

## Sensor Description

Working with the Farmdeck app, the microclimate sensor measures the leaf light absorption by using a light sensor inside and outside the canopy, measuring the light differential.

Other environments that can utilise this sensor includes greenhouses and vineyards, where monitoring the temperature, humidity, light intensity and Co2 levels allows them to gain visibility over their ecosystems.



## Features

- Accurately measure the leaf light absorption
- Canopy light interception
- Monitors the atmosphere in greenhouses
- Monitors sensor's battery life and signal strength

## Applications

- Crop yield
- Plant productivity
- Greenhouse monitoring
- Canopy height
- Canopy cover
- Leaf area index
- Vertical forest structure



# Microclimate Monitoring

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## Mechanical Features

Housing	Mountable enclosure
Dimensions (mm)	110 x 155 x 70 mm
Weight	approx. 155 grams, 190grams (with battery)
Case Material	ABS, polycarbonate and polyester

## Device Power Supply

Battery	Solar panel with 18600 mAH rechargeable battery
Expected battery life	Up to 7 years, depending on configuration and environment

## Operating Conditions

Distance detection	12 metres
Temperature	0°C to +60 °C
Anti-light environment	70 Klux

## Radio/Wireless Connection

Wireless technology	LoRaWAN 1.0.3/1.1
Supported LoRaWAN device type	Class A End-device
Supported LoRaWAN Regions	US902 - 928, AS923, AU915 - 928, KR920-923
Configuration	OTAA, ABP, ADR

## Data Type

LIDAR intensity	yes
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## Optional Cellular Connection

Wireless Technology	LTE-M/NB/loT
Supported LTE Bands	LTE-M (Cat-M1): B1, B2, B3, B4, B5, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B66 NB-LoT (Cat-NB1/NB2): B1, B2, B3, B4, B5, B8, B12, B13
SIM card and format	Internal Nano 4FF SIM