



HS2500IC User Manual

Safety Instructions

⚠️ ①Warning

- Do not stare into the laser beam.
- Eyes can be permanently damaged to look into sun with the device.
- Do not aim the device to the sun, it will cause permanent damage to inner components.
- Keep the eyepiece away from direct sunlight.
- Do not put the device out of the storage temperature of $-20\sim 60^{\circ}\text{C}$.
- When using this product, pay attention to the surface of the battery whether it's damaged, if there are signs of damages, you must replace the new battery immediately, or it may cause a short circuit, battery explosion will cause severe personal injuries.



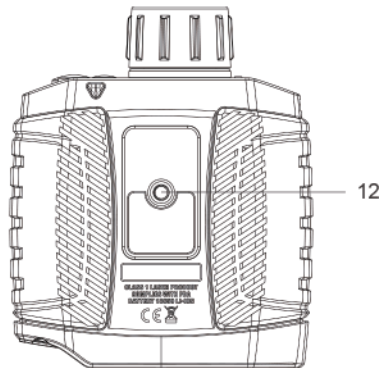
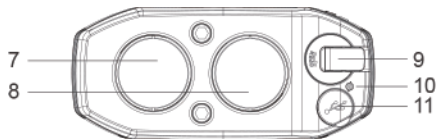
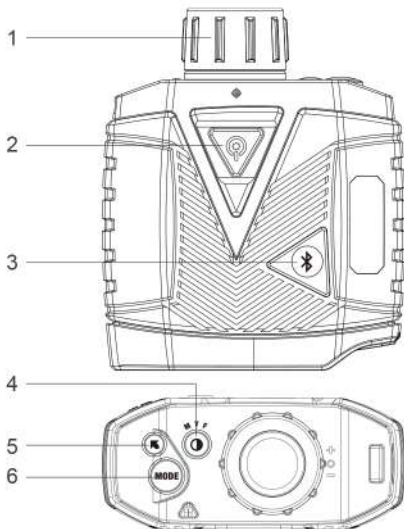
②Disposal

- Everyone is responsible for environmental protection.
- It's prohibited to dispose used batteries together with household waste, please collect used batteries to designated waste station.
- This product must not be recycled with household waste. Dispose of the product appropriately in accordance with the national regulations in your country.

③ Scope of Responsibility

Apresys will not be responsible for any lose caused by unapproved accessories from other manufacturers, or misuse, disassembling of the product, and defects caused by them are not covered in warranty scope.

Appearance



1. Eyepiece/ Eyepiece knob
2. Power / Measure Button
Short press to power ON and Measure
Press and hold to activate continuous measurement, release the button to stop.
3. Bluetooth switch (not available for SN2000)
Press and hold to turn ON/OFF the Bluetooth.
Short press to transfer data to App
4. Unit /Dual display change
Short press to toggle between red or black display,

Red fonts is used in darker lighting conditions.
 Press and hold to change measuring units (M), (Yd), (Ft)

5. Measuring mode return

Short press to retrieve previous mode

6. Mode change

7. Objective Lens/ Laser Emitter

8. Laser receiving lens

9. Battery compartment

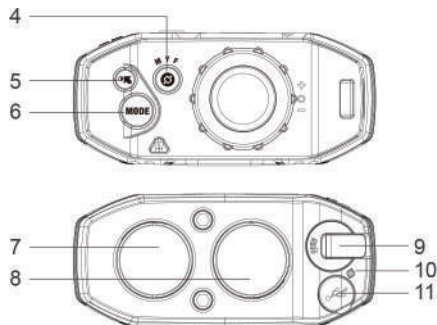
10. Charging indicator

11. TYPE-C charging/data transfer

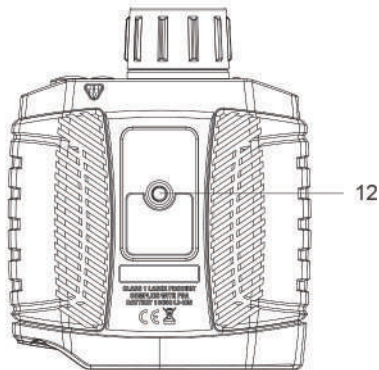
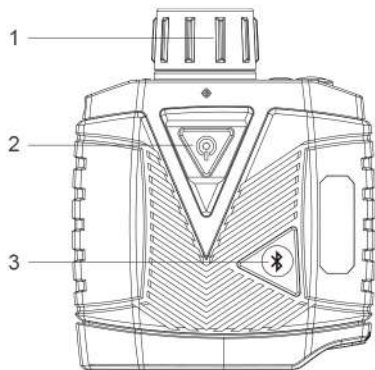
Connect with power to charge

Connect to PC, open the PC software to transfer
 real-time data.

12. Tripod screw hole

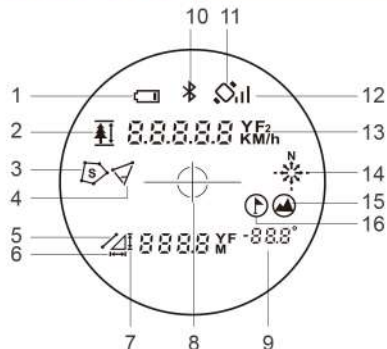


Appearance



1. Eyepiece/ Eyepiece knob
2. Power / Measure Button
Short press to power ON and Measure
Press and hold to activate continuous measurement, release the button to stop.
3. Bluetooth switch (not available for SN2000)
Press and hold to turn ON/OFF the Bluetooth.
Short press to transfer data to App
4. Unit /GPS switch
Press and hold to change measuring units (M), (Yd), (Ft)
Short press to turn ON/OFF GPS
5. Measuring mode return /Dual display change
Short press to retrieve previous mode
Short press to toggle between red or black display, Red fonts is used in darker lighting conditions.
6. Mode change
7. Objective Lens/ Laser Emitter
8. Laser receiving lens
9. Battery compartment
10. Charging indicator
11. TYPE-C charging/data transfer
Connect with power to charge
Connect to PC, open the PC software to transfer real-time data.
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Icons on LCD Display



1. Low battery indicator
2. Vertical height (Between two points)
3. Spatial area
4. Point-to-point measurement
5. Distance measurement (under the mode of spatial area measurement)
6. Auto level
7. Auto height
8. Bull's-eye
9. Angle indicator
10. Bluetooth indicator
11. GPS positioning
12. Signal indicator
13. Units: Yd / Ft / M / KM² / KM/h

- 14. Compass
- 15. Rain and fog ranging mode (long-range priority)
- 16. Flagpole lock ranging mode (Close-range priority)

Battery installation and instructions

This product uses removable 18650 lithium battery, it can be directly charged, when  (low battery indicator) displayed, it requires your immediate action of changing or new battery replacement, otherwise ranging deviation will increase. Please take off the battery if it is not used for long time.

1. Pull up the rotating handle and turn 90° anticlockwise to open the battery cover, as shown in photo 1 and 2.

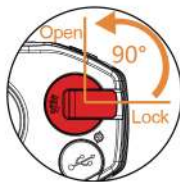


Photo 1



Photo 2

2. Install a 18650 lithium battery, as shown in photo 3. Observing correct polarity, otherwise the device may be damaged due to a short circuit.



Photo 3

3. After the battery assembly is completed, press the battery cover in the position shown in photo 4, turn it 90° clockwise, and then press the rotary handle as shown in photo 5.

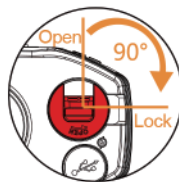


Photo 4

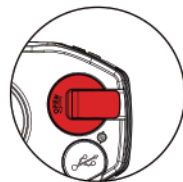
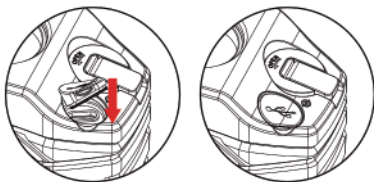


Photo 5

4. When directly charging, please use the original USB cable to the power socket, you also can connect to the computer to charge, but it takes longer time. When charging is complete, cover the USB protection plug to prevent dust.



5. During the charging, the indicator light flashes to warn no lithium battery or cover loosen. When the indicator light is on, it indicates that the battery is charging. When the light is off, it shows that charging is complete.



flashing



light on

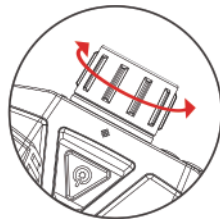


light off


Initial Operation and Settings

Eyepiece


Adjust the eyepiece knob to focus the target.

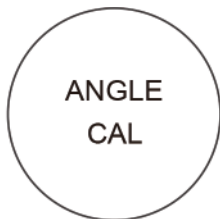


Power ON/OFF

1. Press the  to power ON.
2. When the GPS is turned on, the device will automatically shut off after 5min of inactivity.
3. When Bluetooth is turned on, the device will automatically shut off after 2min of inactivity.
4. The device will automatically shut off after 16s of inactivity under other mode.

Angle Calibration

This device is calibrated by factory. If it gives wrong measurement, the device should be re-calibrated manually. Power off the device, press and hold the power button  for 5s to enter Calibration Interface, there will be letters "ANGLE CAL" shown on screen, put it still for few seconds to complete the calibration; if the calibration cannot be completed in long time, the device will turn off automatically in a minute, and calibration fails.



The device will use the default factory calibration data if the calibration failed.

Measuring Mode Change

Short press **MESH** to switch different modes: flagpole lock mode (Close-range priority), Rain and fog mode (Long-range priority), vertical height (between two points), spatial area measurement (not available for TP300), point-to-point, auto height, auto level and so on.

*Please adjust the eyepiece to focus the target before measuring.

In the course of the measurement, if the target reflection is weak or is beyond the measuring range, it will display as "----"

*The measurement range will be affected by materials of the target, inclined angle of the target surface, visibility of the weather etc. In general, if the target surface is smooth and bright with larger area, the beam is perpendicular to the target surface and the weather is cloudy without fog, the measurement range will be longer, and vice versa.

Flagpole Lock Mode (Close-range priority)

Distance +Tilt angle

This mode is mainly used to measure the distance of small objects in long range under close-range priority principle.

Short press **MESH** to **▶** flagpole lock mode (close-range priority), aiming at target B, short press **▶** to get distance between A and B.



Rain and fog mode (long-range priority)

Distance +Tilt angle

This mode is mainly used to measure in rain and fog conditions.

Short press **MODE** to rain and fog mode (long-range priority), aiming at target B, short press **ENTER** to get distance between A and B.



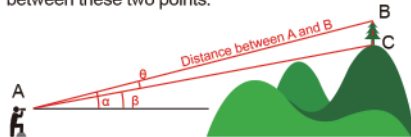
Vertical height (Between two points)

Distance+height+tilt angle

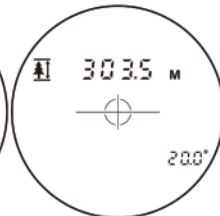
Short press **MODE** to vertical height (between two points), aiming at target B, short press **ENTER** to get distance and angle between A and B (angle between the measured distance and horizontal surface). move to target C, press **ENTER** to get distance and angle between A and C (angle between the measured distance and horizontal surface), the

vertical height between B and C will be calculated and displayed at top of the screen, the absolute value of the difference between two angles $|\theta|$ is displayed at the lower right of the screen.

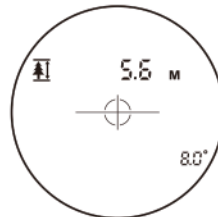
Remarks: the distance refers to the vertical height between these two points.



Distance between A and B



Distance between A and C

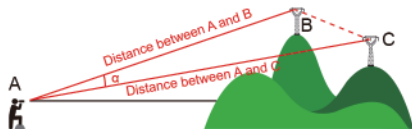


Distance between B and C

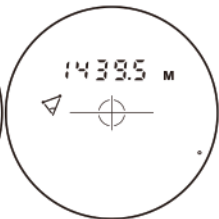
Point-to-point mode

Short press to activate Point-to-Point mode, aiming at target B, press , the measured distance between A and B will be displayed accordingly, move to target C, press , the measured distance between A and C will be displayed, at meantime, the distance and angle between B and C will be calculated and displayed on the screen.

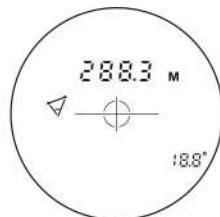
* **Note:** Stand still while measuring the target.



Distance between A and B



Distance between A and C



Distance between B and C

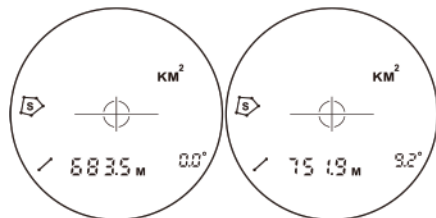
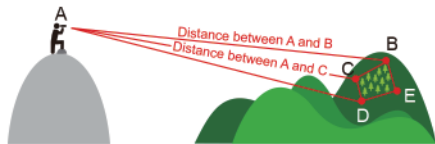
Spatial area measurement

Short press to spatial area measurement, aiming at target B, press , the distance between A and B will be displayed at bottom left corner, move to target C, press to get updated distance between A and C, meanwhile the angle between line AC and AB is display at bottom right corner; after measuring the third point D, the calculations of the spatial area will be displayed at the top of the screen, angle between line AD and AB is displayed at bottom right corner. If you increase the measuring point (Max.20 points), the spatial area will be updated in real-time.

Note:

1. The data will be displayed only when the spatial area is more than 0.0001 km²(100m²).
2. Press and hold to clear the data and measure the spatial area again.

3. Angle is the angle between the line of the device to the current measurement point, and the line of the device to the first measurement point.



Distance between A and B

Distance between A and C

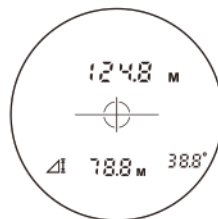
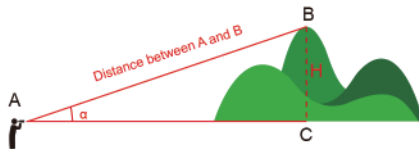


Calculated area

Auto height




Distance + Vertical height + tilt angle

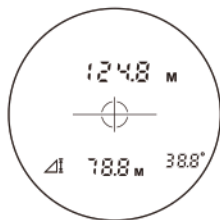
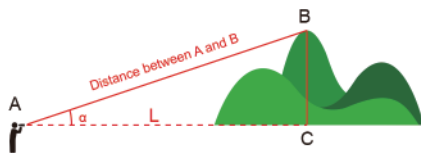
Short press to auto height, aiming at upper point B, press to get distance between A and B at the top of the screen, the vertical height between B and C will be displayed at bottom, tilt angle will be displayed at lower right side.



Auto level

Distance + Horizontal distance + tilt angle

Short press  to  auto level, aiming at target B, press  to get distance between A and B at the top of the screen, the horizontal distance between A and C will be displayed at bottom, tilt angle will be displayed at lower right side.



Specification

Model	HS2500IC
Range ①	2000m
Measuring unit	M、Yd、Ft
Accuracy	±(0.3m+0.001xDm)
Angle range	-90°~90°
Tilt angle accuracy	±0.5°
Gyroscope angle accuracy	±1°
Wavelength	905 nm
Eye safety	FDA(CFR 21)
Field of view	6°
Magnification	8X
Objective lens diameter	23mm
Eyepiece diameter	31mm
Exit pupil diameter	3.8mm
Diopter	±7D
Diopter adjustment	Eyepiece adjustment
Operating temperature	-10℃~40℃
GPS	√
Coordinate acquisition	√
Tripod screw hole	√
Flagpole lock mode (close-range priority)	√

Rain and fog mode (Long-range priority)	√
Vertical height between two points	√
Point to point	√
Spatial area measurement	√
Auto height	√
Auto level	√
Continuous measurement	√
Angle measurement	√
Azimuth angle	√
Bluetooth	√
APP	√
LCD backlight	√
LCD Monitor	Black (red) bicolor R-PdLCD
Power	18650 lithium battery
Charging interface	TYPE-C
Data export	USB
Protection class	IP65
Auto Shut off	16s inactivity
Dimension	149*125*55mm
Weight(including battery)	593g

① Range

The maximum range shall be different according to different models. The actual range refers to the package.

Notice:

1. In order to protect the coating of the lens, do not touch lens with your fingers.
2. Laser rangefinder has been precisely calibrated by instruments, please send back to dealer for repairing instead of disassemble by yourself.
3. When the lens is contaminated, please wipe gently with clean cloth, do not use tough objects to wipe.
4. Avoid collision or heavy load when carry or use, especially keep away from baking or corrosion.
5. Keep the product away from moisture during storage. Please keep it in a dry, cool and well ventilated place to avoid direct sunlight, dust and temperature mutation.
6. Rain and fog will affect the laser ray-path, which may worsen the measurement accuracy. It also may cause error under very bad weather condition.