



**EXTREME ENVIRONMENTS
EXTREMELY RELIABLE**

AXIOM H1 / H2 DATALOGGER / DCP



**Tough on the outside.
Clever on the inside.**

The Axiom Datalogger / DCP offers uncompromising reliability (borne out of our experience meeting the strict reliability demands of the North American fire weather market for over 35 years), extreme rugged construction and integrated waterproof touchscreen. These unique innovations result in lower post-purchase costs through reduced replacement from damage, higher data reliability and elimination of damage to (and even purchase of) laptops.



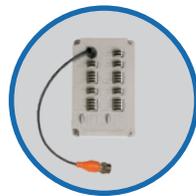
The Axiom Datalogger

Flexibility and expandability.

- Install new programs, firmware and operating system updates easily via any standard USB flash memory stick.
- Large internal memory capacity can store upwards of 10 years of data (assuming 8 sensors sampling once per hour).
- A virtually unlimited library of configurations can be stored, uploaded, downloaded and selected via the touchscreen, ideal for large network operators maintaining an inventory of spare equipment.
- Allows virtually unlimited expandability—up to 62 digital sensors. Calibration coefficients are not required.
- Can also be expanded with multiple analog sensors via optional SDI-AM analog interface module.



Transfer data or firmware updates via standard USB memory sticks



The SDI analog module provides analog sensor expansion

Integrated, preconfigured GOES, and optional 2-way cellular/Iridium.

The industry-leading G6 GOES transmitter—the same equipment that's a standard for all North American fire weather stations—is available as an integrated option in the Axiom. Extremely low power consumption and accurate time keeping enables reliable hourly data for up to 28 days even without a GPS fix.

For added reliability and 2-way remote management of the station, Iridium satellite telemetry can be easily added with Ubicom.



Ubicom 2-way remote management

Reliable connections.

We pioneered the use of military-style bayonet connectors for attaching external devices to our dataloggers. Why?

- The watertight, corrosion-resistant, positive-locking connection becomes incredibly reliable, eliminating the most probable point of failure.
- The color-coded, single-port design makes connecting sensors and other features during installation and maintenance dead simple and fast.
- All FTS sensors include bayonet connectors, and they can be added to any of your current SDI-12 sensors, power sources and rain gauges.



Leave the laptop at the office.

Integrated waterproof, daylight-readable touchscreen.



Built like a tank.

Fully watertight. 3 levels of lightning protection. Waterproof military bayonet connectors. IP67 aluminum case.

No laptop required.

The Axiom integrates a waterproof, industrial-grade, daylight-readable, color touch screen. By embedding the software right into the datalogger, we eliminate the need for field laptops and cables.

Create graphs of any parameter from any range of dates, to spot data anomalies.



View and export data in tabular format.



Date	Temp	Humidity	Wind	Pressure
2012/01/01	21.1	75.0	10.0	1013.2
2012/01/02	21.1	75.0	10.0	1013.2
2012/01/03	21.1	75.0	10.0	1013.2
2012/01/04	21.1	75.0	10.0	1013.2
2012/01/05	21.1	75.0	10.0	1013.2
2012/01/06	21.1	75.0	10.0	1013.2
2012/01/07	21.1	75.0	10.0	1013.2
2012/01/08	21.1	75.0	10.0	1013.2
2012/01/09	21.1	75.0	10.0	1013.2
2012/01/10	21.1	75.0	10.0	1013.2

Simple diagnosis.

Axiom integrates a power manager and a solar charge regulator (H2 only) which is sealed inside the waterproof case. This reduces the chance of a problem with the power system—a common source of problems—and minimizes your time spent troubleshooting.

- The Axiom is constantly aware of parameters like solar voltage and current, battery voltage and current, battery and internal ambient temperature, and can transmit this information via any telemetry method. This allows the datalogger to provide a complete picture of power conditions for diagnosing power issues remotely, eliminating unnecessary site visits.
- At the site, this information is readily available as a graph on the integrated touchscreen with one click. Find out quickly when the problem occurred by viewing the log of data graphically.
- The integrated power manager adds an additional layer of intelligence to the Axiom by allowing the datalogger to directly talk to and manage the solar panel and battery.

Extreme ruggedness.

Because reliability is paramount and any downtime means lost data and increased liability, the Axiom is engineered for long-term durability in the harshest environments (minimizing site visits is nice too).

- Three levels of lightning protection. We have over 33 years of experience building equipment for the most extreme lightning strike locations, and it's in here.
- The entire unit—the cast aluminum, O-ring sealed case and all ports—is completely impervious to the elements. Even the touchscreen. And not just splashproof: fully watertight.
- Positive-locking, waterproof, color-coded, cadmium-plated, corrosion resistant, military-style bayonet connectors.

Extremely simple.

Clever graphical interface makes configuration and troubleshooting easy. Reduces the chance for things to go wrong.

Embracing SDI-12

The Axiom's waterproof SDI-12 ports are each on a **separate, electrically isolated SDI bus**, and each can supply **up to 500mA to sensors**.

Reduced risk of failure:

If one port becomes disabled because of one of the sensors that's attached to it, the other sensors on the other ports will continue to function. More independent SDI-12 ports means you can reduce the risk of failure by spreading out the sensors among more ports.

More responsive data throughput:

Because each SDI port is independent of the other, the datalogger can drive multiple sets of sensors without having to wait for the first to respond before polling the second, and so on.

Increased reliability for complex systems:

The DCP can issue simultaneous M commands to each port to manage long read-time, high power draw sensors such as side lookers. This allows sensors to collect data concurrently so all the data from the station is from the same time window.

Modular analog expansion:

The SDI-AM analog module permits analog sensor expansion on any of the SDI ports.



H1-R: Rain counter,
2 SDI-12 ports



H1-RS: Rain counter, 2 SDI-12 ports,
Integrated solar charge regulator

Axiom H1

Simple hydrology applications where reliability, data integrity and a competitive price are important.



Axiom H2

Simple to complex hydrology or meteorology applications where reliability is paramount and/or the station is very remote.

DCP Comparison Table

ATTRIBUTE	Axiom H1	Axiom H2	Sutron 8310-N w/Satlink2	Sutron Satlink2-V2	Design Analysis H-522+
DISPLAY	Waterproof, daylight-readable, 3.5" color graphical display	Waterproof, daylight-readable, 3.5" color graphical display	40 character (2-line) monochrome LCD	No (optional 40 character monochrome LCD)	20 character monochrome LCD
USER INTERFACE	Graphical touchscreen or PC Software	Graphical touchscreen or PC Software	Basic configuration via 6-button membrane-type key panel; connected laptop for diagnosis, programming and more advanced configuration	None (connected laptop required); optional 6-button key panel	Basic configuration via 7-button key panel; connected laptop for diagnosis, programming, more advanced configuration
FILE TRANSFER (configuration/firmware update, data download)	USB memory stick or PC Software	USB memory stick or PC Software	SD card	Connected laptop	Connected laptop
PROGRAMMING	GUI on integrated touchscreen or GUI on PC	GUI on integrated touchscreen or GUI on PC	BASIC, C++ programming languages	GUI running on connected laptop	GUI running on connected laptop
POWER CONSUMPTION					
STANDBY	7mA	7mA	12mA	8.2mA	10mA
OPERATING - DISPLAY ON	60mA	60mA	73mA	n/a	250mA
OPERATING - DISPLAY OFF	12mA	12mA	up to 33mA	n/a	80mA
TRANSMITTING - 300 BPS	2.6A	2.6A	3.5A	3.1A	2.75A
SENSOR PORT TYPE	Waterproof, military-style bayonet connector	Waterproof, military-style bayonet connector	Unprotected terminal strip	Unprotected terminal strip	Unprotected terminal strip
SDI-12 PORTS					
HOW MANY?	2	4	2	1	1
NUMBER OF SDI-12 BUSES	2	4	1	1	1
ELECTRICALLY ISOLATED?	Yes	Yes	No	No	No
MAX. CURRENT OUTPUT PER PORT	500mA	500mA	100mA max output across all ports	No digital output	1A
ANALOG PORTS	Up to 62 available via modular expansion	1 rain counter, up to 62 available via modular expansion	8	4	6
ENVIRONMENTAL SEALING	NEMA Type 6P (IP67): completely protected against dust and dirt, protected against immersion in water up to 1m.	NEMA Type 6P (IP67): completely protected against dust and dirt, protected against immersion in water up to 1m.	NEMA Type 4 (IP65): Weatherproof (not submersible), must exclude at least 65 GPM of water from 1" nozzle delivered from a distance greater than 10' for 5 min.	None	None
LIGHTNING PROTECTION	3 levels	3 levels	Multistage input protection including spark gaps (analog ports only)	No	No
INTEGRATED SOLAR CHARGE REGULATOR	No (H1-R), Yes (H1-RS)	Yes, sealed in watertight enclosure	Yes	No	No
PC CONNECTION	RS232 Serial direct connect or BLE wireless	RS232 Serial direct connect or BLE wireless	RS232 Serial direct connect or BLE wireless	RS232 Serial direct connect or BLE wireless	RS232 Serial direct connect or BLE wireless



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