information.
11. Dependent on selected size of search window.
12. Solution acquisition time is dependent upon solution geometry and GPS position quality.



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Please visit [spectrageospatial.com](http://spectrageospatial.com) for the latest product information and to locate your nearest distributor. Specifications and descriptions are subject to change without notice.