

8310 Datalogger

8310-0



Overview

The new 8310 exceeds Sutron's 8210 logger's capabilities while maintaining the same popular interface 8210 users will recognize. Using low-power circuitry, it achieves long-life battery operation and provides a rugged system for unattended field applications in extreme environments. Additionally, the 8310 supports two types of simultaneous communications. (The 8310-0 model does not include NEMA enclosure.)

Features

- ▶ Low-power circuitry achieves long-life battery operation for rugged unattended field operation in extreme environments.
- ▶ Full EMI & transient protection built into each input.
- ▶ Maximized Data Dependability - Hardened design, multiple communications paths & field-proven logging power expand the 8310's reliability over other loggers.
- ▶ Built-in measurement circuitry to handle sensors commonly used.
- ▶ Flexible measurement schedules & logging schemes.
- ▶ Built-in BASIC to support custom measurements, processing & communications.
- ▶ Built-in support for GOES, Iridium, GPRS, & telephone modems including speech.
- ▶ Dual communications support allowing combinations of supported communications devices.
- ▶ Remote operation without using custom PC programs.
- ▶ Wide temperature operation for reliability in extreme conditions.
- ▶ SDI-12 support functions.
- ▶ Real-time data views.
- ▶ Single and dual point calibration methods.
- ▶ Upgraded diagnostic logs.
- ▶ Internal real-time clock w/battery backup. + 5 sec/month (typical), +10 sec/month (max). Optional GPS clock.



8310-0 Datalogger

Applications

- ▶ Meteorology & Climatology
- ▶ Agrometeorology
- ▶ Natural Resources
- ▶ Oceanography
- ▶ Aviation (AWOS)
- ▶ Emergency Management
- ▶ Water Level & Flow
- ▶ Water Quality
- ▶ Hydrology
- ▶ Air Quality
- ▶ Visibility
- ▶ Geotechnical
 - ✓ Dam Safety
 - ✓ Structural Stability
- ▶ Energy
 - ✓ Solar Farms
 - ✓ Wind Farms

SPECIFICATIONS - 8310-0*Specifications subject to change without notice.*

Measurement Interval	1.0 second to 24 hours (programmable)
Measurements Supported	Unlimited
Analog Channels	8
Input Voltage	-0.1 to 5V with respect to ground, single ended or differential
Range	
Single-Ended	0-5 V, ± 78 mV (with respect to ground)
Differential	± 2.5 V, ± 78 mV (+ input with respect to - input)
Accuracy	0.002% of 5V typ 0.003% of 78mV typ
Resolution	16 bit
Expandable	via I ² C and SDI-12
Digital Inputs	6 (2 Bi-Directional)
Functions Supported	Status inputs, counter inputs, frequency inputs, quadrature input
Pulse Counter	8KHz, minimum pulse width 100 micro-seconds with programmable debouncing
Expandable	via I ² C and SDI-12
Digital Outputs	2 (Bi-Directional)
Output Type	Open collector with 100 ohm current limiting resistor, 100 mA max, 15V max
Excitation Channels	5 Channels
Type(s)	Precision Voltage Reference, Switched battery, Switched +5, Protected +12V, Protected +5V
Communication Ports	4 RS232 for communications
Telemetry	Satlink2, Sutron Data & Voice Modem, Radio, Direct Connect, GPRS, IRIDIUM, MODBUS, & custom devices via BASIC
Communications	4 types of Simultaneous Communications
Operating Temperature	-40°C to +60°C
Display Operating Temp.	LCD operates to -20°C
Display Type	2x20 character sunlight-readable backlit LCD
Keypad Type	6 buttons
Memory	
Built-In	RAM: 32MB Non-volatile: 65MB (1 -3,000,000 readings)
SD Card	For download data & read/write setups or additional log memory
Ethernet	Built in Ethernet support
Clock Accuracy	5.4 sec/month (at 0°C - 40°C)
Power Requirements	10-16VDC (20VDC max)
Current Drain	Typically 3mA standby, 40mA active
Communication Protocols Supported	SSP (Sutron Standard Protocol), MODBUS, YMODEM, Telnet, HTTP, FTP, DHCP, DNS, SLIP, PPP, & custom protocols via Basic using RS-232, TCP, & UDP
Programming	Menu driven setup, Expanded complexity via BASIC, Custom capability via C++
Dimensions	
Height	11.5 in. (30 cm)
Length	6 in. (15.3 cm)
Width	3.5 in. (8.9 cm)
Weight	3.1 lbs. (1.5 Kg)

ORDERING

Ordering #	Description
8310-0	8310 without NEMA Enclosure

ACCESSORIES

	Part #	Description
ADDITIONAL MEMORY		
SD Card, 2 GB	6661-1293	SD Card w/2 Gigabytes available memory.
SURGE PROTECTION MODULES		
Module, SDI-12	6461-1241-2T	Provides connection for two SDI sensors & surge protection.
Module, Telephone	6461-1240-1T	Provides connection & surge protection for one twisted pair.
Module, Power	6461-1242-1T	Provides channels to monitor solar panel voltage, battery voltage & AC current.
Module, RS232	6461-1239-1T	Provides termination & surge protection for one sensor with RS-232 output.
Module, Digital	6461-1238-2T	Provides a surge protection for sensors with digital outputs.

SHIPPING DIMENSIONS

Shipping Height	14" (35.6 cm)
Shipping Length	10" (25.4 cm)
Shipping Width	6" (15.3 cm)
Shipping Weight	5 lbs. (2.3 kg)