

# 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 measurement<sup>1</sup>

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 <sup>4</sup>	Normal <sup>5</sup>	Difficult <sup>6</sup>
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

<sup>1</sup> 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.

<sup>2</sup> Kodak Gray Card, Catalog number E1527795.

<sup>3</sup> Spectra Precision GeoLock is available on data collectors after station setup.

<sup>4</sup> Good conditions (good visibility, overcast, twilight, underground, low ambient light)

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

<sup>6</sup> Difficult conditions (haze, object in direct sunlight, high ambient light).

Specifications are subject to change without prior notice.

#### SPECTRA PRECISION

10355 Westmoor Drive, Suite #100  
 Westminster, CO 80021  
 USA  
 +1-720-587-4700 Phone  
 888-477-7516 (Toll Free in USA)  
 www.spectraprecision.com

www.spectraprecision.com  
 sales@spectraprecision.com  
 support@spectraprecision.com

### 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 (11.0 lb)  
 Tribraich . . . . . 0.7 kg (1.54 lb)  
 Internal battery . . . . . 0.3 kg (0.66 lb)

### ROBOTIC SURVEYING

#### Robotic Operation<sup>1</sup>

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 GeoLock<sup>3</sup>

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  
 Display . . . . . .6 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.

