Spider Farmer SF-SensorPro Kits

Spider Farmer GGS Sensor Pro Kits User Manual

4-in-1 VPD/PPFD/Temp/Humid Sensor with CO2 Sensor

Introduction

The Spider Farmer GGS Sensor Pro Kits provide comprehensive environmental monitoring for indoor growing. This system integrates a 4-in-1 sensor for VPD, PPFD, Temperature, and Humidity, along with a dedicated CO2 sensor. Designed for precision and ease of use, these sensors help optimize your growing environment for enhanced plant growth and yield. This manual provides detailed instructions for setup, operation, maintenance, and troubleshooting.

Safety Information

- Read all instructions carefully before operating the device.
- Keep the sensors away from water and excessive moisture to prevent damage.
- Do not attempt to disassemble or modify the sensors. This will void the warranty and may cause damage.
- Ensure all connections are secure before powering on any connected devices.
- Use only the provided cables and accessories.
- When using the SensorPro, disconnect any original temperature and humidity sensors from your controller or power socket to avoid conflicting readings.

Package Contents

Please verify that all items listed below are included in your package:

- 1X GGS 4-in-1 Sensor Pro
- 1X CO2 Sensor
- 1X PPFD Bracket
- 1X Screw
- 2X RJ12 Telephone Line Splitter

- 1X 98in (2.5m) 6 Pin RJ12 Cable With Waterproof Cover
- 1X 98in (2.5m) 6 Pin RJ12 Cable
- 2X 10in (0.25m) 6 Pin RJ12 Cable
- 1X User Manual



Figure 1: Package Contents Overview

Product Overview

The Spider Farmer GGS Sensor Pro Kits consist of two primary sensors: the 4-in-1 Sensor Pro and the GGS CO2 Sensor. These devices work in conjunction to provide comprehensive data on your growing environment.

4-in-1 Sensor Pro

This sensor integrates four critical measurements: Temperature, Humidity, PPFD (Photosynthetic Photon Flux Density), and VPD (Vapor Pressure Deficit). It provides real-time data to help you maintain optimal microclimate conditions for plant growth.



Figure 2: 4-in-1 Sensor Pro

GGS CO2 Sensor

The CO2 sensor is capable of detecting carbon dioxide concentrations from 0 to 5000 PPM, providing swift and precise data crucial for CO2 supplementation strategies in controlled environments.

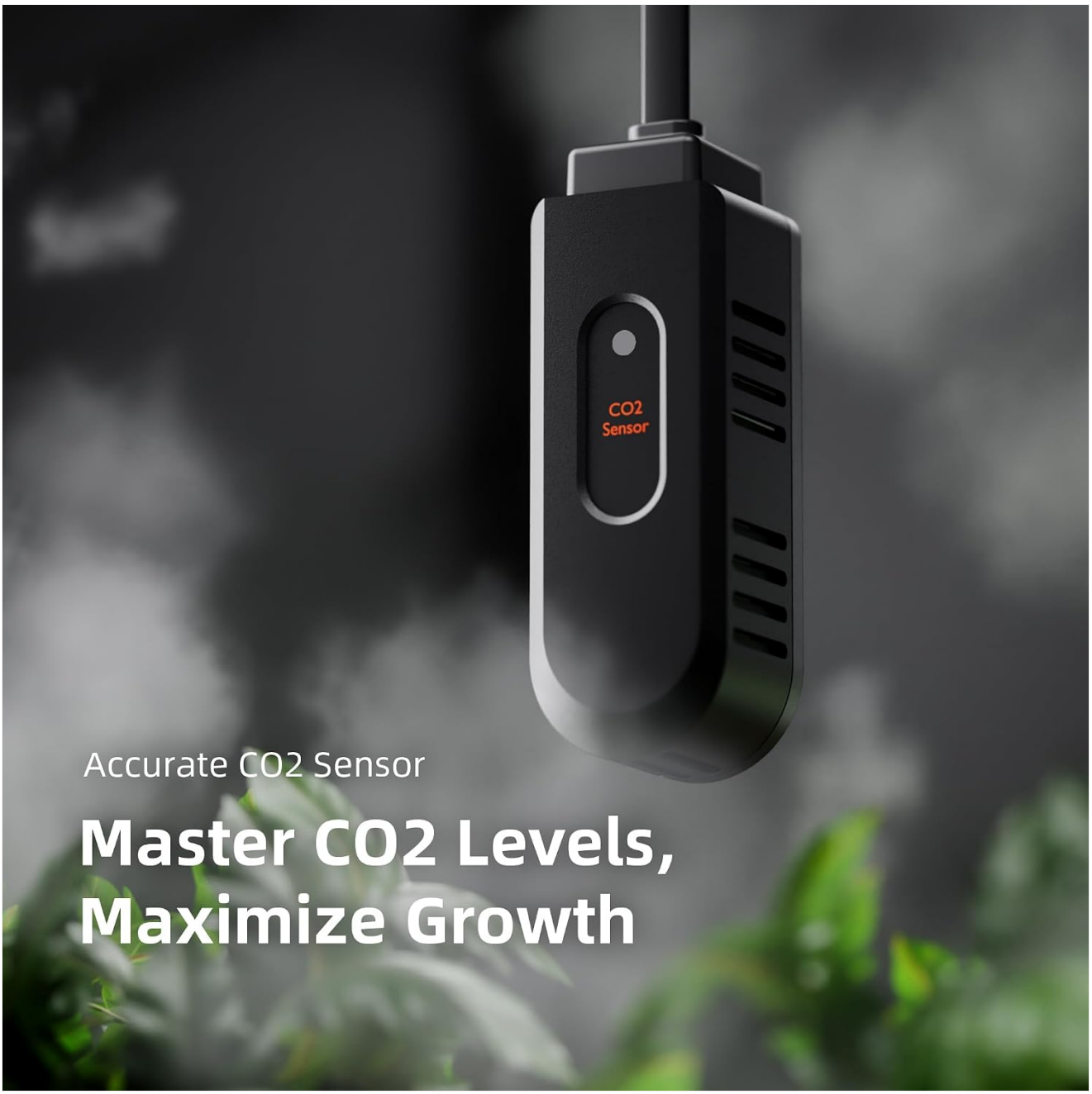


Figure 3: GGS CO2 Sensor



Figure 4: Complete Sensor Pro Kits

Setup and Installation

Follow these steps to properly install and connect your Spider Farmer GGS Sensor Pro Kits:

1. **Sensor Connection:** Connect the GGS 4-in-1 Sensor Pro and the CO2 Sensor to your Spider Farmer controller (e.g., AC5 or AC10) using the provided RJ12 cables. Ensure a secure connection.
2. **Important Note on Existing Sensors:** When using the SensorPro, it is crucial to disconnect any original temperature and humidity sensors from your controller or power socket. This ensures that only one sensor is providing readings, preventing interference and inaccurate data.
3. **PPFD Bracket Installation:** Attach the PPFD Bracket to the 4-in-1 Sensor Pro using the provided screw. This bracket allows for optimal positioning of the PPFD sensor for accurate light intensity readings.
4. **Mounting:** Position the sensors in your growing environment where they can accurately measure the desired parameters. The PPFD sensor should be placed at canopy level for precise light readings.



Figure 5: Installation Instructions

Data Notes and Troubleshooting during Setup:

- If PPFD shows "---": This indicates no device is connected. Check your RJ12 cable connections to the controller.
- If PPFD shows "0": Open the cap on the 4-in-1 Sensor Pro to expose the white detection ring.
- Abnormal VPD readings: If the moisture window is wet, dry it or allow it to air dry for 30 minutes.

Operating Instructions

The GGS Sensor Pro Kits are designed to work seamlessly with Spider Farmer controllers (AC5, AC10) and the Spider Farmer APP, providing comprehensive control and monitoring of your grow environment.

Compatibility and Control Options

The GGS Sensor Pro is compatible with the GGS Controller, AC5, or AC10 power strip kits. This allows you to monitor and adjust multiple devices through a single interface, streamlining your plant management.



Figure 6: More Connection Options

Monitoring Environmental Parameters

The sensors provide real-time data for:

- **Temperature:** Accurate readings within -4°F to 140°F (-20°C to 60°C) with ±1.8°F (±1°C) accuracy.
- **Humidity:** Measures 0 to 100% RH with ±3% RH accuracy.
- **PPFD:** Detection range of 0~4000 μmol/m²/s with ±5% accuracy, covering the 400nm-700nm response spectrum.
- **VPD:** Calculated from temperature and humidity, crucial for plant transpiration.
- **CO2:** Detects concentrations from 0 to 5000 PPM with ±50 PPM accuracy.

Data refreshes up to every 1 second, ensuring you always have the latest information.

PPFD Mode Intelligent Control

Utilize the Spider Farmer APP to enable PPFD mode and set target values for smart dimming based on your plant's growth stage. This allows for precise growth management and intelligent adjustment of light intensity to simulate natural light environments.



Figure 7: Setting the Right PPFD for Every Stage



Figure 8: PPFD Mode Intelligent Control via App



Figure 9: Choose Your Device and Take Control

Maintenance

Proper maintenance ensures the longevity and accuracy of your sensors:

- **Cleaning:** Gently wipe the sensor surfaces with a soft, dry cloth. Do not use abrasive cleaners or solvents. For the PPFD sensor, ensure the detection ring is clean and unobstructed.
- **Moisture Window:** If the VPD moisture window appears wet, gently dry it or allow it to air dry for at least 30 minutes before taking readings.
- **Storage:** When not in use, store the sensors in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cable Management:** Ensure all cables are neatly routed and not under tension to prevent damage.

Troubleshooting

If you encounter issues with your Spider Farmer GGS Sensor Pro Kits, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
PPFD displays "---"	No device connected.	Check all RJ12 cable connections between the sensor and the controller. Ensure they are securely plugged in.
PPFD displays "0"	The cap on the 4-in-1 Sensor Pro is closed, obstructing the detection ring.	Open the cap to expose the white detection ring on the 4-in-1 Sensor Pro.
Abnormal VPD readings	Moisture on the VPD window.	Dry the moisture window or allow it to air dry for 30 minutes.
Inaccurate Temperature/Humidity readings	Conflicting sensors or sensor obstruction.	Ensure all original temperature and humidity sensors are disconnected. Verify the sensor is not obstructed or placed in an area with poor air circulation.
CO2 readings are inconsistent or absent	CO2 sensor not properly connected or faulty.	Check the RJ12 connection for the CO2 sensor. Ensure it is clean and secure. If issues persist, contact support.

Specifications

Feature	Specification
Brand	Spider Farmer
Model	SF-SensorPro Kits
Style	GGS Sensor Pro Kits
Power Source	Corded Electric
Color	Black

Feature	Specification
Item Weight	1.5 Pounds
CO2 Detection Range	0-5000 PPM
CO2 Accuracy	±50 PPM
Temperature Detection Range	-4°F to 140°F (-20°C to 60°C)
Temperature Accuracy	±1.8°F (±1°C)
Humidity Detection Range	0 to 100% RH
Humidity Accuracy	±3% RH
PPFD Detection Range	0~4000 µmol/m²/s
PPFD Accuracy	±5%
Response Spectrum	400nm-700nm
Update Rate	Up to 1 second
Batteries Included?	No
Batteries Required?	No

Warranty and Support

Spider Farmer provides **2 Years Support Services** for the GGS Sensor Pro Kits. This warranty covers defects in materials and workmanship under normal use.
For technical support, warranty claims, or any questions regarding your product, please contact Spider Farmer customer service through their official website or the retailer where the product was purchased. Please have your product model number (SF-SensorPro Kits) and purchase information ready when contacting support.

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