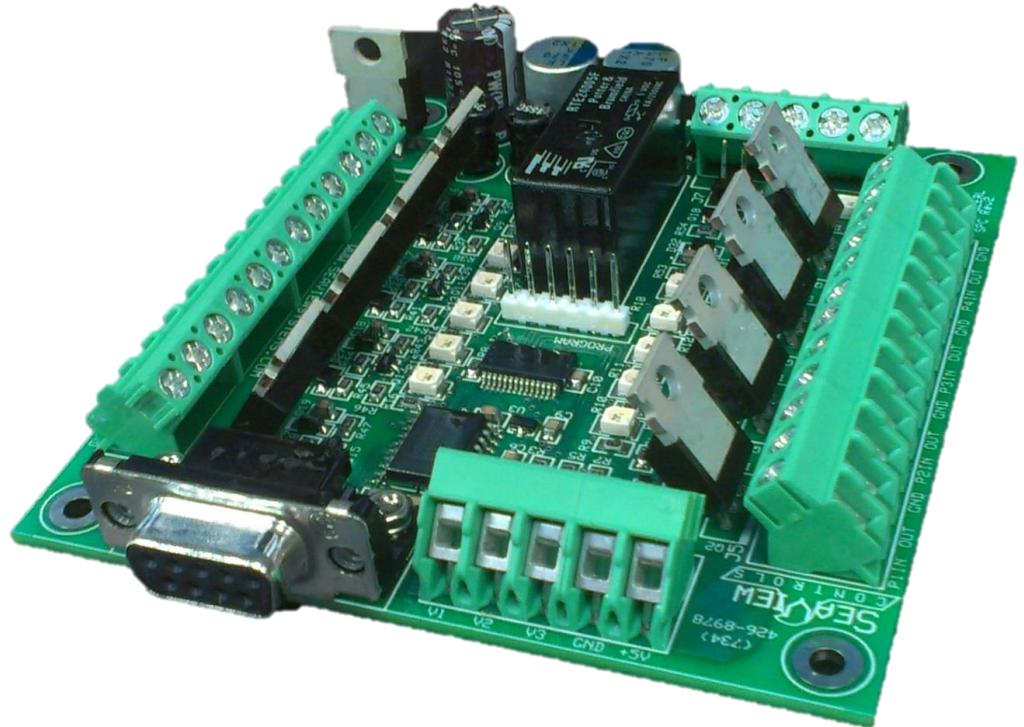


## System Power Controller

*A Low Power Circuit Board for the Control & Monitoring of Subsystem Power in Data Collection Systems*



### Dimensions

- 3.55"x3.775"x0.75"
- 90.17 x 95.89 x 19 mm
- PC104 Form Factor
- Operating Voltage 7-60VDC
- Switching volts: < 60VDC
- Switching current: < 2 amps
- RS-232 Serial Interface Communications
- Watchdog Timer with Relay Output
- Three Analog Input Channels
- Microprocessor controlled
- Switching Power Supply

Built for and supplied to NOAA, Great Lakes Environmental Research Laboratory, 4840 S. State Rd., Ann Arbor, MI 48108. For more information, refer to NOAA Technical Memorandum GLERL-154.



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Power efficiency is important in remote data collection systems that are typically solar-powered. Systems such as the Real-time Coastal Observation Network (ReCON) require controlling power to sensors and components with currents of up to 2 amps and voltages up to 48 volts. Though there are some off-the-shelf solutions available, these systems either consume unnecessary power, or are limited in the amount of current and voltage that they can handle.

The System Power Controller board provides eight channels of semiconductor-switched power that can handle the current and voltage requirements while consuming a low amount of quiescent power. Each power channel provides high-side switching of up to 60 volts and currents of up to 2 amps. A low-power microprocessor using an RS-232 serial interface allows programming of the channels, including time delayed events. Three analog input channels allow measuring system voltages such as solar panel, battery, and system bus voltages. The controller includes a watchdog timer with relay output which allows a full power reboot of the data collection system. The system can be operated with any voltage from 7 to 60 volts, and the entire controller only consumes 0.14 watts of power when powered at 12 volts. The controller board conforms to the PC/104 standard form factor.