seeed studio

INDUSTRIAL PRODUCT DATASHEET

[10% off] MeshCore Starter Kit, Ready-to-Use, Off-Grid, Instant Reliable Communication

MeshCore Starter Kit: ready-to-use, off-grid, instant reliable communication with encrypted, multi-hop LoRa mesh connectivity for team activities, smart positioning, extreme adventures, and critical missions.

SKU	UPDATED
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Overview



The MeshCore Starter Kit is a ready-to-use, off-grid communication solution based on LoRa radio, providing encrypted, multi-hop mesh connectivity without centralized servers or internet dependency. It supports peer-to-peer short-range communication and dynamic repeater relay for long-range scenarios, with a simple button to broadcast location, making it ideal for team activities, smart positioning, extreme adventures, and critical missions.

Key Features

MeshCore is a decentralized off-grid framework based on LoRa radio. It establishes **encrypted, multi-hop mesh connectivity** without centralized servers or internet dependency.

Why do you need MeshCore

Meshcore support **peer-to-peer** communication in short range communication and **dynamic repeater relay** in long range communication. This is suitable for scenarios where there are requirements for power consumption and network complexity.
Meshcore can provide you with a simple network without redundant nodes.

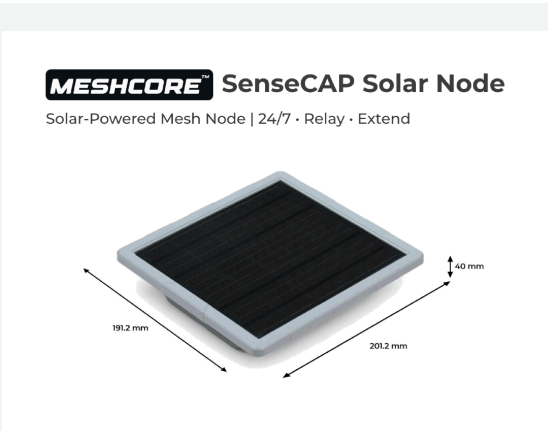
How to Choose the Right MeshCore Device

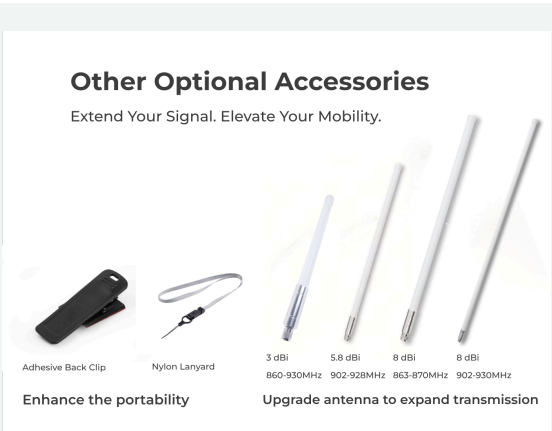
In a MeshCore network, companion nodes serve as **portable endpoints**. In short communication distance, devices can perform peer-to-peer communication after exchanging advert. A simple click of the button can easily broadcast your location.

Product Gallery









Specification

Wio Tracker L1 Pro for MeshCore	
Processor	Nordic nRF52840ARM® Cortex®-M4 with FPU runs up to 64 MHz
On-chip Memory	1 MB flash and 256 kB RAM
Wireless	LoRa: Based on Wio-SX1262 Wireless Module supports 862-930MHz
	Bluetooth 5.0
GPS	L76K (GPS, BeiDou, GLONASS, QZSS)
OLED Display	Size: 1.3 inch
	Resolution: 128*64 pixels
	Active Area (mm): L34.5*W23.0*H1.47
Power	Type-C: 5v---1A
	Solar energy interface (2.0mm 2p): 5V---1A
	Battery interface (1.0mm 2p JST): 3.7v---1A
Certification	FCC, CE, RoHS
SenseCAP Solar Node for MeshCore	
Main controller	Seeed Studio XIAO nRF52840 Plus
LoRa Module	Wio-SX1262 Wireless Module (Tape Reel)
GPS Module	L76K GNSS Module for Seeed Studio XIAO (Support GPS/GLONASS/Galileo)
Antenna	LoRa: Type: Rod-shaped rubber antenna Frequency range: 868-915MHz Gain: 2dBi
	GNSS: GPS L1 C/A: 1575.42 MHz GLONASS L1: 1602 MHz BeiDou B1: 1561.098 MHz
	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,TELEC
Dimension	191.2 x 201.2 x 42.1 mm

Hardware Overview









Applications

- **Team Activities:** Staying connected during group hikes or outdoor events.
- **Smart Positioning:** Real-time positioning of one's location in camping or hiking scenarios and broadcasting when necessary
- **Extreme Adventures:** Tracking in deserts or vast wilderness.
- **Critical Missions:** Professional rescue operations.

Resource Links

- https://www.seeedstudio.com/MeshCore-Starter-Kit-Ready-to-Use-Off-Grid-Instant-Reliable-Communication.html
- L1 Pro Battery Life Calculation
- Solar Node Battery Life Calculation

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