

# FOCUS<sup>®</sup> 8 Total Station

## 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>

	Good <sup>1</sup>	Normal <sup>4</sup>	Difficult <sup>5</sup>
2"			
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%)	280 m (920 ft)	200 m (656 ft)	
KGC (90%)	500 m (1,640 ft)	500 m (1,640 ft)	300 m (984 ft)

Shortest possible range ..... 1.5m (4.9 ft)

Accuracy<sup>6</sup> (Precise mode) ISO 17123-4

Prism ..... ±(2+2 ppm x D) mm

Reflectorless ..... ±(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	Precise mode	Normal 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

Minimum increment

(Degree, Gon) ..... Degree: 1/5/10"  
Gon: 0.2/1/2 mgon

## 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'

## COMMUNICATIONS

Communication ports ..... 1 x serial (RS-232C),  
2 x USB (host and client)

Wireless communications ..... integrated Bluetooth

## POWER

Internal Li-ion battery (x2)

Output voltage ..... 3.8 V DC

Operating time<sup>9</sup>

2" ..... approx. 12 hours

(continuous distance/angle measurement)

approx. 26 hours

(distance/angle measurement every 30 seconds)

approx. 28 hours

(continuous angle measurement)

5" ..... approx. 7.5 hours

(continuous distance/angle measurement)

approx. 16 hours

(distance/angle measurement every 30 seconds)

approx. 20 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 face 1 ..... QVGA, 16 bit color,  
TFT LCD, backlit (320x240 pixel)

Display face 2 ..... Backlit, graphic LCD (128x64 pixel)

Laser plummet (optional) ..... 4 levels

Point memory ..... 128 MB RAM, 128 MB Flash memory

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) ..... 3.9 kg (8.6 lb)

5" Main unit (without battery) ..... 3.8 kg (8.4 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)

Storage temperature range ..... -25 °C to +60 °C  
(-13 °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 IEC60825-1 Ed. 2.0 : 2007

2" Reflectorless / Laser Pointer: Class 3R laser

5" Reflectorless : Class 1 laser

5" Laser Pointer: Class 2 laser

Prism mode: Class 1 laser

Laser Plummet (optional): Class 2 laser

Bluetooth type approvals are country specific.

- 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 Measured 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.



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