

The Symmetric Research SER1CH-UA data acquisition system provides 24 bit A/D conversion for one analog input channel at a 1Hz sampling rate. A leading feature of the system is very low power consumption making it suitable for many field applications. Three different models are available with varying connectors and board sizes to meet specific requirements.

Consuming only 600 microamps at 9 volts while converting, the SER1CH-UA series of products can be easily powered from batteries, solar panels, and other small power sources for long periods of time. Additionally, a buffered copy of the A/D reference is provided on the input connectors as excitation for ratiometric measurements which are free from TC temperature drift. The SER1CH-UA systems interface with an RS232 serial port, and are suitable for use with a wide variety of computers or embedded systems. The 1" wide model is specifically for narrow borehole applications.

Software support is supplied for Windows XP/7 and Linux. All software runs directly from user space with no kernel mode device driver required. Acquisition applications, both GUI and console, and a DLL user library are supplied. Source code, circuit diagrams, PDF User Manual, and free web updates are included with every system.

HARDWARE FEATURES

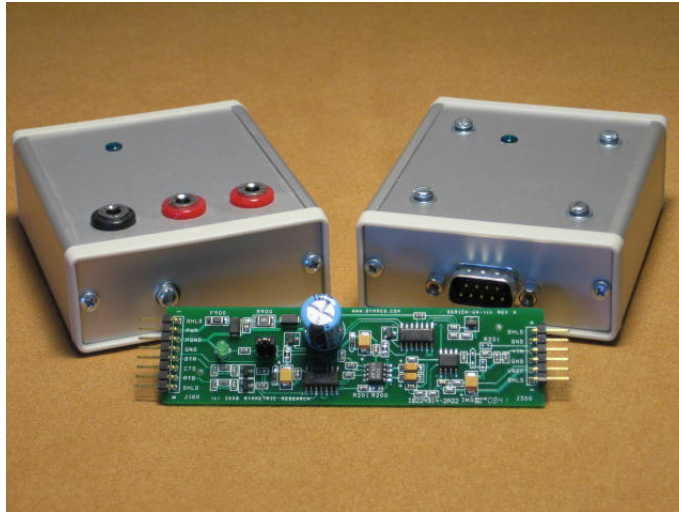
- Ideal for applications requiring 24 bit A/D conversion on 1 channel at 1Hz
- High precision 6 digit analog accuracy
- Very small power consumption of only 600 microamps at 9 volts while converting
- Suitable for use with batteries or solar panels
- Easy to use single ended analog input
- Buffered copy of A/D reference for ratiometric applications
- Analog input voltage range of 0 to 5 volts with other ranges possible
- 10M ohm input impedance fully op amp buffered
- Simple RS232 serial port interface
- Enclosure models include 2.75" x 3.50" rugged anodized aluminum case
- Borehole model measures only 1" x 3.75"
- Connections vary by model and include banana jacks, Dshells, or headers
- Cables, external power supply, and enclosure included (no enclosure for 1" wide model)

SOFTWARE FEATURES

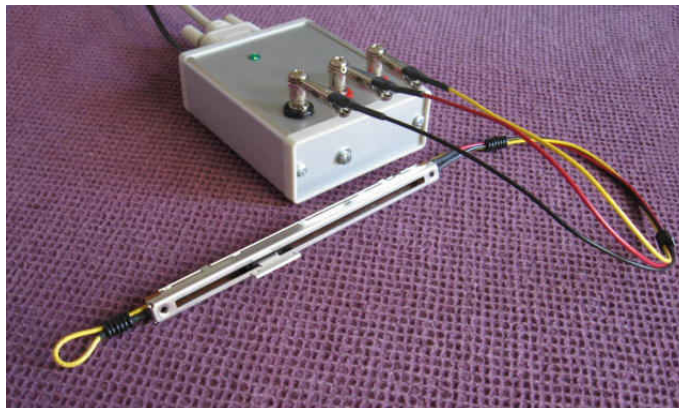
- Ready to go DVM digital voltmeter acquisition application with time stamping
- CAL calibration program for easy calibration into user units
- Full documentation including source code and PDF User Manual with circuit diagrams

SR Product	Description	Price
SER1CH-UA	Low power 1 channel RS232 data acquisition system, banana jack connectors	\$160
SER1CH-UA-DSUB	Low power 1 channel RS232 data acquisition system, Dshell connectors	\$180
SER1CH-UA-1in	Low power 1 inch wide borehole system, inline header connectors	\$130

The SER1CH-UA is available in three different models, suitable for bench applications with banana jacks, permanent installations with D shells, and a narrow borehole model with inline headers:



With a buffered copy of its A/D reference available to the user, the SER1CH-UA is a good match for ratiometric measurements. Using its reference voltage as the excitation, sensors such as potentiometers are easily measured. The three terminals of the SER1CH-UA can be connected to the potentiometer with no other connections required.



The photo above shows a typical ratiometric test setup with a linear slider potentiometer. Usage with single and multiturn rotational potentiometers is the same. When used ratiometrically, TC temperature drift effects are greatly reduced, with excellent repeatability and high precision from one test run to the next.

With low power requirements, the SER1CH-UA can be run from power sources as simple as a 9 volt battery. And, with its RS232 interface, it can be connected to the PCs with cables as long as several hundred feet.