

SPECTRA PRECISION®

FOCUS® 30 TOTAL STATION

SPECSHEET

PERFORMANCE

Angle measurement

Accuracy (Standard deviation based on ISO 17123-3) 2" (0.6 mgon), 3" (1.0 mgon), or 5" (1.5 mgon)
 Angle reading (least count)
 Standard 1" (0.1 mgon)
 Tracking 2" (0.5 mgon)

Distance measurement¹

Accuracy to Prisms (Standard deviation based on ISO 17123-4)
 Standard 2 mm + 2 ppm (0.007 ft + 2 ppm)
 Tracking 5 mm + 2 ppm (0.016 ft + 2 ppm)
 Accuracy Reflectorless Mode
 Standard < 300 m (984 ft) 3mm + 2 ppm (0.01 ft + 2 ppm)
 Standard > 300 m (984 ft) 5mm + 2 ppm (0.016 ft + 2 ppm)
 Tracking 10mm + 2 ppm (0.033 ft + 2 ppm)

Measuring time

Prism Standard 2.4 sec.
 Prism Tracking 0.5 sec.
 Reflectorless Standard 3–15 sec.
 Reflectorless Tracking 0.7 sec.

Range Prism Mode

1 prism 4000 m (13,123 ft)
 3 prisms 7000 m (22,966 ft)
 Foil Reflector 60 mm 300 m (984 ft)

Range Reflectorless Mode

	Good ⁴	Normal ⁵	Difficult ⁶
KGC (18%)	400m (1,310 ft)	350m (1,150 ft)	300m (980 ft)
KGC (90%)	800m (2,620 ft)	600m (1,970 ft)	400m (1,310 ft)
Foil Reflector 60 mm	1000 m (3,280 ft)	1000 m (3,280 ft)	800 m (2,620 ft)

Shortest possible range 1.5 m (4.9 ft)

Automatic level compensator

Type dual-axis
 Accuracy 0.5" (0.15 mgon)
 Working Range ±6' (±111 mgon)

EDM SPECIFICATIONS

EDM Laser and Principle

Light source Laser Diode 660 nm
 Principle Phase Shift

EDM Beam divergence

Horizontal 4 cm/100 m (0.13 ft/328 ft)
 Vertical 3 cm/100 m (0.10 ft/328 ft)
 Atmospheric Correction -150 ppm to 160 ppm continuously

GENERAL SPECIFICATIONS

Coarse Leveling

Electronic coarse leveling range ±3° (±3.3 gon)
 Circular level in tribrach 8'/2 mm (8'/0.007 ft)

Drives

Drive system Spectra Precision StepDrive™ system
 Rotation time maximum 90°/sec (100 gon/sec)
 Rotation time Face 1 to Face 2 3.7 sec.
 Positioning time 180° (200 gon) 3.5 sec.
 Clamps and slow motions StepDrive driven, endless fine adjustment

1 Standard clear: No haze, overcast or moderate sunlight with very light heat shimmer. Range and accuracy are dependent on atmospheric conditions, size of prism and background radiation.

2 Kodak Gray Card, Catalog number E1527795.

3 Spectra Precision GeoLock is available on data collectors after station setup.

4 Good conditions (good visibility, overcast, twilight, underground, low ambient light)

5 Normal conditions (normal visibility, object in the shadow, moderate ambient light).

6 Difficult conditions (haze, object in direct sunlight, high ambient light).

Specifications are subject to change without prior notice.

SPECTRA PRECISION

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Centering

Centering system 3-pin
 Plummet Built-in optical plummet
 Magnification 2.4 x
 Focusing distance 0.5 m to ∞ (1.6 ft to ∞)

Telescope

Magnification 31x
 Aperture 50 mm (1.96 in)
 Field of view 1°30'
 Focusing distance 1.5 m to ∞ (4.9 ft to ∞)
 Illuminated crosshair Standard
 Tracklight built in Standard
 Trunnion axis height 196 mm (7.71 in)

Environmental

Operating temperature -20 °C to +50 °C (-4 °F to +122 °F)
 Dust and water proofing IP55

Power supply

Internal battery Li-Ion, 11.1 V/4.4 Ah
 Operating time with one internal battery Approx. 6 hours

Communications

External foot connector USB cable connection and external power supply
 Wireless communication Bluetooth®

Weight

Instrument 5.0 kg (12.1 lb)
 Tribraich 0.7 kg (1.54 lb)
 Internal battery 0.3 kg (0.66 lb)

ROBOTIC SURVEYING

Robotic Operation¹

Maximum Robotic Range 300 m to 800 m (984 ft to 2,625 ft)
 Point precision at 200 m (656 ft) <2 mm (0.007 ft)
 Maximum Search Distance 300 m to 800 m (984 ft to 2,625 ft)
 Search Time (typical) 2–10 sec.

Communications

internal/external 2.4 GHz, frequency hopping, spread spectrum

GPS Search GeoLock³

GPS Search GeoLock™ 360° (400 gon)
 Range Full robotic operation range

DATA COLLECTION

Control Units fixed on alidade

Face 1
 Display 3.5" TFT color touch screen, 320x240 Pixel, backlight
 Keyboard Alphanumeric keypad
 Memory (data storage) 128 MB RAM, 128 MB Flash
 Field Application Software Spectra Precision Survey Pro
 Face 2
 Display6 lines, monochrome, 96x49 Pixel, backlight
 Keyboard 4 keys
 Instrument Software Functions Change Face, Radio and Instrument Settings, Measurement Value Display, Leveling

CERTIFICATION

Class B Part 15 FCC certification, CE Mark approval. C-Tick.

Laser safety IEC 60825-1 am2:2007

Prism Mode: Class 1

Reflectorless/Laser Pointer: Class 3R laser

Bluetooth type approvals are country specific.

