

INDUSTRIAL PRODUCT DATASHEET

SenseCAP Solar Node P1-Pro for Meshtastic

Solar-powered Meshtastic node with GPS, Grove sensor interface, and 8–9 km open-area range for outdoor mesh networking and environmental monitoring.

SKU

114993633

UPDATED

2026-08-12 09:46:25

PRICE

\$93.90(Excl. VAT)



Overview

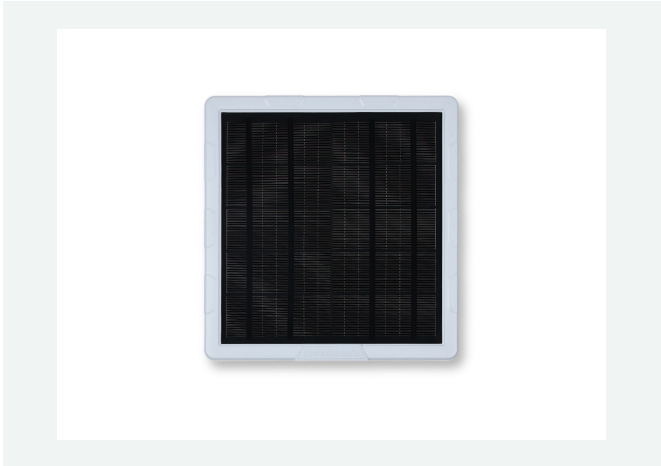
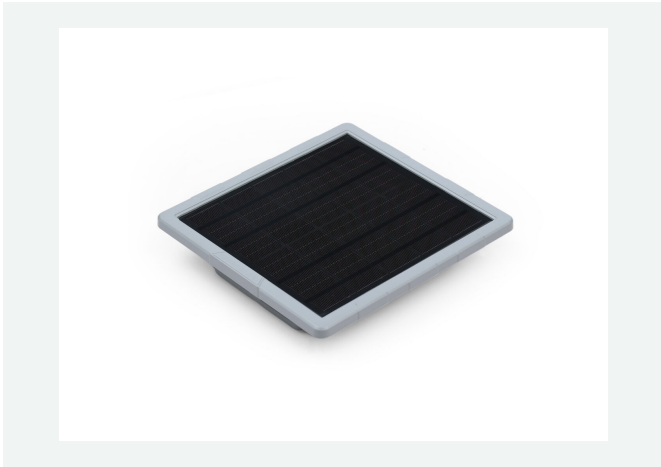


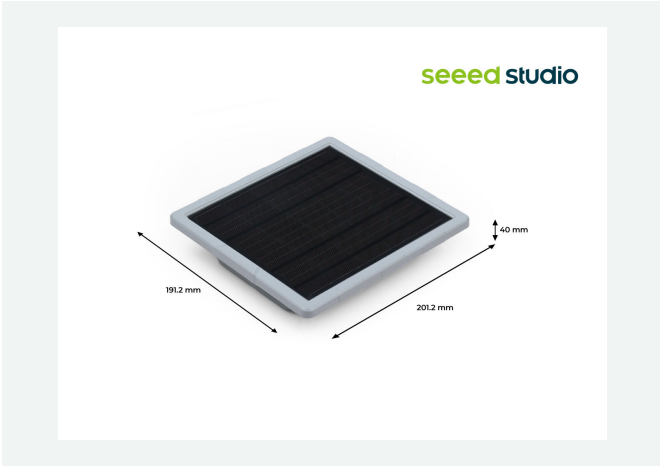
The SenseCAP Solar Node P1-Pro for Meshtastic is a solar-powered outdoor LoRa node featuring a 5W solar panel, four 3350mAh 18650 batteries, built-in XIAO L76K GPS, and Grove sensor expansion interface. Pre-flashed with Meshtastic firmware, it provides 8–9 km communication range in open areas and serves as a node or repeater for outdoor adventure, mesh network expansion, educational experiments, and environmental monitoring.

Key Features

Note:

- The device is compatible with [Meshcore](#). Please [click here](#) to see the tutorial.
- From China warehouse to the United States, choose "**US Direct Group Shipping**" to enjoy duty-free !
- **Enjoy an automatic 10% off when you purchase any two or more devices from T1000-E (SKU : 114993369)、Wio Tracker L1 series (SKUs:114993648, 114993649, 114993653, 114993654) and Solar Node series (SKUs: 114993633, 114993643).**
- The **SenseCAP Solar Node P1-Pro** has positioning function and four 18650 batteries. If you have your own batteries and don't need positioning, please choose the [SenseCAP Solar Node P1](#).
- To replace the battery, use Button-top 18650 battery. [Click here](#) to see the reference battery.
- Utilizes a **5W solar panel** in combination with **4*18650 batteries** with a capacity of 3350mAh each. This setup ensures continuous operation even in the absence of sunlight, effectively solving the problem of outdoor power supply.
- The device comes **pre-flashed with Meshtastic firmware** at the factory.
- Features a **built-in XIAO L76K GPS module**, enabling high-precision real-time positioning. It supports real-time sharing of location information, providing reliable location assurance for outdoor activities.
- Equipped with a **Grove Ecosystem (The list of supported sensors is provided below.)**, it is convenient to connect various sensors, such as temperature and humidity sensors. This meets diverse monitoring needs and enables easy functional expansion.
- It is suitable for **long-term outdoor use**.
- The communication range between the two devices can **reach 8-9KM in open areas**. It can seamlessly integrate into the Meshtastic ecosystem and be used as an outdoor node or repeater to easily expand the Mesh network, enhancing network coverage.□
- **Accessory Options:** If you need an antenna with higher gain,we recommend these antennas:
 - **Plug-and-play:** Comes with a standard RF cable, which can be directly inserted into the pre-drilled hole (standard D-shaped hole) on the Solar Node bracket
 - **Three-step installation:** Align → Insert → Lock□

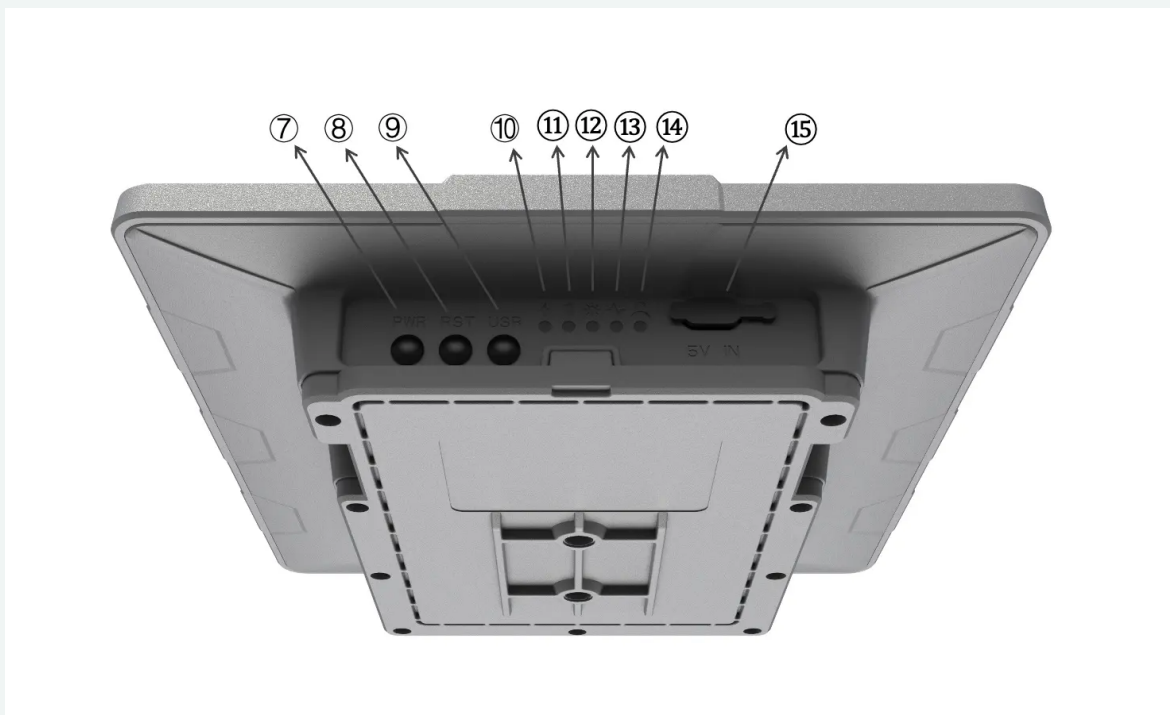
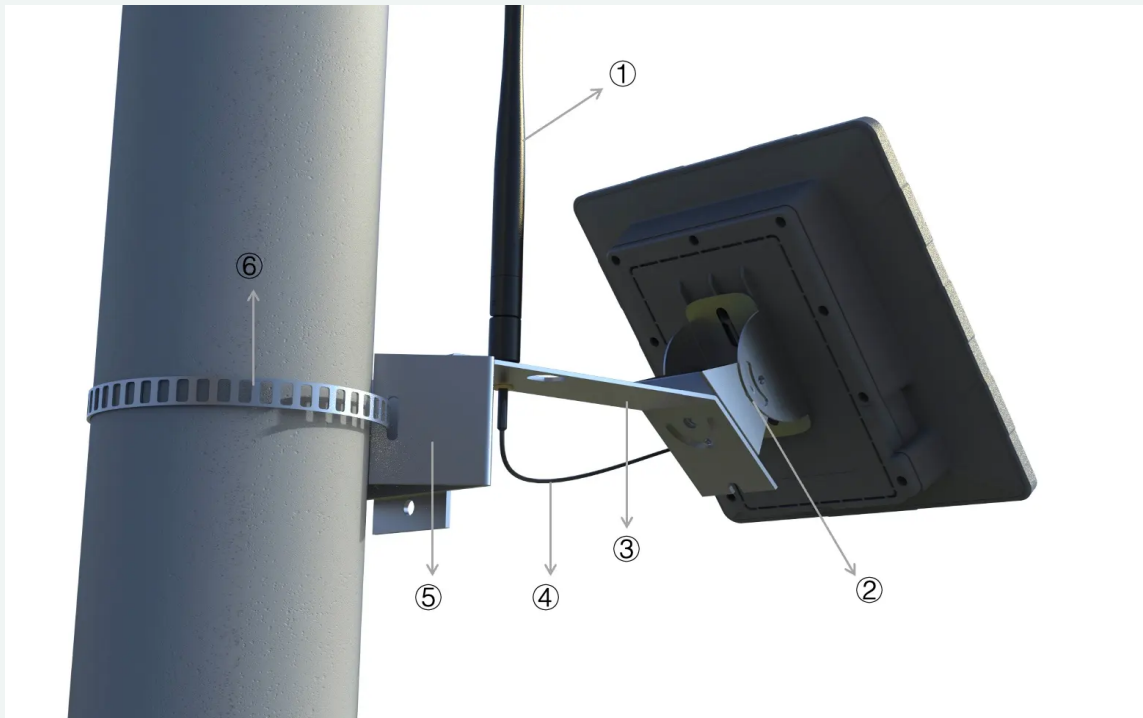


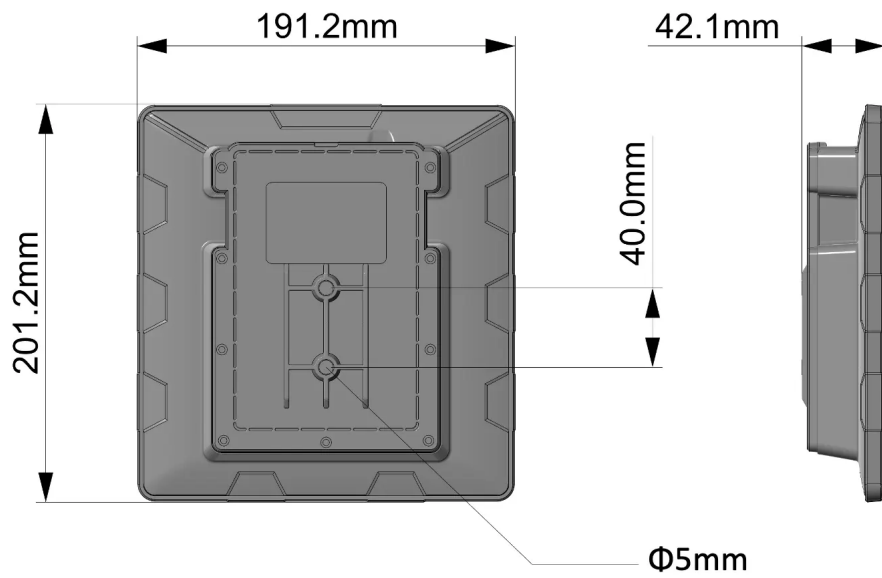


Specification

Main controller	XIAO nRF52840 Plus(Nordic nRF52840, ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz, 256KB RAM, 1MB Flash, 2MB onboard Flash)
LoRa Module	Wio-SX1262 Module(Semtech SX1262, TXOP=22dBm@862-930MHz)
GPS Module	XIAO L76K(Support GPS/GLONASS/Galileo)
Antenna	LoRa: Type: Rod-shaped rubber antenna Frequency range: 868-915MHZ Gain: 2dbi GNSS: GPS L1 C/A: 1575.42MHz GLONASS L1: 1602MHz BeiDou B1: 1561.098MHz Bluetooth 5.0
Solar Panel	5W
Interface	Grove *1: IIC/GPIO/UART USB-C debugging
Button	Power on/off Reset User-defined

LED	Charging status indicator lights *2
	Solar panel status indicator light *1
	Mesh heartbeat light *1
	User-defined *1
Power supply	Type-C: 5V 1A
	Solar power supply: 5V 1A
Battery	4 x 18650 lithium batteries (3350mAh each) • Supporting Type-C and solar charging. • Discharge environment : -40 ~ 60°C • Charging environment: 0 ~ 50°C
Certification	FCC、CE
Dimension	191.2 x 201.2 x 42.1 mm





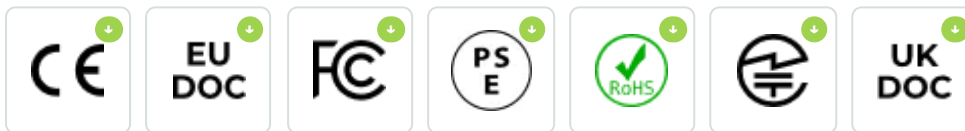
Applications

- **Outdoor Adventure:** Send real-time location and text messages in areas without network coverage.
- **Mesh Network Expansion:** Serve as a Mesh relay node to expand the coverage of the existing Meshtastic network. Support multi-hop transmission, where data can be relayed through multiple nodes, enhancing network reliability.
- **Educational Experiments:** Learn about the development of Meshtastic and LoRa decentralized networks.
- **Environmental Monitoring:** Provide a Grove interface to connect sensors for remote monitoring of the environment (such as temperature, humidity, air quality, etc.).

Part List

SenseCAP Solar Node P1-Pro (with GPS & battery)	x1
Mounting Brackets • Universal Joint • Connector • Hoop Bracket • Hoop Ring	x1
2dBi 868 - 915MHz Rubber Rod Antenna	x1
RF Cable: RP-SMA Male to RF-SMA Female-300mm	x1
1/4-20 UNC Hex Head Machine Screw, 6 mm Long(Screw Pack)	x2
Screw, Phillips Pan Head Machine, M6 × 14 mm, P1.0(Screw Pack)	x4
Black Type-C Cable	x1
User Manual	x1

Compliance & Logistics



HSCODE	8541402000
USHSCODE	8541410000
UPC	
EUHSCODE	8531202090
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

If not installed and used in accordance with the instructions, it 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.

Resource Links

- <https://www.seeedstudio.com/SenseCAP-Solar-Node-P1-Pro-for-Meshtastic-LoRa-p-6412.html>
- [Seeed Sensecap Solar Node Consumption Test and Battery Life Calculation](#)
- [SenseCAP_Solar_Node_instruction_diagram](#)

Seeed Technology Co.,Ltd.

9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676

Web: www.seeed.cc

Shop: www.seeedstudio.com