

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 measurement¹

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 ³	Normal ⁴	Difficult ⁵
KGC ² (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 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 GeoLock⁶

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.
Laser safety IEC 60825-1 am2:2007
Prism Mode: Class 1
Reflectorless/Laser Pointer: Class 3R laser
Bluetooth type approvals are country specific.

- 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.
- Kodak Gray Card, Catalog number E1527795.
- Good conditions (good visibility, overcast, twilight, underground, low ambient light)
- Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- Difficult conditions (haze, object in direct sunlight, high ambient light).
- Spectra Precision GeoLock is available on data collectors after station setup.



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