Appendix K: Manual

Please refer to the following pages.

FlightScope® Xi

PERSONAL GOLF TRAINING SYSTEM

User Manual

www.flightscope.com

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E19-HU086: Issue 1

NOTICES

The following notices and general precautions must be observed during the operation, service and repair of this equipment. Failure to comply with these precautions or with warnings elsewhere in the manual violates standards of the design, manufacture and intended use of the equipment. FlightScope accepts no liability for failure to comply with these notices.

Operation of the device in any country may require approval in accordance with local telecommunications and safety regulations.
Sheltered and Clear Weather Use Only. The equipment has been designed for sheltered or in clear weather use.

Copyright

FCC Statement

Changes or modifications not expressly approved by FlightScope (Pty) Ltd could void the user's authority to operate the equipment.

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 an office or residential installation. This equipment generate, 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 other electronic equipment, which can be determined by turning this equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
Increase the separation between the equipment causing and experiencing the interference. Install a radio frequency shield between the equipment causing and experiencing the interference. Consult your dealer for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.
This device must accept any interference received, including interference
that may cause undesired operation.

IC Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Déclaration IC

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

INTRODUCTION

This guide will help you set up and use the **FlightScope® Xi** Sensor with your Smartphone or Tablet.

FlightScope® technology includes battery operation, wireless network connections, and operation with a smart phone or tablet : convenience and portability without compromise.

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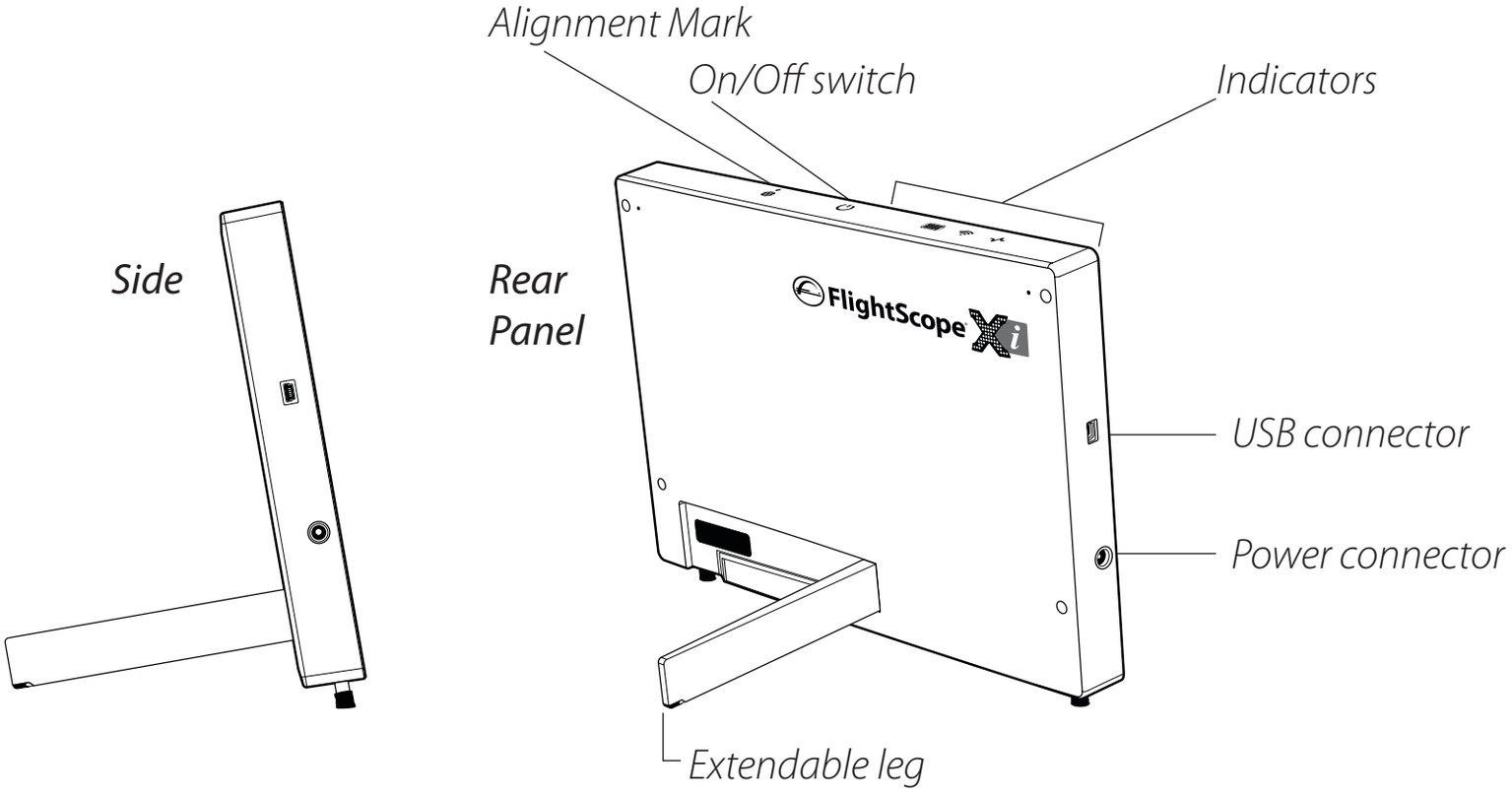
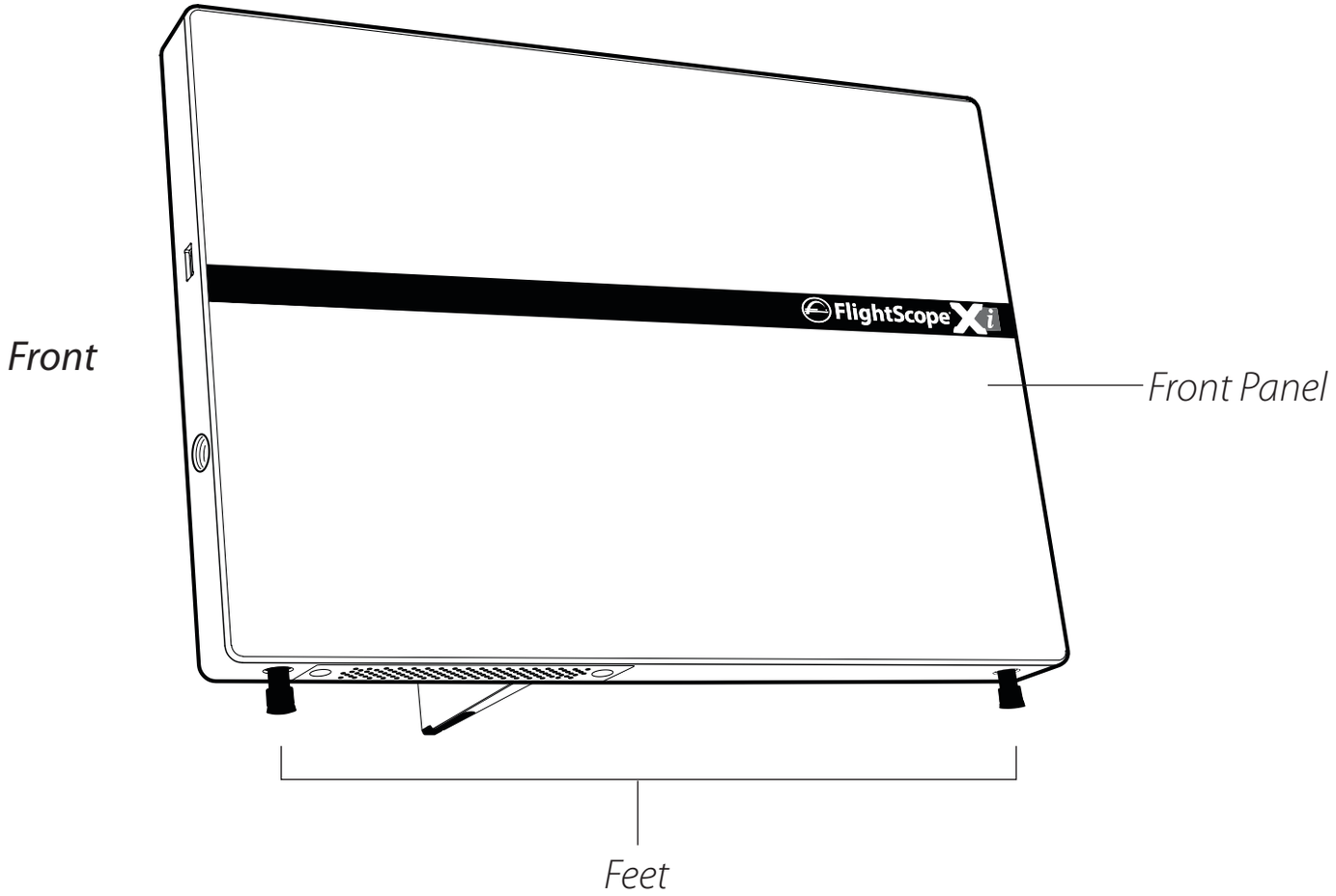
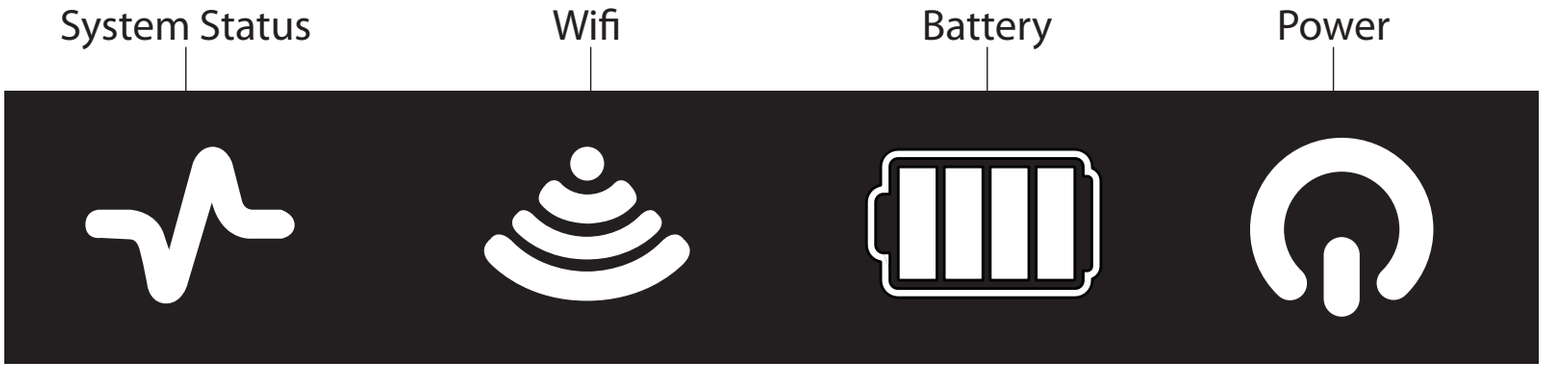
Device Description




Front
FlightScope Xi
Front Panel
Feet

Controls & Indicators



Indicators

SYSTEM INDICATOR

COLOR	STATUS	DESCRIPTION
None	OFF	Power is OFF
Blue blinking fast	Starting Up	System software is starting up
Blue blinking slow	Sleep Mode	System in sleep mode
Green blinking fast	Booting Up	System is starting up
Green blinking slow	Idle	System ON and processor running normally. System not armed.
Red/Green alternate flashing	Armed	System is ready to measure a shot.
Red/Off	Processor fault/problem	

WI FI INDICATOR

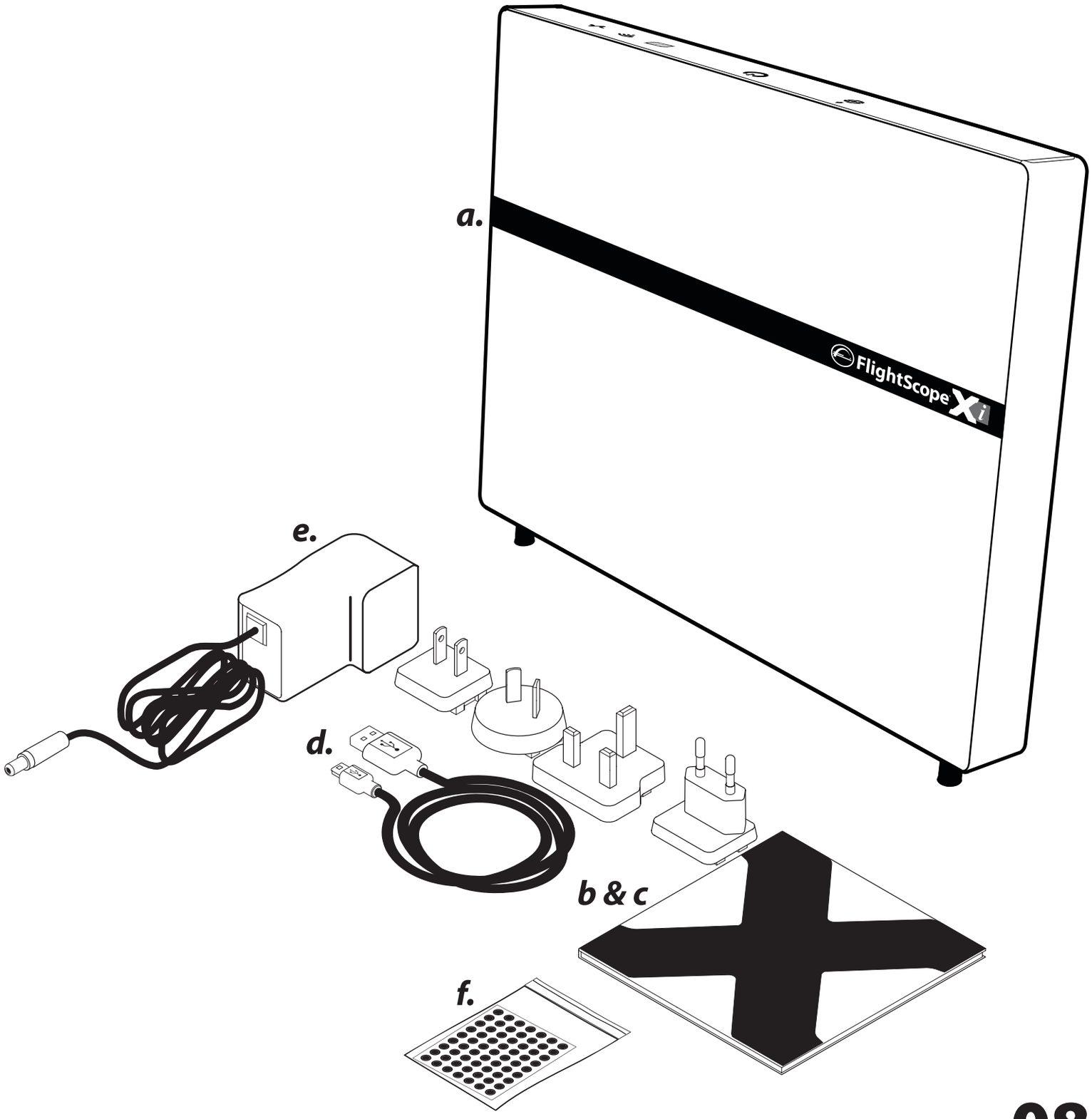
COLOR	STATUS	DESCRIPTION
None	OFF	USB service cable plugged in
Blue blinking	Wi-Fi available	Wi-Fi available – not connected to a device
Blue solid	Wi-Fi connected	Wi-Fi connection in process

BATTERY INDICATOR

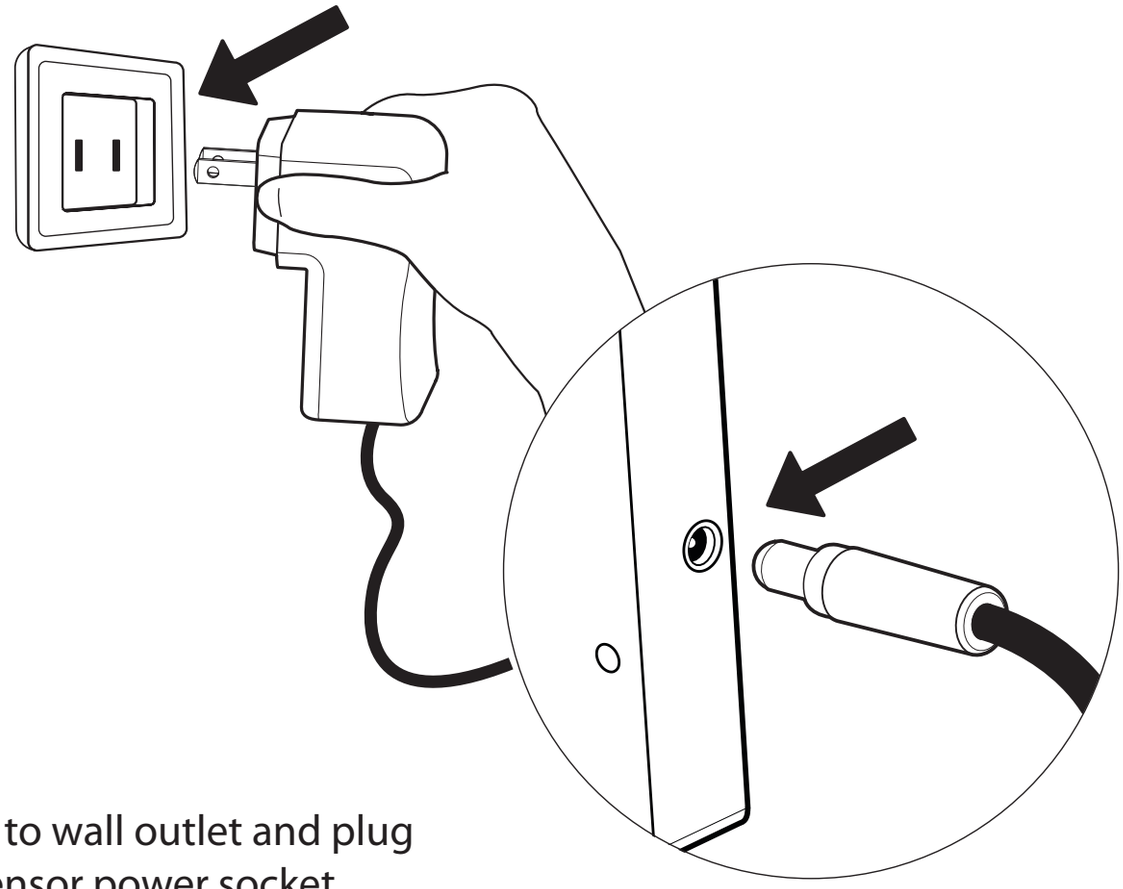
COLOR	STATUS	DESCRIPTION
Off	Sensor off	System OFF
Red flashing	Low range on battery	Running on battery, level < 20%
Yellow flashing	Mid range on battery	Running on battery, level >20% <70%
Green flashing	High range on battery	Running on battery, level >70%
Red solid	Low range charging	Busy charging, battery level < 20%
Yellow solid	Mid range charging	Busy charging, battery level >20% <70%
Green solid	High range charging	Busy charging, battery level >70%
White	Battery full	Fully charged

Package Contents

a. Sensor Unit
b. DVD
c. User Manual
d. USB Cable
e. AC Adapter & Accessories
f. Metal Discs


a.
FlightScope Xi
e.
d.
b & c
f.

Charging Battery



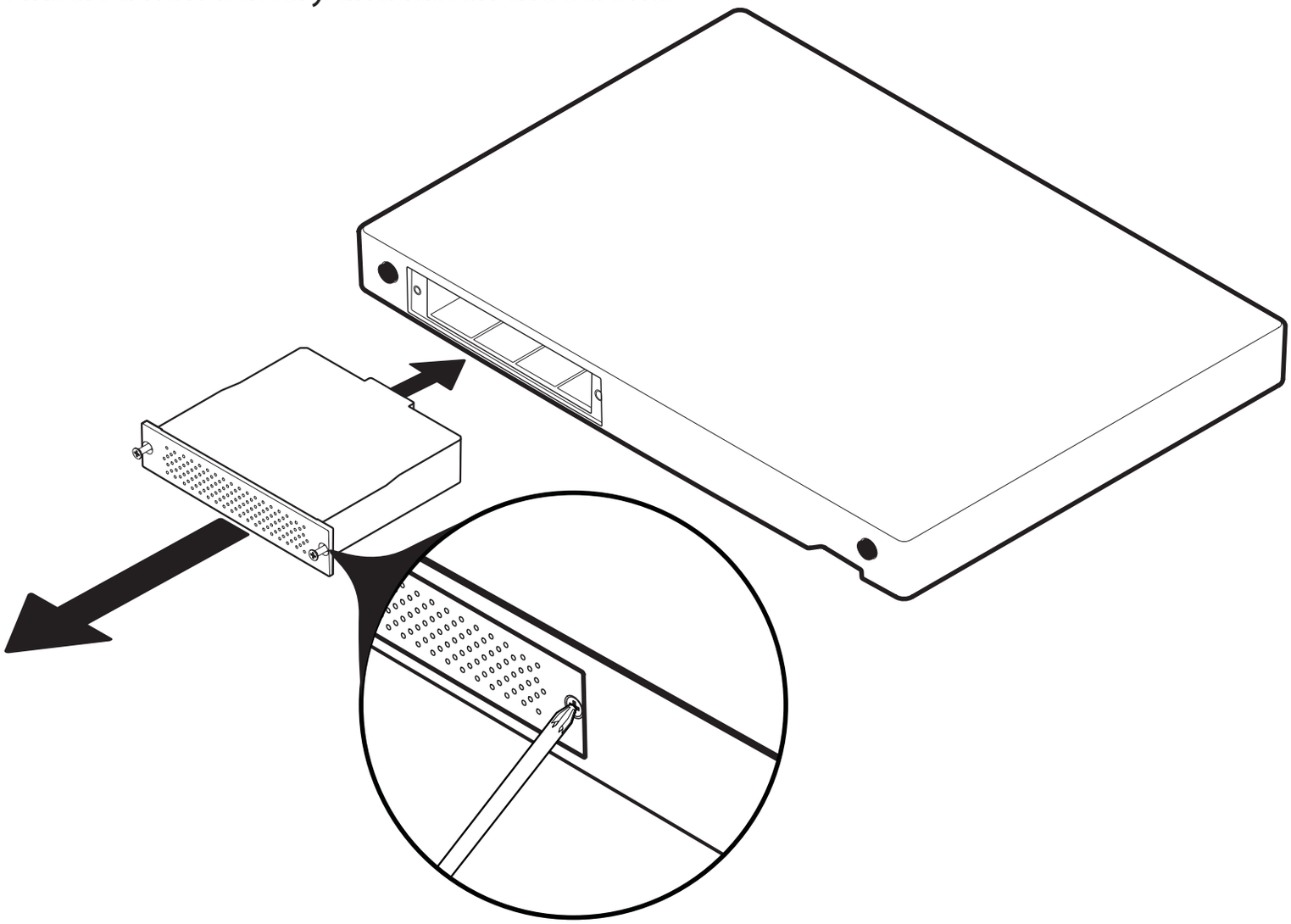
1. Connect AC Adapter to wall outlet and plug charging lead into Sensor power socket.

2. The Battery indicator will illuminate, not flashing.

NOTE: Charging time approximately ***8-10 hours.***

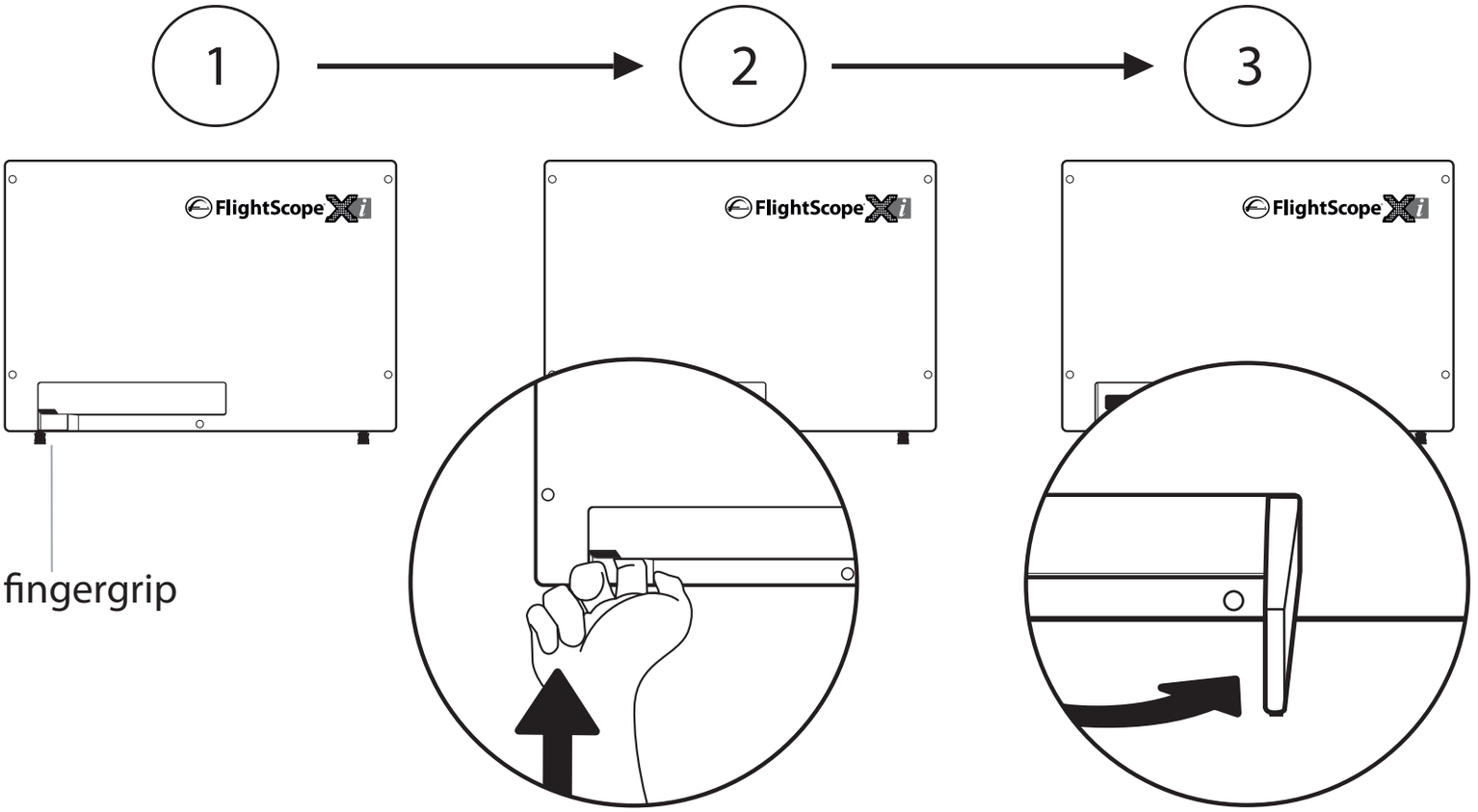
Replacing The Battery

1. Remove the two battery retaining screws.
2. Extract the battery.
3. Insert a new battery and fasten the screws.



Opening The Leg

Note: Unit will not switch on unless leg is extended

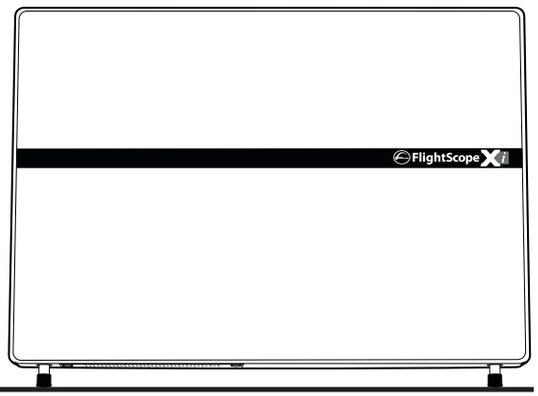


Pull leg out from showed position.

CAUTION: *Do not force the leg beyond maximum position.*

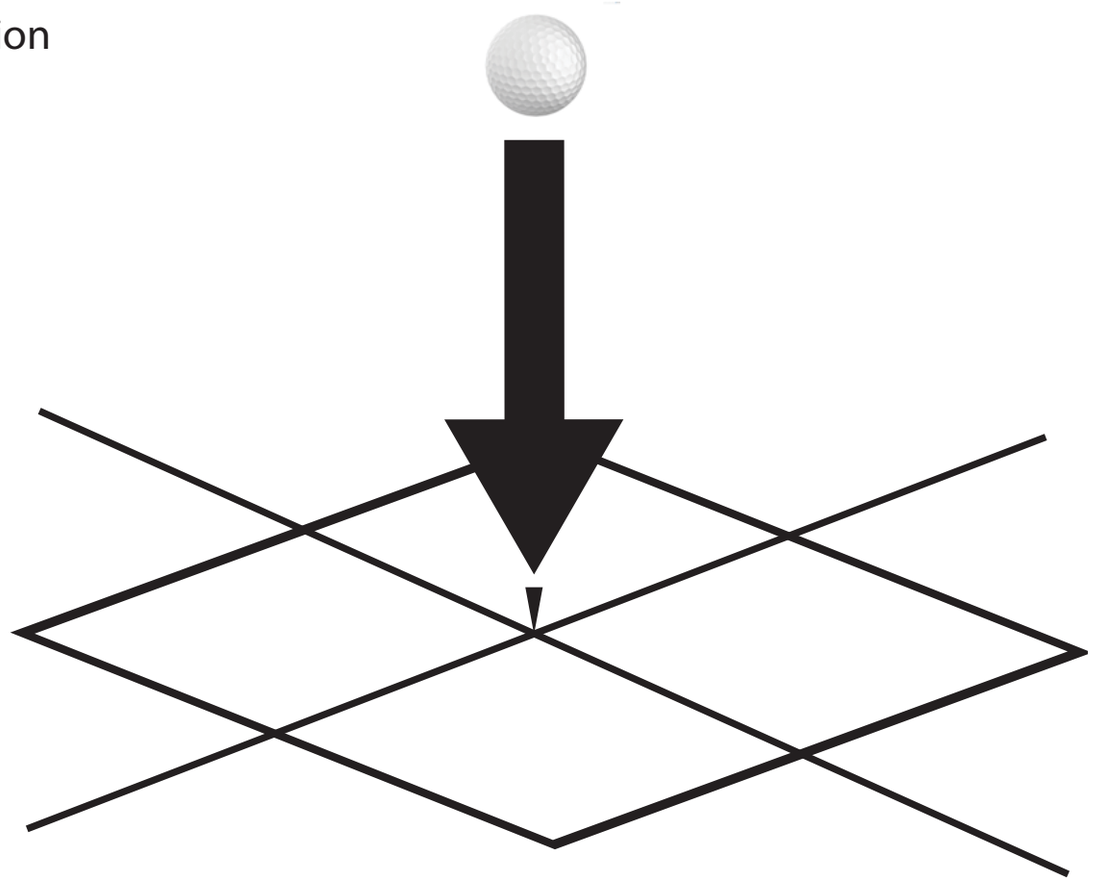
Motorized Feet

FlightScope® Xi has motorized feet that adjust the unit's tilt and roll when the unit is switched on or if it is moved during use.

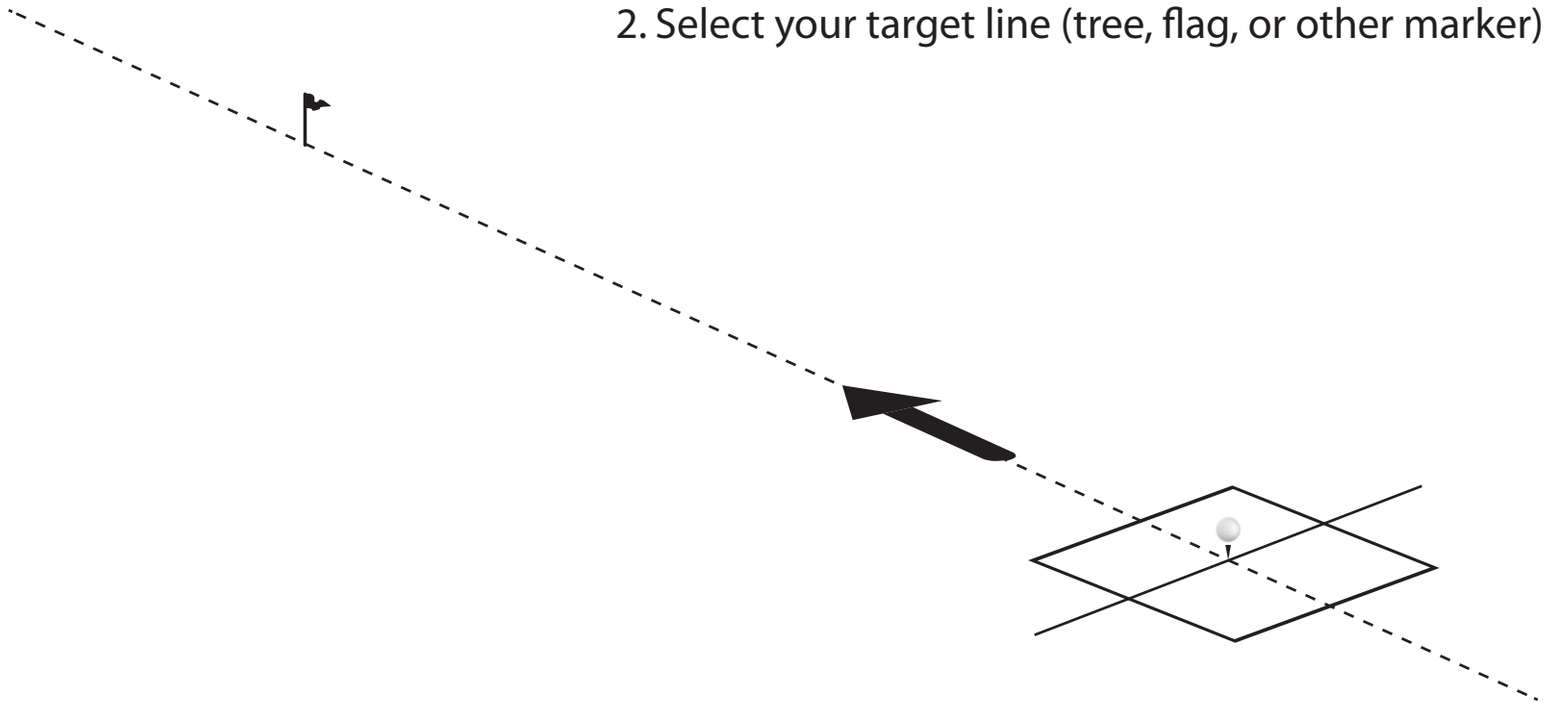


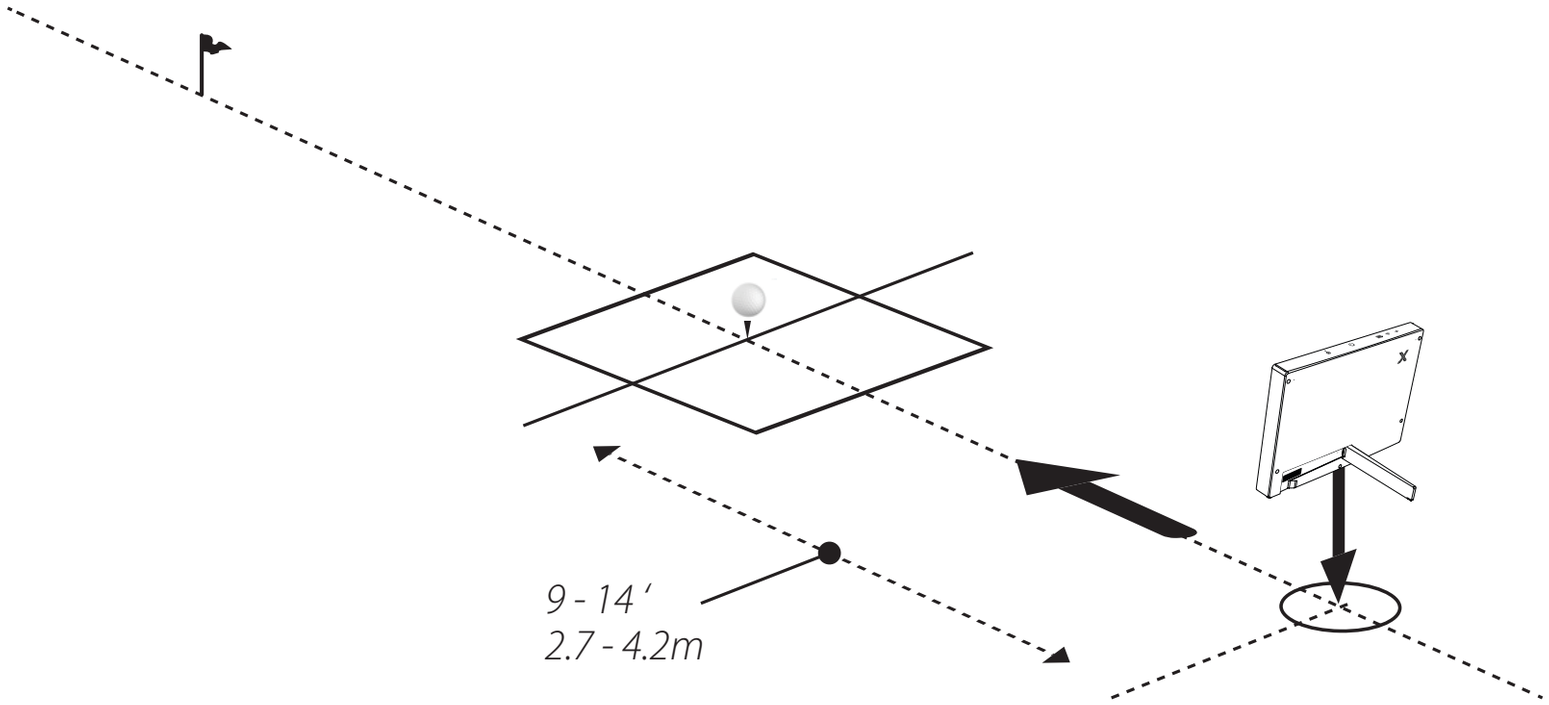
Position & Alignment

1. Choose your tee position



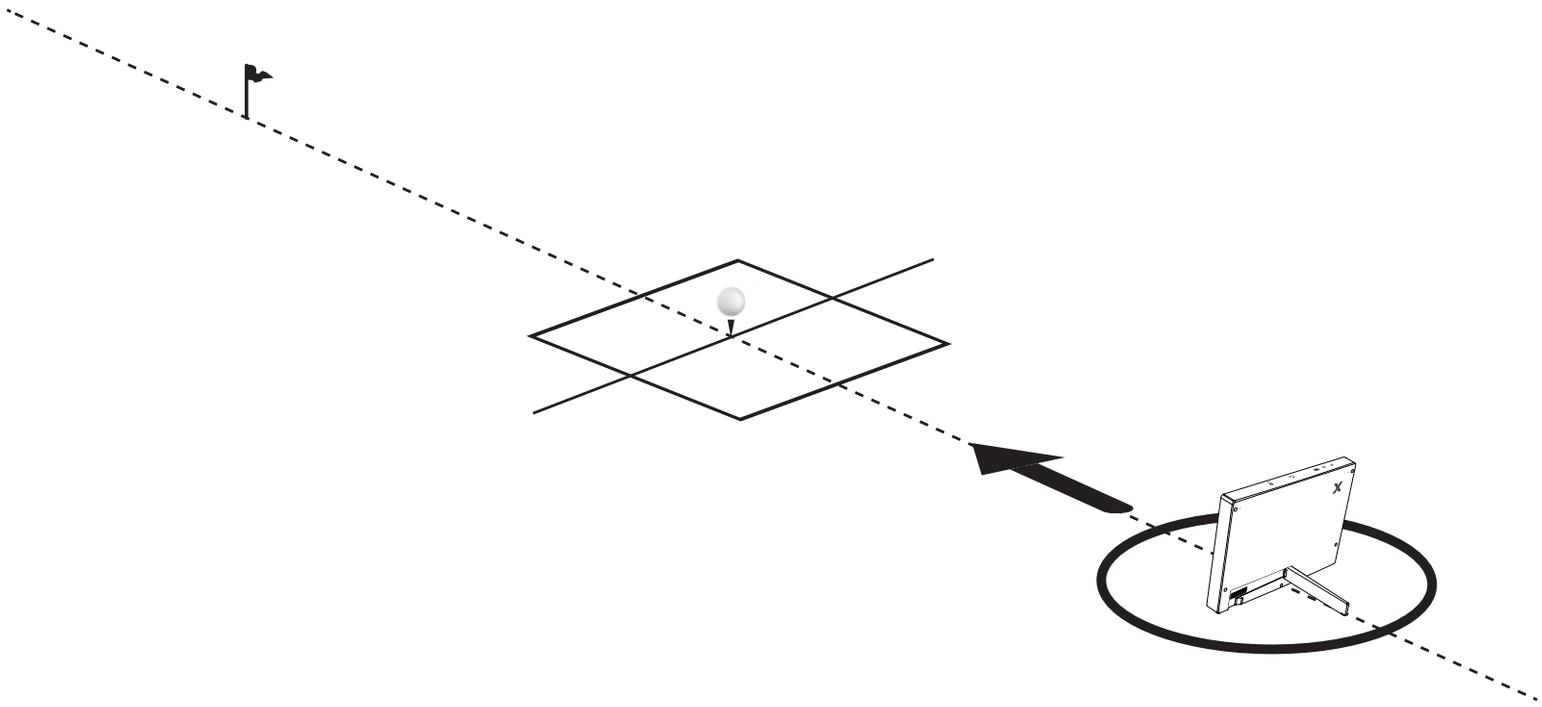
2. Select your target line (tree, flag, or other marker)





3. Place the FlightScope® behind tee on target line

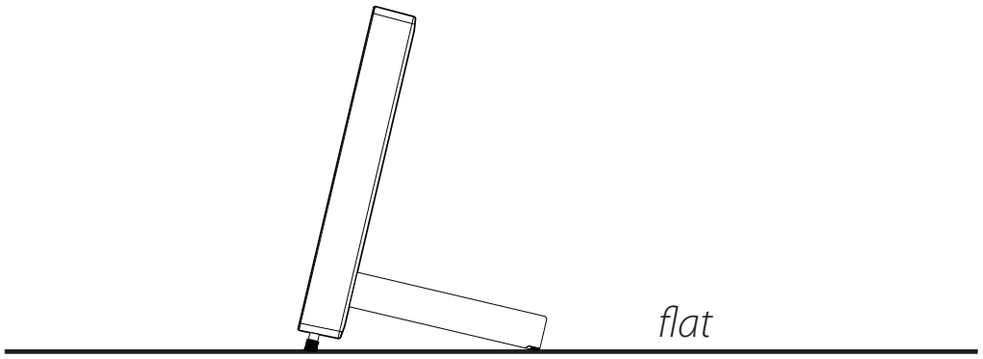
Recommended distance behind tee: 9 ft. to 14 ft. (2.7 to 4.2 m)

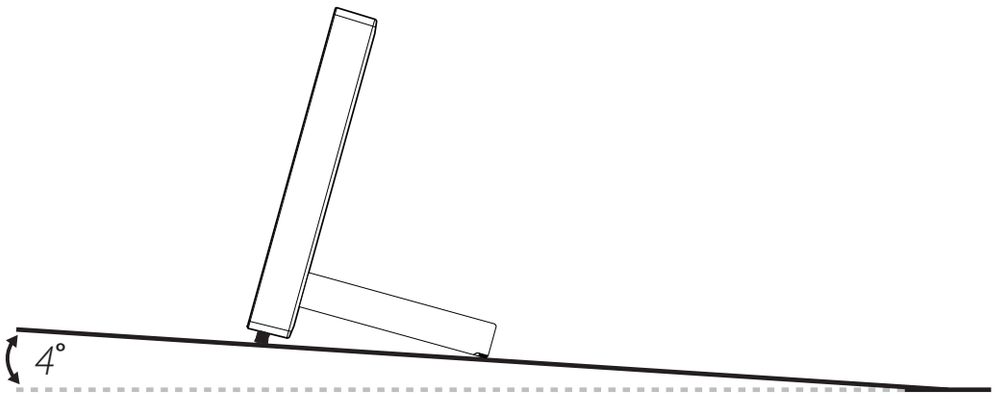


4. Rotate FlightScope® so that it points along the target line.

Tilt

- Operating angle is 10˚.
- Ground slope must be < 4˚
  for self-levelling to function.



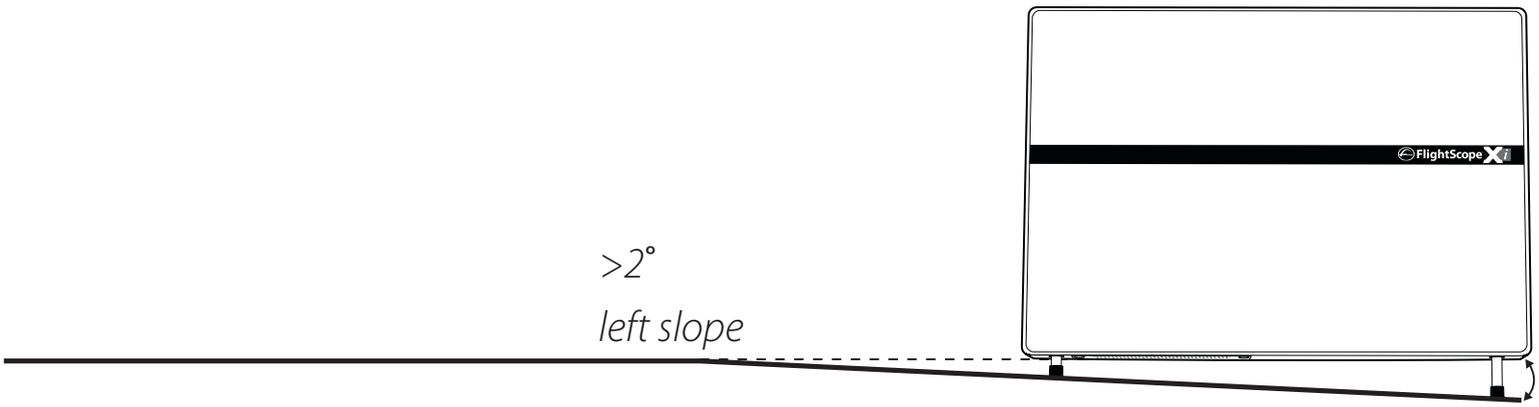


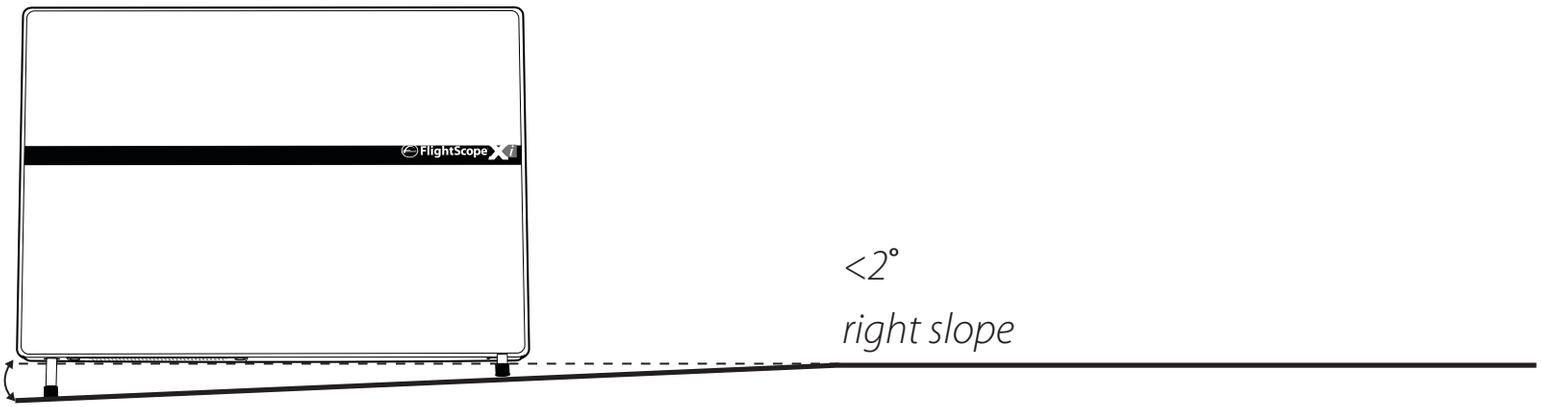
up slope

down

Roll

- Operating angle is 0˚.
- Ground slope must be < 0˚
  for self-levelling to function.





Indoor & Outdoor measurement

Indoor measurement

1. Make sure ball flight is at least 13 ft (4 metres).
2. Mark ball with *a single metal disc* for spin measurement.
3. Tee ball up with dot facing forward (toward the target).
4. Set Software to ***'Indoor'*** mode.

Outdoor measurement

Set Software to ***'Outdoor'*** mode.

Long Indoor measurement

If you work in a restricted area but the ball flight distance is at least 40 yards, set the software to ***'Long Indoor'*** mode.

Cautions

1. Use on level surface.
2. No obstructions or steps in front of the FlightScope® Xi unit.
3. Fluorescent lights and rotating machines (fans, etc.) can interfere with FlightScope® unit. Switch off or install a wire mesh screen in the light covers.
4. Enter distance from FlightScope® unit to tee in software before using.

USING THE SYSTEM
Compatible Devices

List compatible devices

Apple

- i Phone
- iPad
- iPad mini

Android

- Smart Phones
- Tablets

Software Applications

Download

Apple

- Go to Apple App Store

- Download FlightScope® applications.

Android

- Go to Google Play Store

- Download FlightScope® applications.

Communications

Wi-Fi

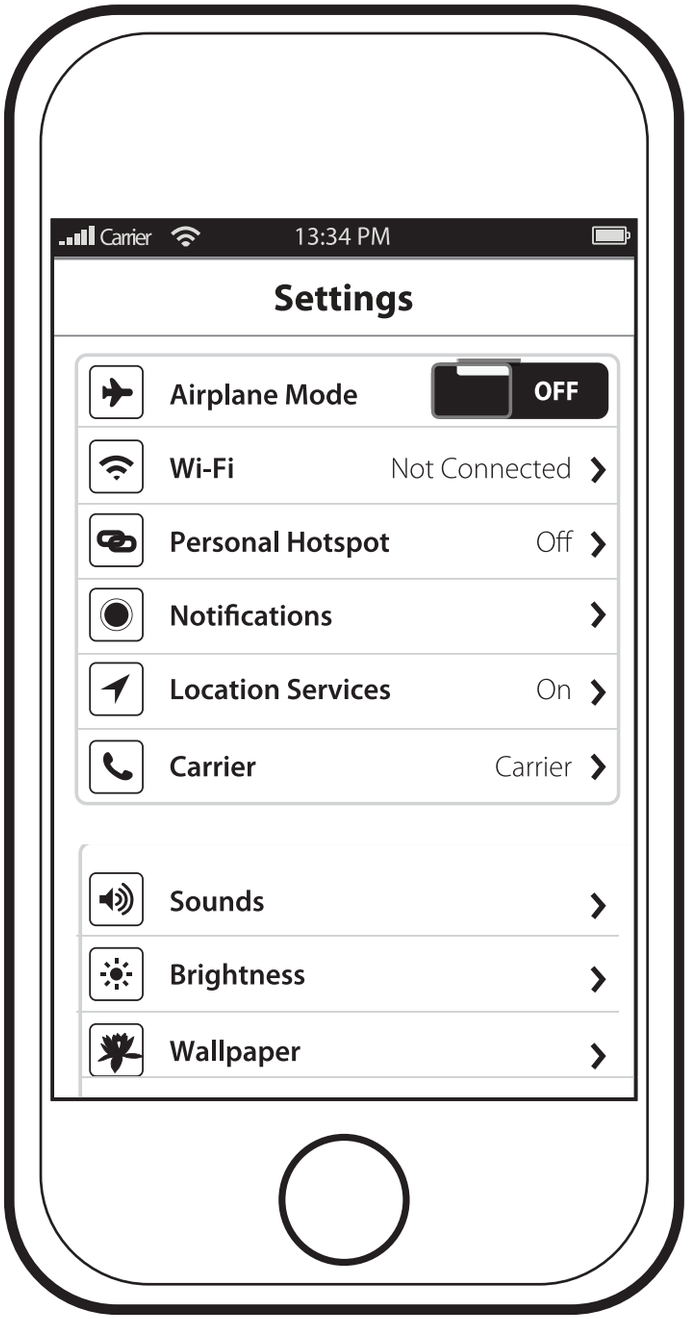
Wireless networking, or Wi-Fi, is used to connect computers at home, at work or in public locations. Wi-Fi is easy to set up, neat, and convenient. Wi-Fi is used to make a wireless connection from a smartphone or tablet to FlightScope® Xi.

USB

Caution:

USB is reserved for maintanence purposes only. Do not connect USB cable to sensor for normal use.

First Time Use



Set up the Wi-Fi connection between the Xi and the display device:

Note the Xi's serial number (example: FS Xi-00979).

Switch **ON** with no USB cable connected.

1. On the smartphone or tablet, select the Settings icon:

For Wi-Fi Setup on other devices, go to :

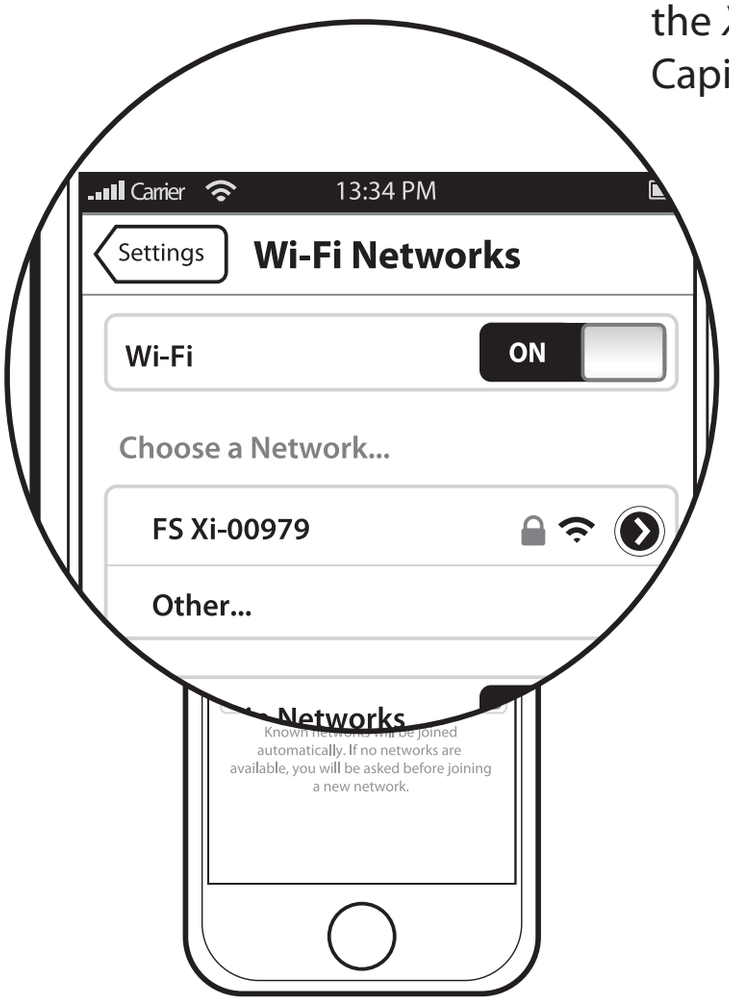
www.myflightscope.com/wifisetup

2. Select the ***Wi-Fi*** function. Set Wi-Fi to ***ON*** if ***Off.***

3. Select you FlightScope® Xi serial number, e.g

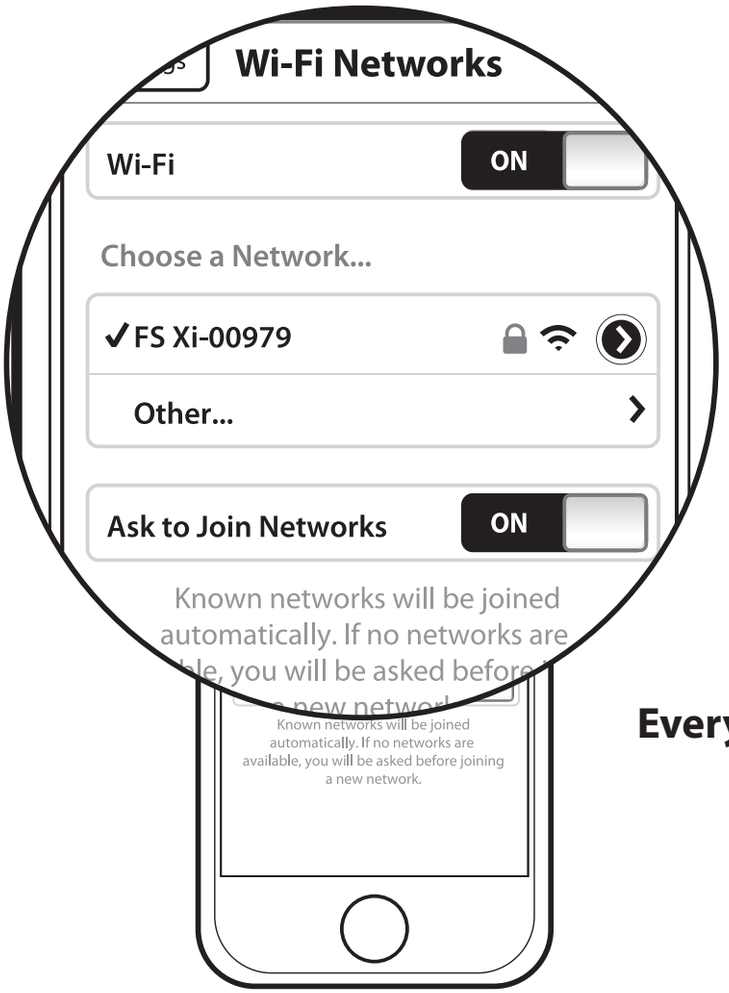
FS Xi-00979 from the ***'Choose a Network'*** list.

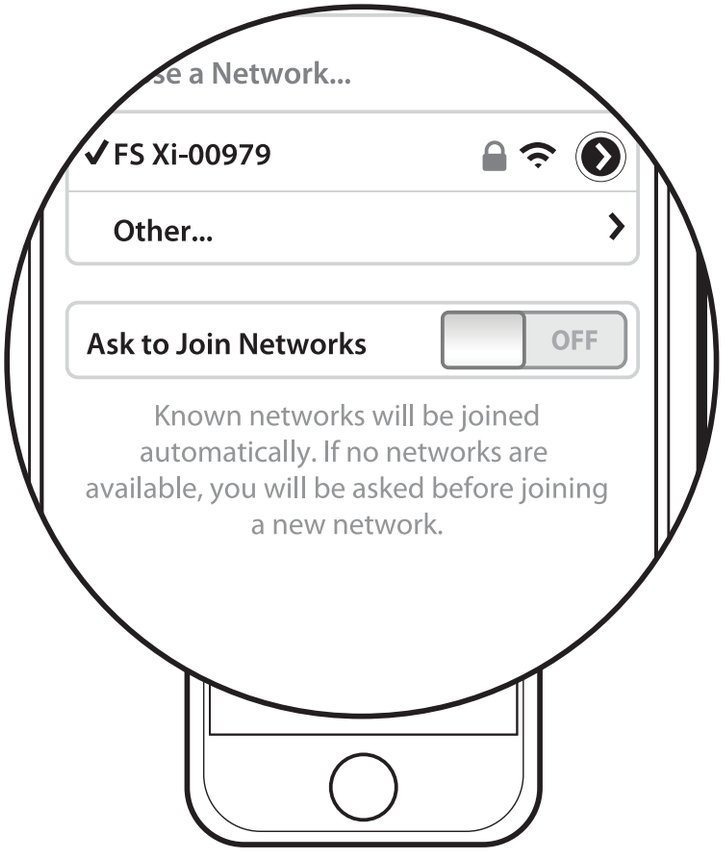
4. Enter you ***Password*** : The first 8 characters of the *Xi serial no*, eg. FS Xi-00979. Remember it is a Capital X, and it includes the dash (-).



5. Press Join on the keyboard to be connected.

6. After connecting to the network, scroll to the bottom of the screen and turn ***'Ask to Join Networks' Off.***





Every Time Thereafter

- Place the sensor in position and switch power ***ON.***
- Switch ***ON*** your smart phone or tablet.

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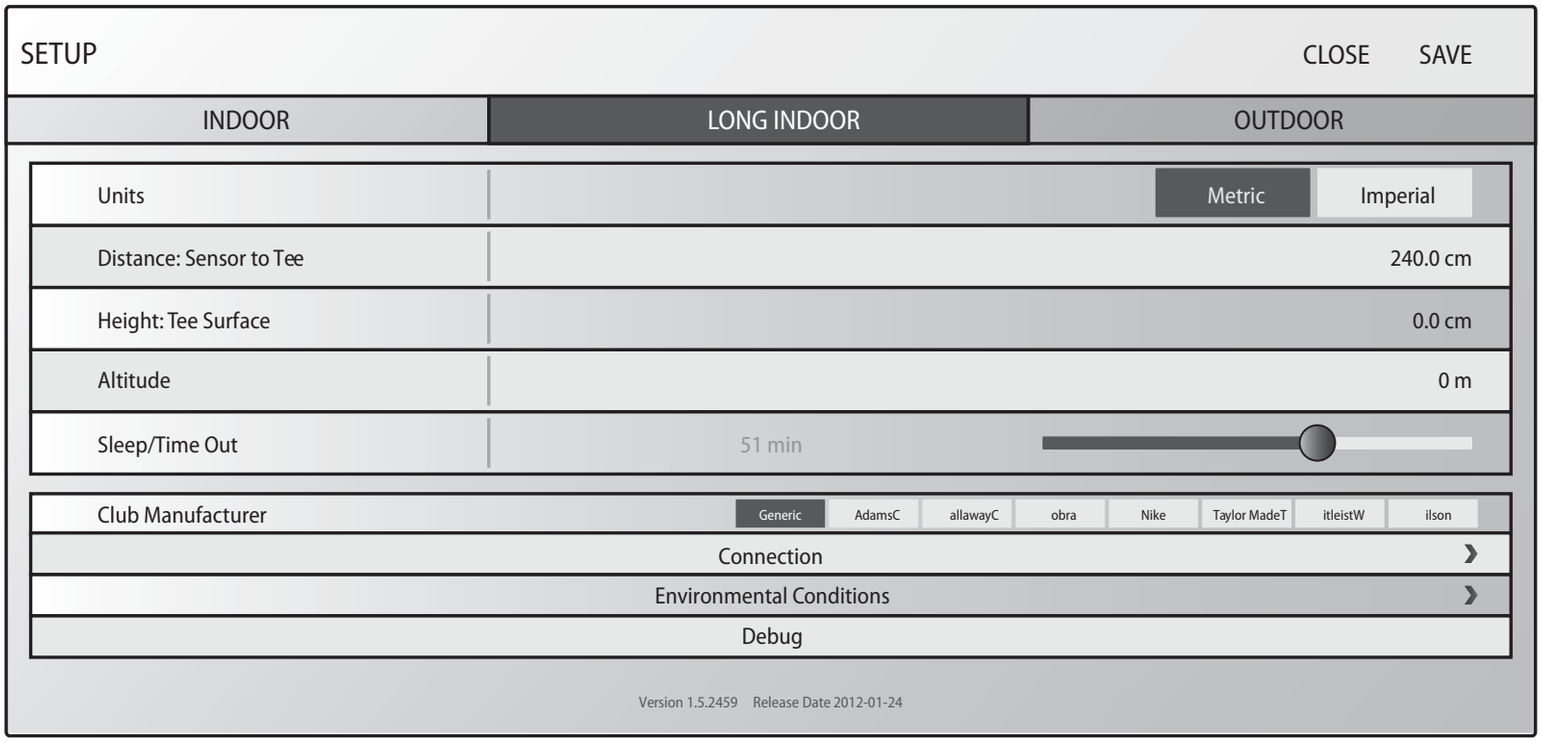
Set Operating Mode

Setup must be done *at least the first time* the system is used. It can be skipped if the setup remains unchanged between use, but must be updated if the setup changes (e.g. if the system is used in a different location).

Mode	When to use
Indoors	When ball flight is less than 40 yards.
Long Indoors	When ball flight exceeds 40 yards, but does not allow the full trajectory
Outdoors	On a driving range or golf course where ball flight is unrestricted

Set units, distances, height & altitude

Setup opens the ***Settings*** screen (as seen in below diagram).



Set units, distances, height & altitude

Set Units

Select Metric or Imperial.

Set Sensor to Tee Distance

Enter the distance from the sensor's face to the tee/hitting position and keep within 6 inches of specified distance for optimum club delivery measurements.

Set Tee Surface Height

Enter the height of the tee surface (not the Ball Tee) above the surface on which the FlightScope® is placed.

Set Altitude

Enter the altitude of the location.
Close to continue. The system is now ready for use.

CARE & MAINTENANCE
Basic care

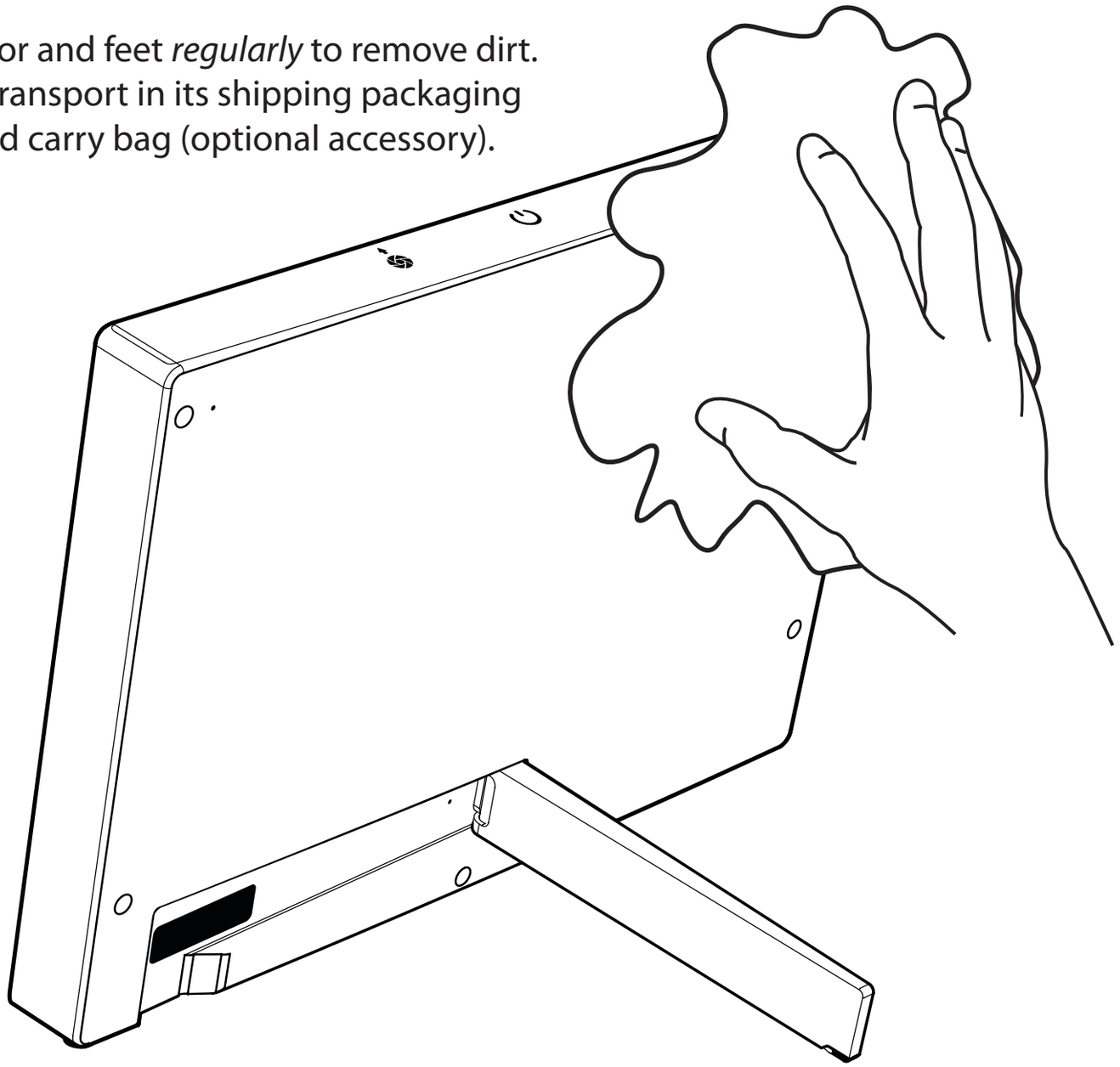
The **FlightScope® Xi** sensor is a complex electronic unit and should be handled with care. There are a number of sensitive components inside the sensor that can be damaged by impact and may affect its operation or functioning.

Make sure to transport and store the sensor with suitable protection and care, for example in the optional padded carry bag or the original shipping. It should not be dropped, banged or crushed.

Keep it away from excessive moisture including rain,
and avoid spilling anything on the sensor.

Cleaning

- Clean Sensor and feet *regularly* to remove dirt.
- Store and transport in its shipping packaging
  or a padded carry bag (optional accessory).



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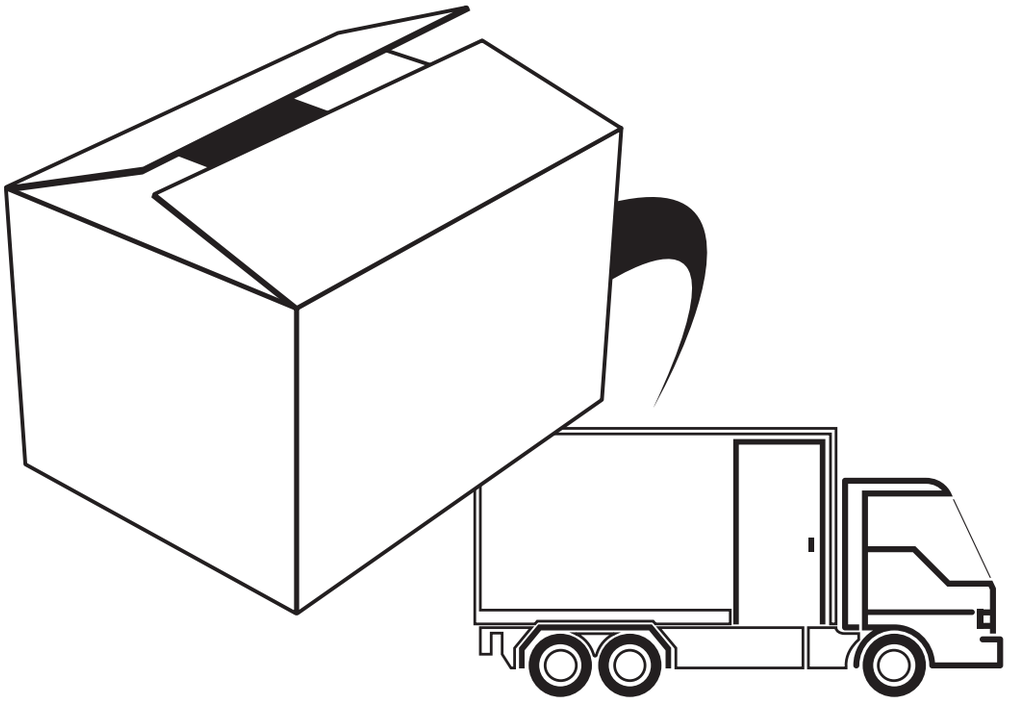
Storage & Transportation

- Store and transport in its shipping packaging
  or a padded carry bag (optional accessory).



Troubleshooting

SYMPTOM	POSSIBLE CAUSE & REMEDY
Unit does not switch on	Make sure that the batteries are charged, or otherwise connect to a mains power source with the AC adapter.
Low battery run time	Make sure leg is extended.
Batteries run down	Rechargeable batteries lose capacity over time. If your batteries have become too poor to use, contact FlightScope® support for a new battery module or send your battery module in so that new cells can be inserted. Make sure to charge batteries for 8-10 hours until full. When stored for any length of time, batteries will lose charge due to self-discharge. If a unit has not been used for a number of days, it is recommended to charge or use AC power.

SYMPTOM	POSSIBLE CAUSE & REMEDY
Does not display a shot	Ensure that the Wi-Fi connection between your smartphone or tablet and the sensor is set up and connected. Check that the sensor is switched on and positioned correctly behind the tee from which the shot is played. Check if the correct mode i.e indoor, outdoor, long indoor is selected.
Cannot connect Wi-Fi to sensor	Make sure that the sensor is switched on, and check that the communications indicator is flashing. This means the Wi-Fi is ready but not connected. Use the smartphone or computer's Wi-Fi tools to connect to the FlightScope®. If the indicator is continuously on, the Wi-Fi is connected.

Specifications

Dimensions	212 x 295 x 40 mm (H x W x D)
Mass (sensor)	<2.0 kg with battery
Tilt and roll adjustment	Roll range +/- 3 degrees Tilt range 8 to 14 degrees
Ambient temperature:	
Recommended operating range:	0°C to 45°C (32°F to 104°F)
Ingress protection:	IP54 / NEMA-4

Electrical Characteristics

Electrical supply:	Input 100-240 V AC/<0.2 Amp, 50/60Hz single phase Output 11-13V DC/2A/25W
Communications interface:	WiFi (IEEE 802.11b/g) USB 2.0 Hi Speed (Reserved use/System integrator use)
Safety and Interference:	FCC Class 15, Industry Canada, and CE
Power supply:	UL 60950-1/EN60950-1:2nd edition

FlightScope® reserves the right to change specifications at any time without notice.

Technical Support

Tel: 407-412-9400
Email: support@flightscope.com

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Service:

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