

# FOCUS® 35 Total Station

**NEW**  
FOR  
**2015**

## PERFORMANCE

### Angle measurement

#### Accuracy

(Standard deviation

based on ISO 17123-3) . . . . . 1" (0.3 mgon),  
2" (0.6 mgon), 3" (1.0 mgon), or 5" (1.5 mgon)

Angle reading (least count display)

Standard . . . . . 1" (0.3 mgon)  
1" model . . . . . 0.5" (0.15 mgon)  
Tracking . . . . . 2" (0.6 mgon)

### Distance measurement<sup>1</sup>

#### Accuracy to Prism

(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) . . . . . 3 mm + 2 ppm (0.01 ft + 2 ppm)  
Standard  
>300 m (984 ft) . . . . . 5 mm + 2 ppm (0.016 ft + 2 ppm)  
Tracking . . . . . 10 mm + 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>3</sup>	Normal <sup>4</sup>	Difficult <sup>5</sup>
KGC <sup>2</sup> (18%)	400 m (1,312 ft)	350 m (1,148 ft)	300 m (984 ft)
KGC (90%)	800 m (2,625 ft)	600 m (1,969 ft)	400 m (1,312 ft)
Foil Reflector 60 mm	1,000 m (3,280 ft)	1,000 m (3,280 ft)	800 m (2,625 ft)

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

### Automatic level compensator

Type . . . . . dual-axis  
Accuracy . . . . . 0.5" (0.15 mgon)  
Working Range . . . . . ±5.5" (±100 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

### 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/5.0 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)  
Tribrach . . . . . 0.7 kg (1.54 lb)  
Internal battery . . . . . 0.3 kg (0.66 lb)

## ROBOTIC SPECIFICATION

### 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>6</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, 1 GB Flash  
Field App. Software . . . . . Survey Pro and Layout 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.

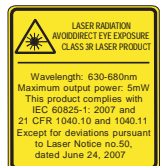
Lasersafety IEC 60825-1 am2:2007

Prism Mode: Class 1

Reflectorless/Laser Pointer: Class 3R laser

Bluetooth type approvals are country specific.

- 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 Good conditions (good visibility, overcast, twilight, underground, low ambient light)
- 4 Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- 5 Difficult conditions (haze, object in direct sunlight, high ambient light).
- 6 Spectra Precision GeoLock is available on data collectors after station setup.



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