



Smart SDI-12 power management control

SOLO is a first-of-its-kind power sensor, controller and management innovation.

- A sensor that measures:
 - Battery voltage and load current
 - Solar panel voltage output during solar cycle
- Remotely power-cycle the whole station via SDI-12 or pulse commands
- Efficiently regulates power from solar panel to battery to extend life of battery
- Selectable setting of gel cell or lead acid batteries using an extended SDI-12 command
- SDI-12 bus monitoring: Using a programmable watchdog timer, SOLO can power cycle your station if a stalled SDI-12 bus is detected.

The number one solution to all electronic issues is to first restart the device or system. This is one key attribute of the SOLO, which can receive commands via SDI-12 or remote pulse commands to control power to other connected devices (sensors, data loggers, radios.) With 2-way telemetry, this allows you to power cycle your station remotely when needed, or program a data logger to power cycle on a regular schedule as a preventative measure.

Both can eliminate costly site visits to fix an unresponsive sensor, data logger or radio.

Power cycling can be initiated via SDI-12 command, pulse input or manually via a physical switch (eliminating need to disconnect terminals). The length of time of the power cycle is programmable.

In addition to remote power management, SOLO can log various power system status data—solar voltage, solar cycle, battery voltage, load current—as an SDI-12 sensor. This permits logging of this data and retrieving it via remote telemetry.

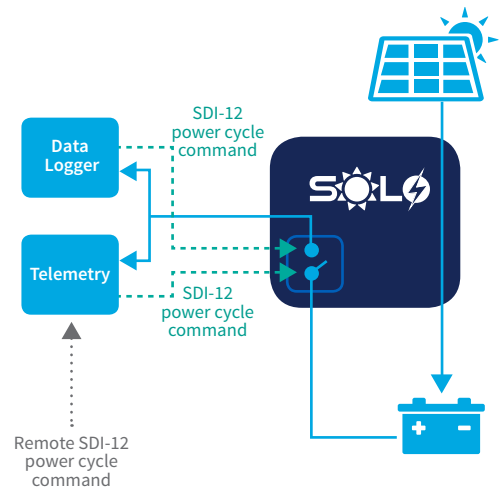
This in turn can be effective in helping to understand the efficient management of the power demands of a remote location.



STEVENS
MEASUREMENTS TO MIND

Maximize reliability of critical data

- **Power cycling** provides the most common remedy for station failures without a costly site visit, remotely and on-demand or on a schedule, by briefly cutting power to connected devices.
- **Power system health status** data is made available for logging or transmitting, to provide insight into trends to predict and avoid problems.



Better battery life, higher battery efficiency

- **Adjustable float threshold** (11 to 16 volts) via a trimpot allows setting the optimum regulated current according to battery manufacturer's specification.
- **Optimizes charge current** for lead acid and gel cell batteries.
- **Battery temperature compensation** increases or decreases the float voltage according to the temperature of the battery, ensuring colder temperatures don't decrease the available power and the battery is not damaged through excessive charging with higher temperatures.
- **Tapered charging** charges a fully discharged battery at the full current output of the solar panel and automatically tapers the current to zero as the battery voltage approaches the float level. SOLO then provides required **trickle charging** current to maintain the float level.

SOLO | TECHNICAL SPECIFICATIONS

MEASUREMENT

Solar voltage	0 - 30 VDC, resolution 0.1 mV
Battery voltage	0 - 20 VDC, resolution 0.1 mV
Load current	0 - 4 A, resolution 0.1 mA
Accuracy	± 1%

POWER

Max. input voltage	28 V
Max. charging current and/or power dissipation	4 A*
Solar panel wattage	40 W
Operating current consumption	50 µA

ENVIRONMENTAL

Operating temp range	-50° C to +50° C
Compensation	-23 mV / °C
Storage temp range	-55° C to +85° C

PHYSICAL

Dimensions	3.57" x 3.23" x 1.3" (9.1 cm x 8.2 cm x 3.3 cm)
Weight	6 oz (170 g)

About Stevens Water

With a focus on simplicity, innovation and efficient solutions, Stevens Water are experts in hydrological and environmental monitoring. We've been providing complete water monitoring solutions since 1911.



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