

PRI-8650 Distributed Soil CO₂ Flux System

Soil respiration is one of the largest and most important carbon fluxes in terrestrial ecosystems. The spatial variability of soil respiration is obvious due to the soil heterogeneity. Multicompartmental and multiscale monitoring systems will play an important role in soil respiration research. Smart, real-time, low-cost, and distributed soil respiration monitoring is essential for understanding and managing rapidly changing ecosystems. PRI-8650 is a newly designed, Internet of Things (IoT) techniques based distributed soil gas flux system.

Comparing with conventional multiplexer coupled soil respiration system, each chamber of PRI-8650 is a standalone node, has full function to measure soil flux, can be connected via wireless networks. Simultaneous synchronous measurement enables system to get more times data and more valuable data.

PRI-8600 is a rugged, weatherproof mechanical design integrated CO₂ sensor with sophisticated software, battery, solar panel, wireless module. The system could be widely used in ecology, agriculture, forestry, fertilizer, frozen soil, seismology, landfill and sewage treatment.

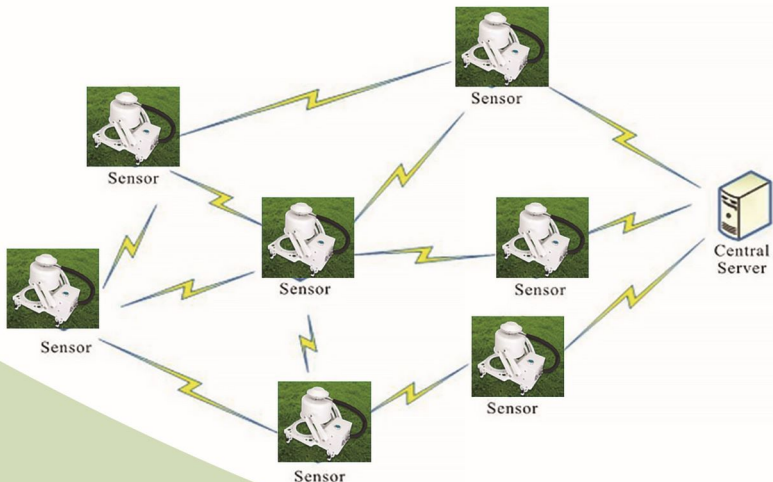
Key Feature

IoT interconnected soil flux system

Real-time cloud data storage and backup

Simultaneous synchronous measurement

Fault diagnosis and controlled remotely



Specifications

8650-1	
CO ₂ Range	0~5000 ppm
CO ₂ Accuracy	±30 ppm ±3% of reading
RH Range	0~100%
RH Precision	±2%
Air Temp. Range	0~90°C
Air Temp. Precision	0.2°C
Interval	0.5 s
Gas Response (T90)	2 s

8650-2	
CO ₂ Range	0~0.2%, 0~0.3%, 0~0.5%, 0~1%, 0~3%, 0~5%, 0~10%, 0~30%, 0~100%
CO ₂ Accuracy	2% of reading
RH Range	0~100%
RH Precision	±2%
Air Temp. Range	0~90°C
Air Temp. Precision	0.2°C
Interval	1 s
Gas Response (T90)	10 s

8650-3	
CO ₂ Range	0~100%
CO ₂ Accuracy	2% of reading
CH ₄ Range	0~100%
CH ₄ Accuracy	2% of reading
RH Range	0~100%
RH Precision	±2%
Air Temp. Range	0~90°C
Air Temp. Precision	0.2°C
Interval	1 s
Gas Response (T90)	10 s

Soil Temp. Range	-40~85°C
Soil Temp. Precision	0.2°C
Soil Moisture Range	0~100%
Soil Moisture Precision	3%, 2%(calibration)
Sampling Temp.	-10 ~50 °C
Sampling Flowrate	0.5 mL/min@760 Torr
Operating Temp.	-10~50°C; -30~50°C
Node Expansion Capacity	LAN network >65k nodes
Dimensions	55 x 26 x 26 cm
Weight	18 kg
Power Requirements	20 W; 12~24 V

Note

- 1) Other sensors such as CO₂, CH₄, NH₃, VOC and so on are available.
- 2) Rental cloud services is not included.

Manufacturer: PRI-ECO

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