

PRI-8600D Multiplexer for Soil Gas Flux and Net Carbon Exchange

Soil respiration is one of the largest and most significant carbon fluxes in terrestrial ecosystems. Due to soil heterogeneity, soil respiration is spatially variable. Increasing the number of soil flux monitoring sites and expanding the monitoring radius can help reduce uncertainty in soil respiration studies.

The newly designed PRI-8600D multiplexer, featuring a dual circulation gas flow system, provides an effective solution for multicompartiment and multiscale monitoring of soil flux and Net Carbon Exchange (NCE) research.

The PRI-8600D multiplexer serves as the connection and control center, directing the flow of gas between long-term chambers and various gas analyzers. Its patented dual circulation configuration (ZL201810968150.X) divides the plumbing into two alternating groups. Additionally, built-in calibration channels enable the online calibration of gas analyzers.

Key Features

- ✧ Two groups plumbing for dual circulation
- ✧ Build-in three channels for on-line calibration
- ✧ All-in-one gas and electricity cable assembly
- ✧ Up to 32 clear and opaque chambers in one box



Specifications

PRI-8600D Multiplexer

Connection Capability: Up to 32 clear and opaque chambers, customization is acceptable

Calibration: Build-in three channels for on-line calibration

Plumbing: Two groups plumbing for dual circulation

Pump: Two diaphragm pumps with ~2 to 3 lpm flow rate to/from chambers

Coverage Area: 15.0 m with one cable assembly, customization is acceptable

Barometric Pressure Sensor:

Measurement Range: 30 to 110 kPa

Sensor Accuracy: ± 0.12 hPa from 95 to 105 kPa

Resolution: 0.16 Pa

Connectivity Ports: 4 x RS-232, 2 x RS-485/RS-232, 2 x RJ-45 Ethernet, 3 x USB-A, Wi-Fi

Dimensions: 52.4 cm L \times 42.8 cm W \times 20.6 cm H

Weight: 7.7 kg

Weatherproof Rating: Tested to IEC IP55 standard

Operating Range:

Temperature: –20 to 45 °C

Humidity: 0 to 95% RH, non-condensing

User Data Storage: 200 GB total non-volatile

GPS / BDS: Accuracy 1 m CEP

Power Requirements: 10 to 30 VDC (120 VAC and 240 VAC with optional power supply).

AC to DC Power Supply

Dimensions: 22 cm L × 9.5 cm W × 4.6 cm H

Weight: 1.4 kg

Operating Temperature Range: –30 to 70 °C

Power Requirements: 85 to 264 VAC, 50/60 Hz, 120 VA

Output Voltage: 24 VDC, 15 A

Alternate Power Input: 120 to 240 VDC