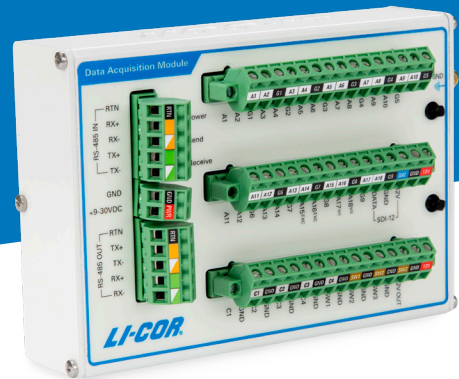


# Biomet Systems and Sensors

## Improve Data Sets by Including Biomet Data



Biomet data acquisition systems in LI-COR eddy covariance systems support a variety of biological and meteorological sensors. This data can be used by EddyPro® running on the SmartFlux® System for on-site, real-time computation of corrected fluxes. Biomet data can also be used later for gap filling and interpreting flux results in Tovi™ Software.

The Data Acquisition Module collects and transmits biomet data directly to SmartFlux. Any analog data are converted to digital format for processing and USB storage. Biomet data are synchronized with high-speed wind and gas data to obtain more accurate fully-processed fluxes.

To mitigate data loss the Data Retention Module uses a backup battery to power your Data Acquisition Modules and sensors during a power outage. Once power is restored, the Data Retention Module recharges the backup battery. The Data Retention Module also includes a DC/DC converter for sensitive sensors and components.

To learn more about the biomet systems and sensors available to you visit [licor.com/biomet](http://licor.com/biomet).

### Key Features

- Data are logged with variable names and units that conform to worldwide network naming convention standards
- Streamlined biomet data files for on-site, real-time flux processing in EddyPro running on the SmartFlux System
- Biomet data can improve eddy covariance flux computations
- Get more complete flux results by recording biomet data during power outages for gap filling
- Let us take care of the details with preconfigured biomet systems and programs
- Easily program your Data Acquisition Module using the Blueprint Utility software
- Flexibility to configure your site and add sensors as needed

# Biomet Data Acquisition Systems and Sensors

For details and specifications about Biomet Data Acquisition Systems and sensors visit [licor.com/biomet](http://licor.com/biomet).

## Biomet Sensor Packages

	7900-105	7900-106	7900-107	7900-108
Air Humidity and Temperature Probe	✓	✓	✓	✓
Quantum Sensor	✓	✓	✓	✓
Tipping Bucket Rain Gauge	✓	✓	✓	✓
Soil Moisture and Temperature Sensors (3)	✓	✓	✓	✓
Pyranometer	✓		✓	
Single Component Net Radiometer	✓		✓	
Four Component Net Radiometer		✓		✓
Soil Heat Flux Plates (3)	✓	✓		
Self-Calibrating Soil Heat Flux Plates (3)			✓	✓

## Data Acquisition Module Specifications

**Analog Inputs:** 18 single-ended or up to 9 differential inputs

- 2 with built-in excitation voltage; 5 V; 25 mA
- Resolution: 24-bit
- 2 selectable current ( $\pm 2.5 \mu\text{A}$  to  $\pm 250 \mu\text{A}$ ) or voltage

**SDI-12 Input**

**Digital Inputs/Outputs:** 4

- 5 V logic output
- 5 V or 3.3 V logic input

**Pulse Counters:** 4

**Time Synchronization:** To within 3 seconds of GPS clock in SmartFlux

**Switched Voltage Outputs:** 3

- 9 to 30 VDC
- Up to 1 A, with current sensing

**12V Excitation Voltage Output:** 2

- Up to 200 mA (at 25 °C)

**Sampling Rate:** 1 measurement per second

**Communications Protocol:** RS-485 input and output into SmartFlux for storage and processing with EddyPro

**Input Voltage Requirements:** +9 to 30 VDC

**Power Consumption:** 0.85 W (at 9 V) to 1.3 W (at 30 V)

*Specifications subject to change without notice.*

## Data Retention Module Specifications

**Communication Protocol:** RS-485 input and output into SmartFlux for storage and processing with EddyPro

**Power Outputs (DC-DC converter):** 4 (12 VDC maximum)

**Maximum per Output:** 2 Amps (24 watts) up to 5 amps total for all outputs

**Total Maximum Power Out:** 5 amps (60 watts)

**Protection:** Self-resetting fuses; Near instantaneous reset with brief overcurrent, 1-minute delay after major short

**Power Requirements:** +9 to 32 VDC

**Backup Battery Charger:** Recharges the backup battery when main power is on and switches to the backup if main power fails

**Data Storage:** 32 MB; Backup biomet data collection capacity generally depends on backup battery capacity. With a large enough battery, the Data Retention Module can store over one month of backup data

**Dimensions:** 17 cm x 10.9 cm x 7 cm (6.7" x 4.3" x 2.8"; not including battery)

**Weight:** 0.52 kg (1.2 lbs; not including battery)

### Backup battery

**Type:** Lead Acid

**Output:** 12 VDC; 7.2 Amp Hour

**Fuse:** 10 Amp, quick acting

**Weight:** 2.5 kg (5.5 lbs)