

As Easy to Use as the 8210 plus More Capabilities & a Lower Cost

7310 Data Logger

7310-0

- ▶ Exceeds the capabilities of Sutron's powerful 8210 Logger
- ▶ Reliable Environmental Monitoring Using Real-Time Communications
- ▶ Built-In Solar Panel Regulator

Compare to...

- ▶ *Compared to SatLink Logger:* More measurements, more processing, supports more communications (more than GOES & PSTN), supports BASIC programming
- ▶ *Compared to Competition:* Packed with more features requested by users to support field station installation, operation & maintenance

Features

- ▶ **Maximized Data Dependability** - Hardened design, multiple communications paths and field-proven logging power expand the 7310's reliability over other loggers.
- ▶ Built-In Solar Panel Regulator
- ▶ Simple front panel setup without PC or other devices
- ▶ Read & write set-ups to SD card
- ▶ Built-in support for GOES, Iridium®, GPRS, and telephone modems including speech
- ▶ Remote operation without custom PC programs
- ▶ Wide operating temperature range tolerates extreme conditions.
- ▶ Low power consumption
- ▶ SDI-12 support functions
- ▶ Single and dual point calibration
- ▶ Upgraded diagnostic logs
- ▶ Internal real-time clock w/battery backup. +5 sec/month (typical), +10 sec/month (max) Optional GPS clock



7310 (7310-0), with Rugged Enclosure *

Measurements & Logging

- ▶ Real-time data views
- ▶ Built-in measurement circuitry to handle commonly-used sensors
- ▶ Flexible measurement schedules and logging schemes
- ▶ Separate schedules for each measurement
- ▶ Built-in BASIC to support custom measurements, processing and communications
- ▶ Multiple level averaging
- ▶ Powerful BASIC processor
- ▶ Auto-dump data when SD card is inserted
- ▶ Command-line interface for operation without custom programs
- ▶ Flash memory log able to handle more than 1,000,000 readings, with additional logging to SD available

ORDERING

7310-0	7310 Data Logger with rugged enclosure* & built-in solar panel regulator
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*non-NEMA



7310 Data Logger Specifications

7310-0 SPECIFICATIONS

ENVIRONMENTAL	
Temperature	-40°C to +60°C (LCD operates to -20°C)
Humidity	0-95% Non-condensing
COMMUNICATIONS	
Interfaces	1 RS232 for user set-up
	1 RS232 for serial sensor or communication. All serial ports use True UART with baud rates up to 115,200
Devices supported	Satlink2 Sutron Telephone Speech/ Spread/Spectrum Radios Custom devices via BASIC
	GPRS IRIDIUM SBD Modem LOS Radios
Protocols	SSP (Sutron Standard Protocol) Custom protocols via BASIC Y-MODEM
SDI-12	
	V1.3 compliant recorder
	Two sets of SDI-12 wiring points on terminal strip
	Automatically combines requests to the same device
ELECTRICAL	
Power Required	10-16VDC (20VDC max)
Power Consumption	Typically 3mA standby, 40mA active
MECHANICAL	
Enclosure & Dimensions (rugged, non-NEMA)	11" x 6" x 3" Aluminum, IP52 drip resistant installed vertically. Suitable for use inside gauge house, shelter &/or additional NEMA enclosure
Display	2x20 character backlit LCD
Keypad	6 buttons
SD Card Slot with Activity LED	For download data and read/write setups
Red Warning LED	Indicates setup or operational error
Green Heartbeat LED	Indicates unit is operating properly
Sensor Connections	External terminal removable strips
SWITCHED VOLTAGES	
Number Available	2
Types	Switched battery, Switched +5

7310-0 SPECIFICATIONS

ANALOG INPUTS	
Number Available	8
Input Range	-0.1 to 5V with respect to ground, single ended or differential
Single Ended Range	0-5V, ± 78 mV (with respect to ground)
Differential Range	± 2.5 V, ± 78 mV (+ input with respect to - input)
CMRR	120 dB typ
Input Impedance	> 10 Gohm typ
Accuracy	0.002% of 5V typ 0.003% of 78mV typ
Temperature Coefficient	5 ppm/C typ
Ratio Accuracy	Limited by A/D resolution
Noise Floor	RMS noise typically < 1bit on 78mV scale & above
Excitation	2.5V (up to 50 mA)
Protection	Multistage input protection including spark gaps.
4-20mA	Precision load available for 2 analog channels. Loop source voltage provided by switched battery voltage
DIGITAL INPUTS	
Number available	4
Types	Intended for tipping bucket, frequency or discrete inputs (quadrature takes 2 inputs)
Maximum Frequency	8KHz, minimum pulse width 100 micro-seconds
Input Range	0-5V (100Kohm pull-up to +5V provided)
Accuracy	+0.07% @200 ms sample interval +0.03% @500 ms sample interval +0.01% @1000 ms sample interval
Maximum Quadrature Frequency	4KHz
DIGITAL OUTPUTS	
Number Available	2
Output Type	Open collector with 100 ohm current limiting resistor, 100 mA, 15V max
SOLAR PANEL REGULATOR	
Float Charger for sealed 12V lead acid battery	Built-in temperature compensation
Charging Source	Accepts DC power supply as charging source (15VDC recommended)
Rated for solar panels up to 20W	Higher wattage will not damage, but built in protections may limit power delivered to battery.



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page 2

Sutron is an authorized Iridium® Value Added Reseller (VAR).

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