



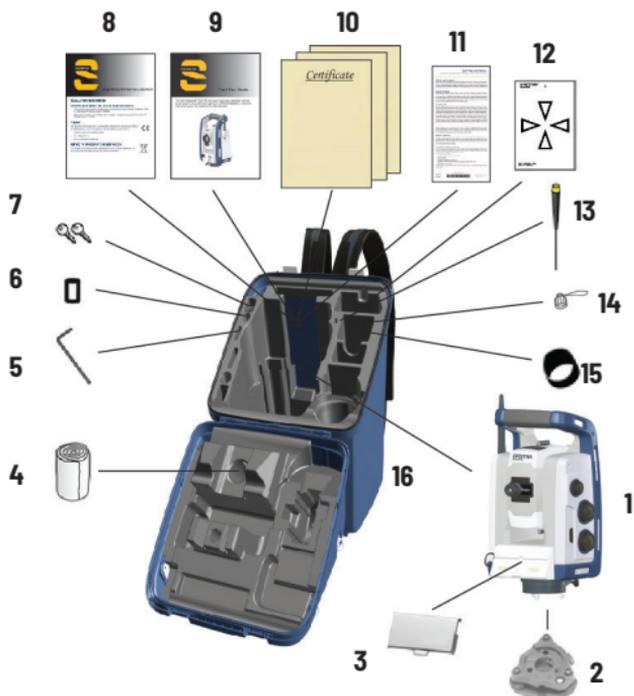
**FOCUS® 50**

## **Quick Start Guide**

The Spectra Geospatial® FOCUS® 50 total station instruments are designed to be used for surveying. This Quick Start Guide applies to the FOCUS 50 total stations. Instrument features and options will vary between the different models.



## IN THE CASE



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\*Not available on all models.

**NOTE** - The lithium-ion battery is not provided with the FOCUS 50 total station and must be ordered separately.

# FOCUS 50 FEATURES

Laser warning label



Removable handle



# FOCUS 50 FEATURES



## BATTERY

**WARNING** - Before charging or using the FOCUS 50 total station battery it is important that you read and understand the battery safety and environmental information. The battery safety and environmental information is available in the Spectra Geospatial FOCUS 50 total station Regulatory Information Document.

Spectra Geospatial recommends only using batteries that have P/N 99511-40.

**NOTE** - The lithium-ion battery is not provided with the FOCUS 50 total station and must be ordered separately.

**NOTE** - Use only batteries approved by Spectra Geospatial.

**NOTE** - The performance of the battery will be lower at temperatures below 0 °C (32 °F). The performance of a cold battery might not be enough to start the instrument. For best battery performance, keep the battery at a temperature as close to 20 °C (68 °F) as possible before it is put to use in the instrument.

The FOCUS 50 total station battery has battery charge status indicator LEDs. Push the button on the battery to check the battery charge status.



## CHARGE BATTERY

When the rechargeable Lithium-ion battery is delivered, it is partially charged. Before using the battery for the first time, charge it completely. Use only Spectra Geospatial battery charger (not included) approved by Spectra Geospatial. Refer to the Spectra Geospatial FOCUS 50 total station user guide and the battery charger user guide for more information.

## CONNECT INTERNAL BATTERY

1. Press the battery compartment lock downwards to unlock.
2. Open the battery compartment.
3. Slide the battery into the battery compartment.
4. Close the battery compartment



## POWER ON/OFF INSTRUMENT

**CAUTION** – If the equipment is used in a manner not specified by Spectra Geospatial, the protection provided by the equipment may be impaired.

To power on the instrument, press the On/Off key. To power off the instrument, press and hold the On/Off key for 2 seconds.

## ON/OFF KEY LED

On/Off key LED	Instrument status	Description
Off	Off	
Solid	On	Connected to controller
Flashing	Suspend	Waiting for connection

## OPERATION

The instrument is operated from a controller using field software. Connect the controller using a cable or wirelessly with LRR (Long Range Radio) or Bluetooth® wireless technology. The long range radio and Bluetooth wireless technology are not available on all models.

## SETUP STABILITY

When an instrument is set up it is important to consider the following:

- Set tripod legs wide apart to increase the stability of the setup.
- Tighten all the screws on the tripod and tribrach to prevent play.
- Use a tripod and tribrach of high quality. Spectra Geospatial recommends the use of tripod heads made of steel.



## MEASURE THE INSTRUMENT HEIGHT

There are two measurement marks on the side of the instrument. The true height mark corresponds to the trunnion axis of the instrument. The bottom notch height mark is 0.158 m (0.518 ft.) below the true height mark. When using the bottom notch height, measure the slope distance from the setup point on the ground to the notch. The field software will automatically calculate the true height.

## MEASUREMENT STABILITY

Take into account that the instrument requires sufficient time to adjust to the ambient temperature. The general guideline for a high-precision measurement is:

- Celsius: Temperature difference in degrees Celsius ( $^{\circ}\text{C}$ )  $\times 2 =$  duration in minutes required for the instrument to adjust to the new ambient temperature.
- Fahrenheit: Temperature difference in degrees Fahrenheit ( $^{\circ}\text{F}$ ) = duration in minutes required for the instrument to adjust to the new ambient temperature.

## CONNECT WITH LONG RANGE RADIO

The FOCUS 50 long range robotic model includes a long range radio (LRR). To connect to the controller, the channel and ID must match in both the instrument and controller. The LRR is not available on Autolock or Short Range Robotic models.

## CONNECT WITH BLUETOOTH WIRELESS TECHNOLOGY

When Bluetooth wireless technology is used to connect to the controller, the instrument serial number appears as a device in the controller with the serial number as ID. Select the device to connect to the controller. Bluetooth wireless technology is not available on the Autolock model.

## CONNECT WITH CABLE

When a cable is used to connect to the controller, it is automatically selected as the primary communication. If the cable is disconnected, the instrument will start to search for the controller using LRR or Bluetooth wireless technology.

**NOTE** – Use only a communication cable approved by Spectra Geospatial.

## SECURITY

To avoid unauthorized use of the instrument, you can activate a PIN code.

## FIELD CALIBRATIONS

The operator can perform the following instrument calibrations:

- Horizontal and Vertical angle collimation
- Autolock<sup>®</sup> technology collimation
- Compensator calibration
- Laser pointer alignment
- Autofocus calibration

## CARE AND MAINTENANCE

Like all precision instruments, the FOCUS 50 total station requires care and maintenance. To get the best results from the instrument:

- Do not subject the equipment to rough jolts or careless treatment.

- Keep the lenses and reflectors clean. Be very careful when cleaning the instrument, especially when removing sand or dust from lenses and reflectors. Never use coarse or dirty cloth or hard paper. Spectra Geospatial recommends using anti-static lens paper, a cotton wad, or a lens brush.

**NOTE** – Never use strong detergents such as benzine or thinners on the instrument or the instrument case.

- Keep the instrument protected and in an upright position, preferably in the instrument case.
- Do not carry the instrument while the instrument is mounted on a tripod. Doing so can damage the tribrach screws.
- Carry the instrument by the handle.
- When you need extremely precise measurements, make sure that the instrument has adapted to the surrounding temperature. Significant variations in instrument temperature can affect precision.
- If the instrument has been used in damp weather, take the instrument indoors and remove the instrument from the instrument case. Leave the instrument to dry naturally. If condensation forms on the lenses, allow the moisture to evaporate naturally. Leave the instrument case open until all moisture has dried.
- Always transport the instrument in a locked instrument case. For longer trips, transport the instrument in the instrument case and inside the original shipping container.
- Spectra Geospatial recommends calibrating your instrument once every two weeks to ensure you are attaining the high accuracy results the instrument is capable of. If the instrument is transported over rough terrain in a site vehicle, transported via air travel etc., it is recommended to perform a calibration of the instrument before use.

## ADDITIONAL INFORMATION

The original document is written in English. All documents in other languages are translations from the original English document. For more information and information in other languages, go to [www.spectrageospatial.com](http://www.spectrageospatial.com).

**CAUTION** – For laser safety and regulatory information, refer to the Regulatory Information document delivered with the product.

For Spectra Geospatial support, go to [www.spectrageospatial.com/support](http://www.spectrageospatial.com/support).

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