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INDUSTRIAL PRODUCT DATASHEET

SenseCAP Solar Node P1 for Meshtastic

Cost-effective solar-powered Meshtastic node with 5W solar panel, pre-installed Meshtastic firmware, Grove sensor support, and 8–9 km open-area transmission for outdoor mesh networking.

SKU	UPDATED	PRICE
114993643	2026-10-16 10:56:44	$72.90(Excl. VAT)



Overview



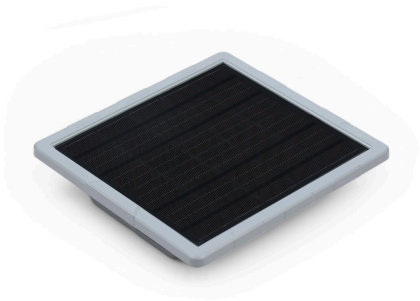
The SenseCAP Solar Node P1 is a cost-effective Meshtastic-compatible outdoor node with a 5W solar panel and pre-installed Meshtastic firmware, supporting 8–9 km transmission in open areas and Grove plug-and-play sensors. It can serve as an outdoor node or repeater to expand Mesh network coverage, and users can independently add a GPS module and four 18650 button-top batteries if needed.

Key Features

Note:

- The device is compatible with **Meshcore firmware.** Please **click here** to follow the tutorial.
- **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).**
- **SenseCAP Solar Node P1** is cost-effective and lacks the XIAO L76K GPS module and four 18650 batteries. But users can buy and install them independently. For the model with positioning and batteries, opt for the **SenseCAP Solar Node P1-Pro**.
- To add battery, use Button-top 18650 battery. **Click here** to see the reference battery.
- Integrated with a **5W solar panel**, and supports external batteries (which need to be provided by users themselves).
- The device comes **pre-installed with Meshtastic firmware** at the factory. It can be seamlessly integrated into the Meshtastic ecosystem.
- Compatible with the **Grove Ecosystem (The list of supported sensors is provided below.)**, and supports plug-and-play of sensors such as temperature and humidity sensors, light sensors, etc.
- It is suitable for **long-term outdoor use**.
- **Supports 8 to 9KM Transmission** in open areas. It can be used as an outdoor node or repeater, easily expanding the Mesh network and 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

Product Gallery







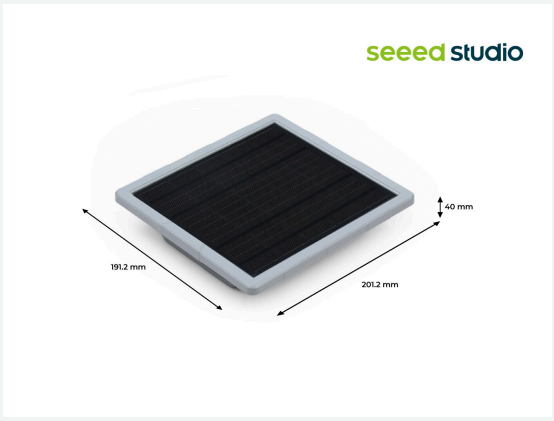












Specification

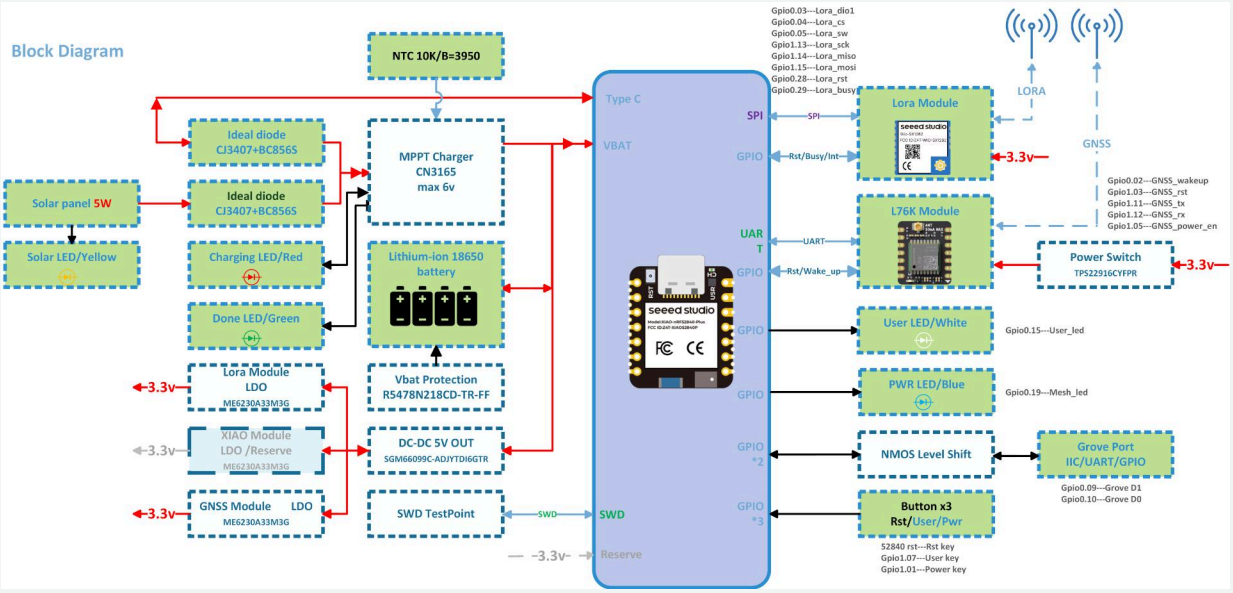
Main controller	XIAO nRF52840 Plus(Nordic nRF52840, ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz, 256KB RAM, 1MB Flash, 2MB onboard Flash)
LoRa Module	Wio-SX1262 Module(Semtch SX1262, TXOP=22dBm@862-930MHz)
GPS Module	Users self-purchase and add XIAO L76K(Support GPS/GLONASS/Galileo)
Antenna	LoRa: 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
	USB-C debugging
Button	Power on/off
	Reset
	User-defined

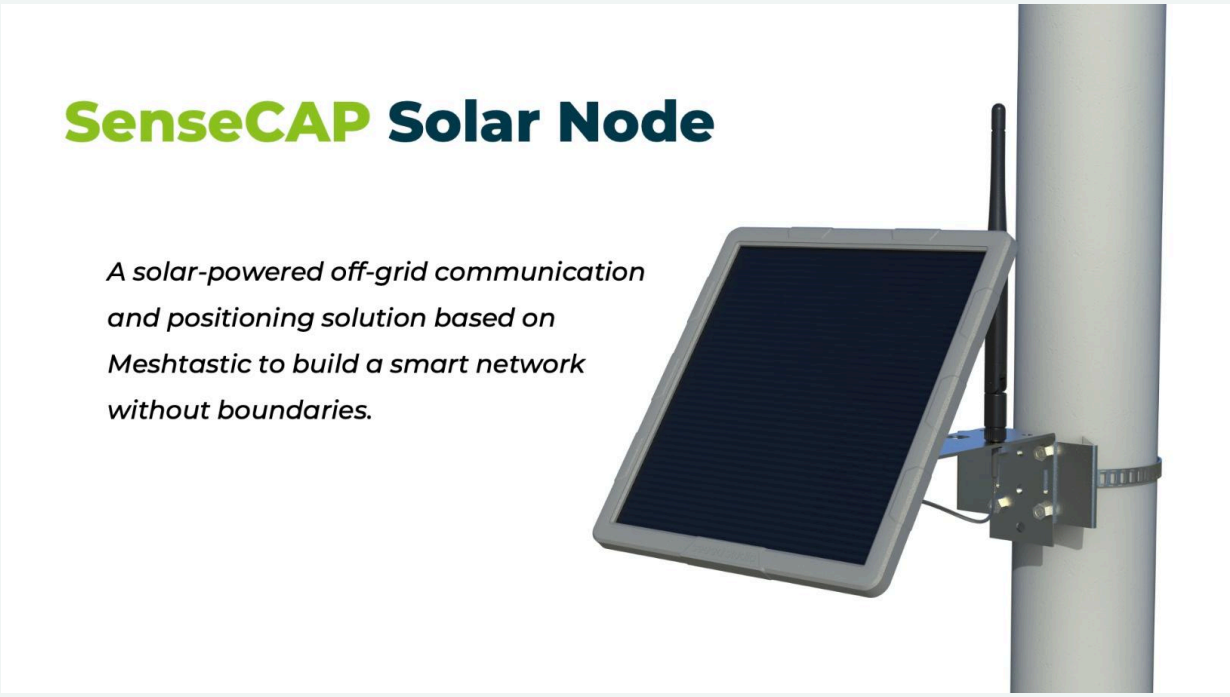
LED	Charging status indicator lights *2
	Solar panel status indicator light *1
	Mesh heartbeat light *1
	User-defined *1
Power supply	5V
Battery	Users self-purchase and add
Dimension	191.2 x 201.2 x 42.1 mm

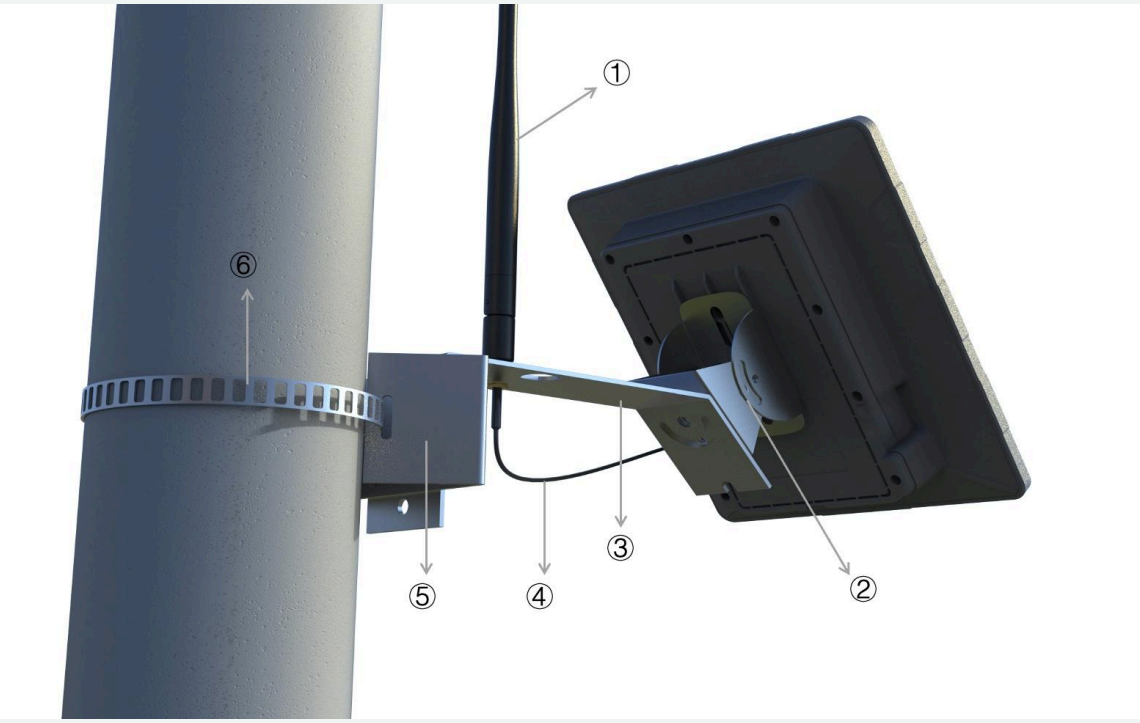
①	2dbi, 868~915MHz rubber rod antenna	
②	Universal joint bracket, angle adjustable.	
③	Bracket connector, can support the antenna	
④	RF Cable; RP-SMA Male to RF-SMA Female; 300mm	
⑤	Hoop bracket	Diameter: 70-100mm
⑥	Hoop ring	

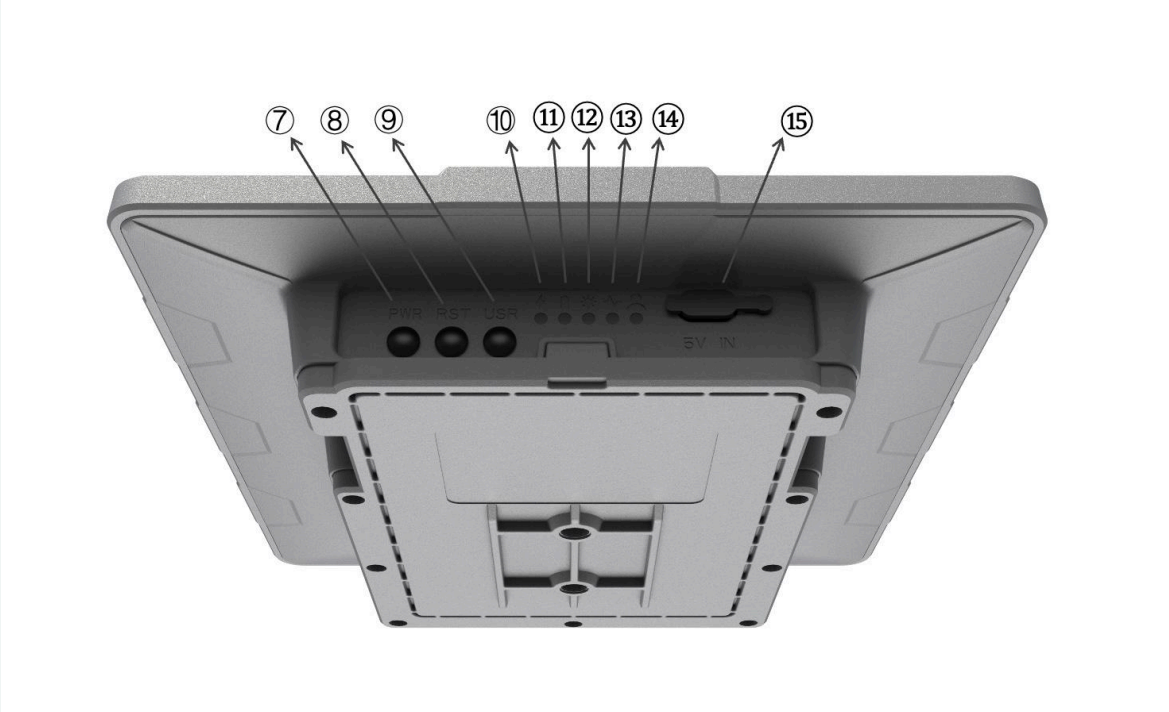
⑦	Power switch
⑧	Reset
⑨	User-defined
⑩	Red light on: Charging
⑪	Green light on: Charged
⑫	Yellow light on: Device is exposed to light.
⑬	Blue light: Mesh heartbeat
⑭	White light: User-defined
⑮	Type-C: 5V 1A

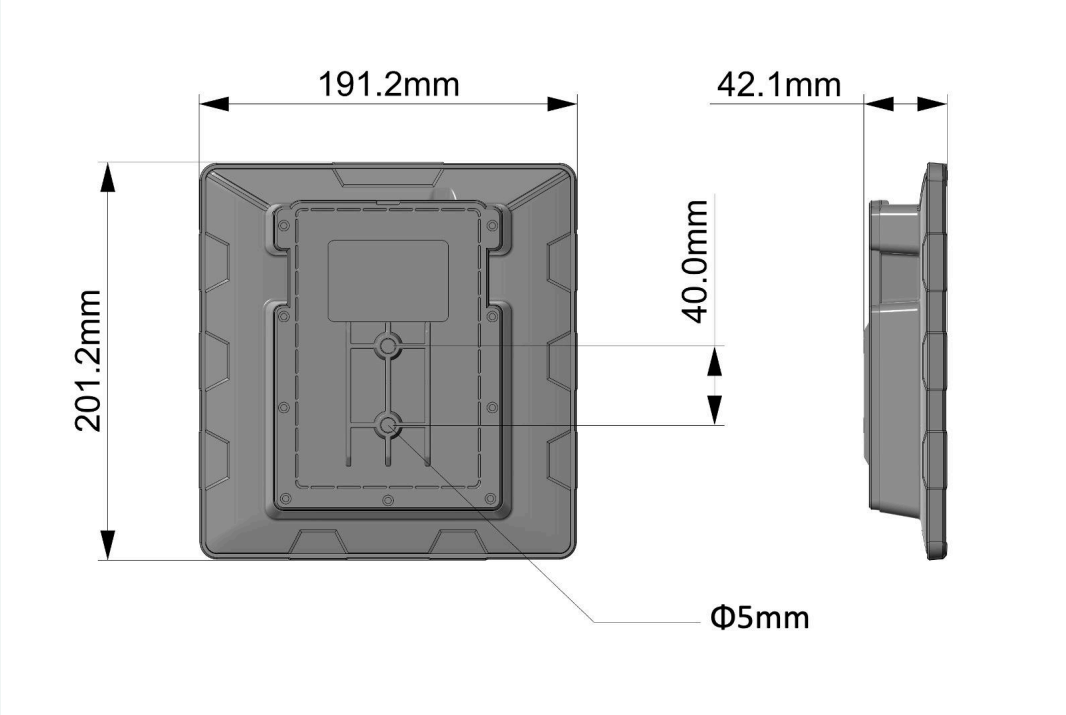
Hardware Overview






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⑬
⑭
⑮
PWR
RST
USR
5V IN



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 (without GPS & battery)	x1
Mounting Brackets • Universal Joint • Connector • Hoop Bracket • Hoop Ring	x1
2dBi 868 - 915MHz Rubber Rod Antenna	x1
RF Cable; RG316 coaxial 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	8541430000
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-for-Meshtastic-LoRa-p-6425.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