

# SPECTRA PRECISION®

## FOCUS® 6 TOTAL STATION

## SPECSHEET

### DISTANCE MEASUREMENT

Range with specified prisms (Good conditions<sup>1</sup>)

With reflector sheet 5 cm x 5 cm (2 in x 2 in)			
2" . . . . .	1.5 m to 270 m (4.9 ft to 886 ft)		
5" . . . . .	1.5 m to 300 m (4.9 ft to 984 ft)		
With single prism 6.25 cm (2.5 in)			
2" . . . . .	1.5m to 3,000 m (4.9 ft to 9,843 ft)		
5" . . . . .	1.5 m to 5,000 m (4.9 ft to 16,404 ft)		
Reflectorless mode <sup>2</sup>			
2" . . . . .	Good <sup>1</sup>	Normal <sup>4</sup>	Difficult <sup>5</sup>
KGC <sup>3</sup> (18%)	350 m (1,148 ft)	250 m (820 ft)	200 m (656 ft)
KGC (90%)	500 m (1,640 ft)	400 m (1,312 ft)	250 m (820 ft)
5" . . . . .	Good	Normal	Difficult
KGC (18%)	250 m (820 ft)	200 m (656 ft)	150 m (492 ft)
KGC (90%)	400 m (1,312 ft)	300 m (984 ft)	250 m (820 ft)
Shortest possible range . . . . .	1.5m (4.9 ft)		
Accuracy <sup>6</sup> (Precise mode)	Prism	Reflectorless	
2" . . . . .	±(2+2 ppm x D) mm	±(3+2 ppm x D) mm	
5" . . . . .	±(3+2 ppm x D) mm	±(3+2 ppm x D) mm	
Measuring interval <sup>7</sup>			
Prism mode	Precise mode	Normal mode	
2" . . . . .	1.6 sec.	0.8 sec.	
5" . . . . .	1.5 sec.	0.8 sec.	
Reflectorless mode			
2" . . . . .	2.1 sec.	1.2 sec.	
5" <sup>8</sup> . . . . .	1.8 sec.	1.0 sec.	
Least count	1 mm (0.002 ft)	10 mm (0.02 ft)	

### ANGLE MEASUREMENT

DIN 18723 accuracy (horizontal and vertical) . . . . .	2" / 0.6 mgon
	5" / 1.5 mgon
Reading system . . . . .	Absolute encoder
Circle diameter . . . . .	.62 mm (2.4 in)
Horizontal/Vertical angle . . . . .	Diametrical 2"
	Single 5"
Minimum increment (Degree, Gon, MIL6400) . . . . .	Degree: 1/5/10"
	Gon: 0.2/1/2 mgon
	MIL6400: 0.005/0.02/0.05 mil

### TELESCOPE

Tube length . . . . .	125 mm (4.9 in)
Image . . . . .	Erect
Magnification . . . . .	30x (18x/36x with optional eyepieces)
2" Effective diameter of objective . . . . .	.40 mm (1.6 in)
2" EDM diameter . . . . .	.45 mm (1.8 in)
5" Effective diameter of objective . . . . .	.45 mm (1.8 in)
5" EDM diameter . . . . .	.50 mm (2.0 in)
Field of view . . . . .	1°20'
Resolving power . . . . .	3"
Minimum focusing distance . . . . .	1.5 m (4.9 ft)
Laser Pointer . . . . .	Coaxial Red Light

### TILT SENSOR

Type . . . . .	Dual-axis
Method . . . . .	Liquid-electric detection
Compensation range . . . . .	±3.5'

1 Good conditions (good visibility, overcast, twilight, underground, low ambient light).  
 2 Measuring distance may vary depending on targets and measuring conditions.  
 3 Kodak Gray Card, Catalog number E1527795.  
 4 Normal conditions (normal visibility, object in the shadow, moderate ambient light).  
 5 Difficult conditions (haze, object in direct sunlight, high ambient light).  
 6 ±(3+3 ppm x D) mm -20 °C to -10 °C, +40 °C to +50 °C [-4 °F to +14 °F, +104 °F to +122 °F].  
 7 Measuring time may vary depending on measuring distance and conditions. For the initial measurement, it may take a few more seconds.  
 8 Measuring to KGC 90% at 20 m (65 ft).  
 9 Battery life specification at 25 °C (77 °F). Operation time may be shorter in low temperatures or if the battery is not new.

Specifications subject to change without notice.

### COMMUNICATIONS

Communication ports . . . . .	1 x serial (RS-232C)
Wireless communications . . . . .	integrated Bluetooth

### POWER

Internal Li-ion battery (x2)	
Output voltage . . . . .	3.8 V DC
Operating time <sup>9</sup>	
2" . . . . .	approx. 19 hours (continuous distance/angle measurement) approx. 57 hours (distance/angle measurement every 30 seconds) approx. 62 hours (continuous angle measurement)
5" . . . . .	approx. 10 hours (continuous distance/angle measurement) approx. 26 hours (distance/angle measurement every 30 seconds) approx. 31 hours (continuous angle measurement)

Charging time	
Full charge . . . . .	4 hours

### GENERAL SPECIFICATIONS

Level vials	
Sensitivity of Circular level vial . . . . .	10'/2 mm
Optical plummet	
Image . . . . .	Erect
Magnification . . . . .	3x
Field of view . . . . .	5°
Focusing range . . . . .	0.5 m (1.6 ft) to ∞
Display . . . . .	Single side, backlit, graphic LCD (128x64 pixel)
Display face 2 (2" only) . . . . .	backlit, graphic LCD (128x64 pixel)
Laser plummet(optional) . . . . .	4 levels
Point memory . . . . .	10,000 records
Dimensions (W x D x H) . . . . .	149 mm x 145 mm x 306 mm (5.8 in x 5.7 in x 12.0 in)
Weight (approx.)	
2" Main unit (without battery) . . . . .	3.8 kg (8.4 lb)
5" Main unit (without battery) . . . . .	3.6 kg (8.0 lb)
Battery . . . . .	0.1 kg (0.2 lb)
Carrying case . . . . .	2.3 kg (5.1 lb)

### ENVIRONMENTAL

Operating temperature range . . . . .	-20 °C to +50 °C (-4 °F to +122 °F)
FOCUS 6W . . . . .	-30 °C to +50 °C (-22 °F to +122 °F)
Storage temperature range . . . . .	-25 °C to +60 °C (-13 °F to +140 °F)
FOCUS 6W . . . . .	-30 °C to +60 °C (-22 °F to +140 °F)
Atmospheric correction	
Temperature range . . . . .	-40 °C to +60 °C (-40 °F to +140 °F)
Barometric pressure . . . . .	.400 mmHg to 999 mmHg/533 hPa to 1,332 hPa/15.8 inHg to 39.3 inHg
Dust and water protection . . . . .	IP66

### CERTIFICATION

Class B Part 15 FCC certification, CE Mark approval. C-Tick.  
 Laser safety IEC 60825-1 am2:2007  
 2" Reflectorless / Laser Pointer: Class 3R laser  
 2" Prism mode: Class 1 laser  
 5" Reflectorless / Prism mode: Class 1 laser  
 5" Laser Pointer: Class 2 laser  
 Laser Plummet (optional): Class 2 laser  
 Bluetooth type approvals are country specific.



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