

PANORAMICA

Il [messa a fuoco degli spettri 35 stazione totale](#) è una stazione totale motorizzata che fornisce alta velocità, accuratezza e precisione nella misurazione. Lo strumento ROBOTICAoo FOCUS 35 sposta la potenza dell'osservatore dallo strumento al polo del range, migliorando l'efficienza. La velocità di osservazione e il posizionamento preciso della stazione totale robotica FOCUS 35 sono forniti dalla tecnologia di movimento StepDrive™ brevettata, che controlla il movimento orizzontale e verticale dei motori, eliminando la necessità dei tradizionali blocchi di movimento. Il FOCUS 35 include un sensore di tracciamento che utilizza la tecnologia di tracciamento LockNGo™ FastTrack, consentendo allo strumento di agganciarsi costantemente al prisma. I Modelli a funzionamento esteso FOCUS 35 RX offrono una durata della batteria leader del mercato.

Il FOCUS 35 è disponibile con precisione di 1", 2", 3" o 5" ed è controllato dal software da campo Spectra Geospatial Survey Pro™ utilizzando un'interfaccia touchscreen Windows CE integrata. Il FOCUS 35 è inoltre progettato per essere controllato esternamente da raccoglitori di dati Ranger™, Nomad™ o T41® che eseguono il software da campo Survey Pro, Layout Pro o FAST Survey su Ranger o Nomad. In alternativa, porta il tuo controller e connettiti al FOCUS 35 tramite Bluetooth o SPDL Radio Bridge.

Il FOCUS 35 è disponibile in tre modelli:

- Robotic
- LockNGo
- RX

Tutti i modelli includono un sistema di azionamento motorizzato sullo strumento e un sensore di tracciamento per tracciare il polo e il prisma della portata.

Model	Movimento StepDrive	Tracciamento LockNGo	Comunicazione wireless	Schermo di bordo	Sistema di batterie
ROBOTIC			Radio a 2,4 GHz, Bluetooth a corto raggio		Separare
RX			Radio a 2,4 GHz	N / A	Doppio
LockNGo			Bluetooth a lungo raggio		Separare

Per mantenere il contatto tra lo strumento FOCUS 35 e l'osservatore remoto con il polo di portata e il prisma, la soluzione robotica deve includere un collegamento di comunicazione. FOCUS 35 Robotic and RX utilizza un modem radio integrato a 2,4 GHz, così come il raccoglitore di dati Ranger 7. Il modem radio a 2,4 GHz fornisce comunicazioni di dati robotici prive di interferenze.

Una volta che le comunicazioni robotiche sono state stabilite, puoi controllare tutte le funzioni del FOCUS 35 dall'asta del range mentre ti muovi attraverso il cantiere effettuando misurazioni. Ciò consente a un singolo geometra di eseguire autonomamente un picchettamento ad alta precisione o rilievi topografici. Dai rilievi di controllo di alto livello alla raccolta di dati topografici o al rapido picchettamento di costruzioni, puoi fare affidamento su un FOCUS 35, anche in condizioni esterne difficili.

FOCUS 35 e Survey Pro offrono soluzioni di prim'ordine per qualsiasi applicazione di rilevamento. Un esempio di queste caratteristiche include un'esclusiva tecnologia software robotica che può essere utilizzata quando si associa il FOCUS 35 a un ricevitore GNSS a basso costo e al software Survey Pro. Questa combinazione di tecnologie consente all'utente di sfruttare appieno Spectra Geospatial GeoLock™, la tecnologia per mantenere il proprio obiettivo.

Layout Pro™, il software e il FOCUS 35 insieme offrono la comodità di trasportare, gestire, modificare e disporre il progetto del cantiere. Questa combinazione è uno strumento fondamentale nel campo del layout edilizio ed è progettata per rendere il processo di layout più produttivo, accurato e affidabile. Ad esempio, utilizza Layout Pro per guidare il layout dei punti principali, aggiungere le dimensioni delle stringhe sulla stampa e calcolare diagonali e angoli.

La soluzione robotica FOCUS 35 è meglio descritta come semplicemente più potente. Confezionato in un design moderno, elegante e aerodinamico, è facile da usare, conveniente e resistente. Le stazioni totali FOCUS 35 sono progettate per soddisfare tutte le vostre esigenze di rilevamento.

Accessorio

Il ponte radio FOCUS SPDL 2.4 è un accessorio personalizzato robusto e leggero progettato per consentire la comunicazione tra stazioni totali robotiche e dispositivi mobili abilitati Bluetooth.

SPECTRA®
GEOSPATIAL

FOCUS 35



**PRODUCTIVE, RELIABLE AND AFFORDABLE
ROBOTIC TOTAL STATIONS**

FEATURING WORLD CLASS SPECTRA GEOSPATIAL FIELD SOFTWARE

Get to know the powerful Spectra Geospatial® FOCUS® 35 Series Total Stations. This fully robotic motorized solution provides improved speed, accuracy and precision in measurement. A robotic instrument moves the power of the observer from the instrument to the range pole improving the quality of your work.



The FOCUS 35 solution is best described as **Simply More Powerful**. Packaged in a modern, sleek, and streamlined design, it is easy-to-use, affordable, and tough.

ALL ROBOTIC INSTRUMENTS INCLUDE:

- Motorized drive system at the instrument
- A tracking sensor to track the range pole and prism
- A communication connection between the instrument and range pole and prism

FEATURES:

- Available in 1", 2", 3" and 5" angle accuracies
- Long-range, reflectorless distance measurement
- Available RX models with extended operation dual battery system
- Survey Pro™ software on-board (available models)
- GeoLock™ GNSS-assist technology



FOCUS 35 - Ranger 7

STEPDRIVE

The speed of observation and precise positioning of the FOCUS 35 robotic total station is provided by patented StepDrive™ technology. StepDrive controls the horizontal and vertical motion of the motors, so there is no need for traditional motion locks. Using the motorized drives it is possible to precisely turn to, and repeat angle measurements. This results in quick and reliable measurements which substantially increases your staking productivity.

LOCKNGO

All FOCUS 35 models include a tracking sensor that uses LockNGo technology enabling the instrument to constantly lock onto the prism. The benefit of LockNGo technology is the ability to follow the prism at all times and reduces downtime from not having to re-point the instrument on every observation. Additionally, LockNGo is compatible with most standard passive prisms, making the FOCUS 35 an ideal solution for anyone that wants to continue using accessories they already own.

COMMUNICATION LINK

To maintain contact between the FOCUS 35 instrument and the remote observer with the range pole and prism, the robotic solution must include a communication link. The Robotic and RX FOCUS 35 models use an integrated 2.4 GHz radio modem as does the Spectra Geospatial Ranger™ 7 data collector. The 2.4 GHz radio modems provide interference-free long range robotic data communications. Once your robotic communications have been established you can control all the functions of the FOCUS 35 from the range pole (up to 800m away) as you move through the job site making measurements. Alternatively, the LockNGo model provides Class 1 long range Bluetooth for similar functionality up to 200m away". This makes it possible for a single surveyor to perform high accuracy stakeout, layout or topographic surveys by themselves. From high-order control surveys to topographic data collection or fast-paced construction layout, you can rely on a FOCUS 35, even in harsh outdoor conditions.

FOCUS 35 AND SURVEY PRO

The FOCUS 35 and Survey Pro provide you with world class solutions for any surveying application. An example of these features includes a unique robotic software technology that can be used when associating the FOCUS 35 with a low-cost GNSS receiver and Survey Pro software. This combination of technologies allows the user to take full advantage of the Spectra Geospatial GeoLock™ technology to keep locked on target.

THE SPECTRA GEOSPATIAL GEOLock TECHNOLOGY

Offered in Survey Pro this technique allows a robotic total station to perform an aided search for an optical target using an initial GNSS position. The remote instrument can then be directed towards the robotic roving operator using the GPS position and a subsequent search is quickly performed to re-acquire the target at the robotic rover. This technique greatly reduces wasted time, improving your field work efficiency.

FOCUS 35 AND LAYOUT PRO

Layout Pro™ software and the FOCUS 35 together offer the convenience of carrying, managing, editing, and laying out your job site blueprint. This combination is a critical tool in the field of construction layout and is designed to make the layout process more productive, accurate and reliable. For example, use Layout Pro to guide the layout of the major points, add string dimensions on the print, as well as calculate diagonals and angles.



FOCUS 35 RX

The FOCUS 35 RX models offer 12 hour extended operation through a unique dual battery system, eliminating any need to stop and change battery during a full day's work.

MODEL	FEATURES				
	StepDrive motion	LockNGo tracking	Wireless Communication	Onboard Screen	Battery System
ROBOTIC	✓	✓	2.4GHz radio, Short Range Bluetooth	✓	Single
RX	✓	✓	2.4GHz radio	N/A	Dual
LockNGo	✓	✓	Long Range Bluetooth	✓	Single

PERFORMANCE

Angle measurement

Accuracy^{1,2}

- 1": (0.3 mgon)
- 2": (0.6 mgon)
- 3": (1.0 mgon)
- 5": (1.5 mgon)

Angle reading (least count display)

- Standard: 1" (0.3 mgon)
- 1" model: 0.5" (0.15 mgon)
- Tracking: 2" (0.5 mgon)

Distance measurement⁴

Accuracy to Prism¹

- Standard: 2 mm + 2 ppm (0.007 ft + 2 ppm)
- 1" model: 1 mm + 2 ppm (0.003 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: 4,000 m (13,123 ft)
- 3 prisms: 7,000 m (22,966 ft)
- Foil Reflector 60 mm: 300 m (984 ft)

Range Reflectorless Mode

	Good ⁶	Normal ⁷	Difficult ⁸
KGC ⁹ (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	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

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

ROBOTIC SPECIFICATIONS

Robotic operation⁴

- 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.

GNSS Search GeoLock¹⁰

- GNSS Search GeoLock[™]: 360° (400 gon)
- Range: Full robotic operation range

COMMUNICATIONS

External foot connector

- USB cable connection
- External power supply

Wireless Communication

- Robotic Model
 - Internal/external: 2.4 GHz, frequency hopping, spread spectrum
 - Class 2 Short Range Bluetooth[®]
- RX Model
 - Internal/external: 2.4 GHz, frequency hopping, spread spectrum
- LockNGo Model
 - Class 1 Long Range Bluetooth[®]

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 Geospatial StepDrive[™] system
- Rotation speed maximum: 90°/sec (100 gon/sec)
- Rotation time Face 1 to Face 2: 3.7 sec.
- Positioning speed 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 supply⁴

- Internal battery: Li-Ion, 10.8V / 6.5Ah
- Operating time with one internal battery:
Approx. 6 hours
- Models with two internal batteries:
Approx. 12 hours

Weight

- Instrument: 5.0 kg (11.0 lb)
- Tribrach: 0.7 kg (1.54 lb)
- Internal battery: 0.3 kg (0.66 lb)

DATA COLLECTION

Control units fixed on alidade

Face 1 (models with onboard data collection)

- Display: 3.5" TFT color touch-screen, 640x480 pixels, backlight
- Keyboard: Alphanumeric keypad
- Memory (data storage): 512 MB RAM, 4 GB Flash
- Field application software: Survey Pro and Layout Pro

Face 2

- Display: 6 lines, monochrome, 96x49 pixels, backlight
- Keyboard: 4 keys
- Instrument software functions: Change Face, Radio and Instrument Settings, Measurement Value Display, Leveling

- 1 RX models are not available in 1" accuracy.
- 2 Standard deviation based on ISO 17123-3
- 3 Standard deviation based on ISO 17123-4
- 4 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.
- 5 Kodak Gray Card, Catalog number E152795.
- 6 Good conditions (good visibility, overcast, twilight, underground, low ambient light)
- 7 Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- 8 Difficult conditions (haze, object in direct sunlight, high ambient light).
- 9 RX models have two internal batteries.
- 10 GeoLock is available inside of Survey Pro field software when used onboard a data collector.
- 11 Bluetooth range varies based on environmental conditions such as physical obstructions or interference from other nearby devices. Range also varies based on the transmitter strength and receiver sensitivity of both the controller and the FOCUS 35 total station.

