



CR-S2 Quick Start Guide



Disclaimer

Before operating the device, please make sure to carefully read this user manual, as it will help you use this product better. Our company is not responsible for any losses caused by operating this product without following the instructions in the manual or by misinterpreting the requirements of the user manual. Our company is committed to continuously improving product functions and performance, enhancing service quality, and reserves the right to change the content of the user manual without prior notice.

We have checked the consistency between the content described in the printed materials and the hardware and software, but deviations may still exist. The images in the manual are for reference only. If there are discrepancies with the actual product, please refer to the actual product.

Your Suggestions

If you have any suggestions or comments regarding this manual, please contact us. Your feedback will greatly improve the quality of our manuals.

1. Battery and Charging Operations

1. 1. Battery

Caution: Fully charge your battery before your first use.

Caution: For best performance only use the supplied Charger

and Cable. **DO NOT USE THE USB PORT IF IT IS WET.** Make sure to

dry out the port completely before connecting to power. Failure to do

so will void the warranty.

Battery Operation Diagram Place Holder

2.Product Structure

2. 1. Structural Diagram

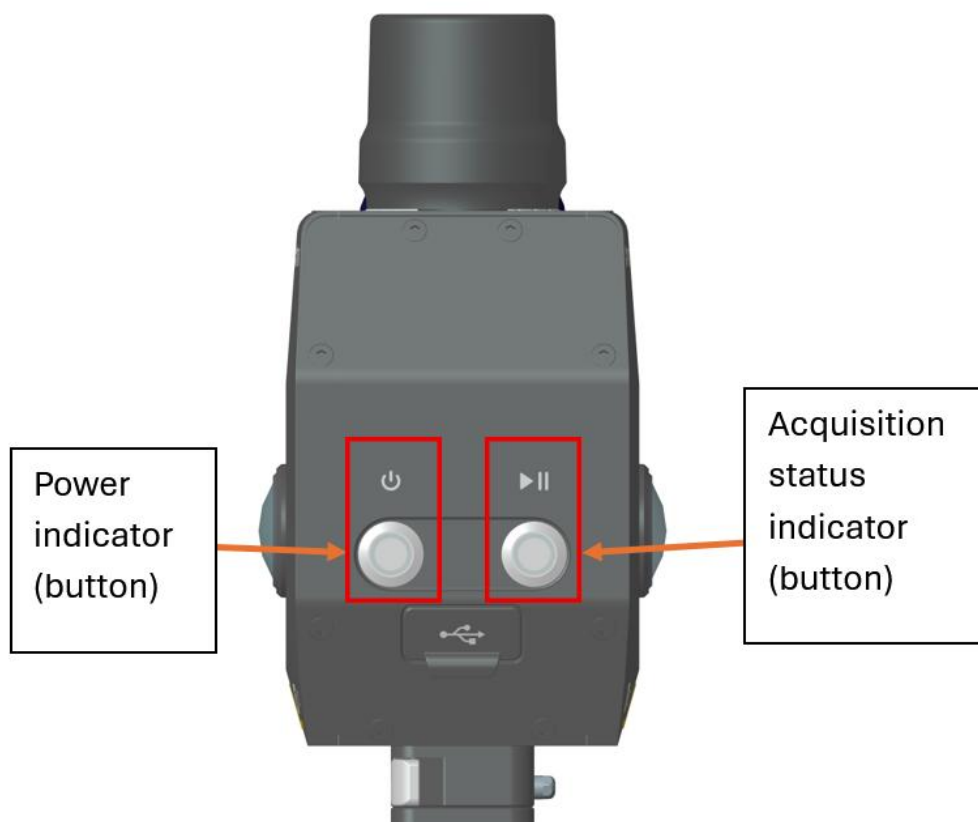


2. 2. Packing List

 CR-S2 Main Unit (including antenna)	 Smart Battery	 Base Stand
 Charger (Power charger and adapter included)	 USB Drive	 Lidar&Camera Protective Cover

 Phone Holder and accessories	 Packaging Box	
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2. 3. Device Indicator Light Introduction



Power Indicator Light	
Power Indicator Light (Button)	Used to control power on/off and display power status.
Not Lit	Device is not powered.
Green Fast Flash	Device is powering on/off.
Green Ever Bright	Device is in power-on state.

Data Collection Status Indicator Light	
Data Collection Status	Used to control collection and indicate device activation and

Indicator Light (Button)	collection status.
Not Lit	Device is not powered.
Red Ever Bright	Device not activated OR memory below 5%.
Green Ever Bright	Device is ready.
Green Fast Flash	Initializing or in GCP collection.
Green Slow Flash	Collecting data

3.Control Software Download and Login

3. 1. Software Download

APP requirements for phone/tablet:

Android version: System version 8.0 and above; Memory greater than 6 GB.

iOS version: System version iOS 12 and above; Processor A10 and above.

Before collecting data, ensure the APP is up to date. You can upgrade online through the 'Version Upgrade' feature.

Device registration, project management, coordinate system settings, RTK settings, and real-time point cloud browsing must be done through the MagnetFlow APP.

Download address:

Or scan the QR code below to download (left: iOS, right: Android)

QR CODE

PLACE HOLDER

4. Device Assembly and Disassembly

4. 1. Assembly

After unpacking the device, take out the main device, battery, and base stand. Follow the steps below for installation:



① Remove the protective cover.



② Open the locking handle, align the battery with the groove at the bottom of the device, and slide it in.



③ Close the locking handle.



④ Align the base stand with the battery ground hole.



⑤ Tighten the screw at the bottom of the base stand.



⑥ Device assembly complete.

4. 2. Disassembly

The antenna does not need to be disassembled. Refer to the following steps for disassembly:

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 ① Open the locking handle.	 ② Press the anti-drop button and slide out the battery.	 ③ Loosen the base stand screw and remove the battery.
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5.Device Power On/Off

5.1. Power On

Press and hold the power button until it flashes, then release. The device will power on automatically. The power indicator light and data collection status indicator light will be solid green, indicating the startup is complete.



Press and hold the power button.



Green light flashes.



Power indicator light and data collection indicator light are solid.

When the device is not activated or available memory is less than 5%, the data collection indicator light will be solid red.

5. 2. Power Off

The device can be powered off in two ways:

(1) Press and hold the power button until the indicator light flashes quickly and then automatically turns off, indicating the device has shut down completely.



Radio Equipment Directive Instructions

Document Scope

This document satisfies the requirements of the Radio Equipment Directive (2014/53/EU) to deliver basic product information and instructions. This information may be different for configurations of the product built for regions other than the European Union.

EU Declaration of Conformity

Hereby, Topcon Corporation declares compliance with Directive 2014/53/EU for radio equipment type CR S2. The full text of the EU declaration of conformity is available at the following internet address: <https://mytopcon.topconpositioning.com/na/support>.

Safe Operation

The battery must not come into contact with any liquid. Do not immerse the battery in water or allow it to become wet. If water enters the battery, it may trigger decomposition reactions that can cause spontaneous combustion or even explosion.

The use of batteries not officially supplied by Topcon is strictly prohibited. For replacements, please consult Topcon's official website for purchasing information. Topcon assumes no liability for battery accidents or operational failures resulting from the use of batteries not officially supplied by Topcon.

The use of swollen, leaking, or packaging-damaged batteries is strictly prohibited. If any of the above conditions occur, please contact Topcon or its authorized agents for further processing.

Before installing or removing the Battery from the LiDAR device, ensure that the Battery power is turned off. Do not insert or remove the Battery while its power is turned on, as this may damage the power interface.

The Battery shall be operated within an ambient temperature range of - 20°C to 60°C. Excessive temperature (above 60°C) may cause the Battery to catch fire or explode. Low temperature (below - 20°C) will severely reduce the Battery lifespan.

The use of the Battery in environments with strong static electricity or magnetic fields is strictly prohibited. Otherwise, the battery protection circuit will fail, causing a serious malfunction of the LiDAR device.

It is strictly forbidden to disassemble or puncture the battery with any sharp object. Doing so may result in fire or explosion.

The battery contains highly corrosive internal liquids. In the event of leakage, keep clear of the area. If internal liquid contacts skin or eyes, immediately rinse thoroughly with water for at least 15 minutes and seek urgent medical attention.

Do not reuse the battery if it has been dropped from the LiDAR device or subjected to impact.

If the battery accidentally falls into water during the LiDAR operation process or under other circumstances, immediately remove the battery and place it in a safe, open area. Maintain a safe distance from the battery until it is completely dry. A dried battery must not be reused and should be disposed of properly according to the methods specified in this document. If the battery catches fire, use solid extinguishing agents. It is recommended to use fire extinguishers in the following order:

Water or water mist, sand, fire blanket, dry powder, and carbon dioxide extinguishers.

Do not place the battery in a microwave oven or pressure cooker.

Do not place the battery cell on conductive surfaces.

Do not use wires or other metal objects to short-circuit the battery's positive and negative terminals.

Do not strike or hit the battery. Do not place heavy objects on the battery or charger.

If the battery connector is contaminated, clean it with a dry cloth. Failure to do so may cause poor contact, resulting in energy loss or charging failure.

Charging

The intelligent battery must be charged exclusively with the dedicated charger officially supplied by Topcon. Topcon is not responsible for any consequences arising from the use of chargers not officially provided by Topcon.

When charging, place the battery and charger on a surface such as a concrete floor, free from any flammable or combustible materials. Monitor the charging process to prevent accidents.

After LiDAR operation is complete, verify the battery temperature before initiating charging. If the battery is in a high-temperature state, forced charging will severely damage battery life. It is recommended to wait until the battery cools to room temperature before charging. An ideal charging ambient temperature (5°C ~ 40°C) can significantly extend battery service life.

After charging is finished, disconnect the charger from the battery. Regularly inspect and maintain the charger, and frequently examine all components of the battery's exterior. Do not use alcohol or other flammable agents to clean the charger. Do not use a charger that is damaged.

Storage and Transportation

Store the battery out of reach of children. If a child accidentally swallows any components, seek medical assistance immediately.

Do not place the battery near heat sources, such as direct sunlight, inside vehicles on hot days, ignition sources, or heating furnaces. The ideal storage temperature range for the battery is 22°C ~30 °C.

The battery storage environment must be kept dry. Do not place the battery in water or locations prone to water leakage.

Mechanical impact, crushing, or piercing of the battery is strictly prohibited. Do not drop the battery or cause a manual short circuit.

Do not store or transport the battery together with eyeglasses, watches, metal necklaces, hairpins, or other metal objects.

Under no circumstances transport damaged batteries. When transporting batteries, always discharge them to approximately 50% state of charge.

Disposal

Ensure the battery is fully discharged before placing it into the designated battery recycling box. Batteries are hazardous chemicals and must not be discarded in regular trash bins. Comply with local

laws and regulations regarding battery recycling and disposal.

Maintenance

Do not use the charger in environments with excessively high or low temperatures.

Never store the battery in environments where room temperature exceeds 60°C.

Travel and Transportation Precautions

Before taking the battery on a flight, ensure it is discharged to below 5% state of charge. Always keep away from ignition sources before discharging.

Frequency Bands

The radio technologies, frequency bands, and maximum transmit power are listed separately at the end of this document.

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement.

This equipment complies with FCC's RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna(s) must not be co-located or conjunction with any other antenna or transmitter.

The device can be used in portable exposure conditions without restriction.