

LI-7500DS

Open Path CO₂/H₂O Gas Analyzer

Water vapor and carbon dioxide are the two most influential greenhouse gases affecting global climate change. Fluxes of both gases can be measured directly using the LI-7500DS and the eddy covariance method.



Cited in more than 3,500 publications and trusted as the standard by more than 20 worldwide networks, the LI-7500 family of CO₂/H₂O gas analyzers are renowned for providing stable, dependable performance.

The LI-7500DS delivers exceptional data in a streamlined, affordable design. Designed to be robust, with low maintenance and power requirements, the LI-7500DS is ideal for long-term deployments in remote locations.

To learn more about the LI-7500DS, visit [licor.com/LI-7500DS](https://www.licor.com/LI-7500DS).

KEY FEATURES

- Open-path, omnidirectional design provides continuous data sampling with minimal flow distortion
- Nominally draws just 4 watts of power
- SmartFlux[®] System processes real-time fluxes on-site using EddyPro[®] Software
- SmartFlux syncs instrument clocks using GPS and PTP for precise data synchronization within and across sites
- Improved, temperature-controlled optics deliver stable measurements, even in extreme conditions
- Compatible with nearly all fast response, three-dimensional sonic anemometers to meet your unique research needs

LI-7500DS Specifications

CO₂ MEASUREMENTS

Calibration Range: 0 to 3000 $\mu\text{mol mol}^{-1}$

Accuracy: Within 1% of reading

Zero Drift (per °C):

±0.1 ppm typical

±0.3 ppm maximum

RMS Noise (typical @ 370 ppm CO₂):

@5 Hz: 0.08 ppm

@10 Hz: 0.11 ppm

@20 Hz: 0.16 ppm

Gain Drift (% of reading per °C @ 370 ppm):

±0.02% typical

±0.1% maximum

Direct Sensitivity to H₂O (mol CO₂ mol⁻¹ H₂O):

±2.00E-05 typical

±4.00E-05 maximum

H₂O MEASUREMENTS

Calibrated Operating Range: 0 to 60 mmol mol⁻¹

Accuracy: Within 1% of reading

Zero Drift (per °C):

±0.03 mmol mol⁻¹ typical

±0.05 mmol mol⁻¹ maximum

RMS Noise (typical @ 10 mmol mol⁻¹ H₂O):

@5 Hz: 0.0034 mmol mol⁻¹

@10 Hz: 0.0047 mmol mol⁻¹

@20 Hz: 0.0067 mmol mol⁻¹

Gain Drift (% of reading per °C @ 20 mmol mol⁻¹):

±0.15% typical

±0.30% maximum

Direct Sensitivity to CO₂ (mol H₂O/mol CO₂):

±0.02 typical

±0.05 maximum

GENERAL

Fundamental Gas Sampling Rate: 150 Hz

Bandwidth: 5, 10, or 20 Hz; software selectable

Type: Absolute, open-path, non-dispersive spectroscopy

Detector: Thermoelectrically cooled lead selenide
Path Length: 12.5 cm (4.92")

Air Temperature Thermistor: 10K ohm @ 25 °C

Measurement Range: -40 to 70 °C

Sensor Accuracy: ±0.25 °C from -20 to 70 °C

Resolution: 0.003 °C @ 25 °C

Pressure Sensor:

Measurement Range: 20 to 110 kPa

Sensor Accuracy: ±0.4 kPa from 50 to 110 kPa

Resolution: 0.006 kPa

Outputs: Ethernet

Operating Temperature Range: -25 to 50 °C (-40 to 50 °C verification on request)

Relative Humidity Range: 0-95% (non-condensing)

Weatherproof Rating: Tested to IEC IP65 standard

User Interface: Windows® PC software

Power Requirements: 9 to 33 VDC, reverse voltage protected

Steady-State Power Consumption: 4 W typical at 25 °C 8 W max over operating range of -25 to 50 °C

Head:

Size: Diameter 6.5 cm (2.6"), Length 30 cm (11.8")

Weight: 0.67 kg (1.5 lbs); 1.3 kg (2.9 lbs) with mounting post

Head Cable Length: 200 cm (78.7")

DSI Box:

Size: 13.24 × 14.64 × 6.24 cm (5.2" × 5.8" × 2.5")

Weight: 0.93 kg (2.1 lbs)

Specifications subject to change without notice