



USBPIA-S1 USB Programmable Single Channel Instrumentation Amplifier

USB 2.0 compatible communication for setup and control
Non-volatile configuration retains all settings through power cycles
Does not need to be attached to a PC to operate
AC/DC converter included for 115VAC or 220VAC power
Optional 9 to 12V battery operation
Compatible with any 12-, 16, or 24-bit A/D converter device
Differential or single ended input
 $\pm 10V_{max}$ Signal Input and Output with input protection up to $\pm 40V$
Software selectable gain of 1, 2X, 5X, 10X, 20X, 50X, 100X, 200X, 500X, 1000X
Use 2 USBPIA-S1 in series to reach gains of 1000000X
Selectable AC or DC coupling for input offset nulling
Use multiple USBPIA-S1 units for multi-channel applications
Windows NT/2000/XP/Vista, 7 compatible menu setup software



Adaptable to most applications in the field, on the factory floor, or in the lab

The USBPIA-S1 stand alone USB controllable module provides a single channel of high-quality instrumentation amplifier and optional AC coupling, for front-end signal conditioning compatible with all popular A/D converter devices.

The USBPIA-S1 is powered with 9 to 12VDC so it can be connected to a battery voltage source or the supplied 115-220VAC adapter may be used for operation with wall power anywhere in the world.

When programmed from the USB port, the USBPIA-S1 will remember all of the programmed properties between power cycles. Program once and operate as a stand-alone signal conditioner without having to reprogram for every use. This is perfect for turn-key applications.

It's easy to connect the USBPIA-S1 into the data collection system. Input and output signals can be routed through BNC connection or using the detachable screw terminal connectors. Optional SMA type adapters are also available.

Protection from high input voltages

The USBPIA-S1 provides strong input protection and can withstand up to $\pm 40V$ at the analog signal input.

Amplify single-ended or differential signals

The USBPIA-S1 high-quality instrumentation amplifier provides software-selectable gain as well as differential inputs with high-common mode rejection. Gain can be set at 1, 2, 5, 10, 20, 50, 100, 200, 500 or 1000. Since the USBPIA-S1 amplifiers introduce very low noise, two can be placed in series to reach gains of 10000 and more.

AC couple at any time

The USBPIA-S1 can AC couple or DC couple the input signal under software control. This feature is useful in applications where the input signal is riding on a large DC offset. AC coupling will remove the DC offset.

All Software is Included

The USBPIA-S1 comes with a complete menu-driven program. **SystemViewUSBPxx-S1** is a ready-made Windows NT, XP, Vista, 7 compatible application that uses a few simple mouse clicks to program the parameters of each USBPIA-S1 connected to the PC. Once selected, the desired parameters are set and saved to non-volatile memory in the USBPIA-S1 so that they are reapplied after every subsequent power up.

An ActiveX control is provided for custom software development. The COM interface of the ActiveX control can be integrated into any high level language application.

