USB Data Acquisition (DAQ) Options

LabJack produces low cost, high quality, USB data acquisition (DAQ) and control products with up to 84 analog inputs, 20+ digital inputs, and 2+ analog outputs when combined with various expansion modules. Below is a featured list of devices with the ability be used as a USB slave device. If your application specifically requires that no other forms of communication be present check out our USB Only devices. Our more advanced devices support multiple communication options, one such device is our latest product the T7, which has a Pro version that operates using USB, Ethernet, and 802.11b/g WiFi. To view our Ethernet DAQ product offerings please see our Ethernet DAQ (data acquisition) products. To view our WiFi DAQ product offerings please see our WiFi DAQ (data acquisition) products.

Please note that the term "DAQ (data acquisition)" implies products that connect to a PC to acquire data. Hence, the term "USB DAQ" means that this communication occurs using a PC's USB port. If you need an instrument that can operate independently from a computer we have Data Logging compatible DAQ devices that are capable of periodically recording to internal memory for later use.
High Performance, USB, Ethernet, WiFi

T7/T7-Pro

- Newest DAQ device supporting USB, Ethernet, and 802.11b/g WiFi
- Fully compatible with Modbus TCP/UDP and most SCADA programs
- 14 analog inputs built-in
- Expand to 84 analog inputs with Mux80 add-on
- Analog input ranges: ±10V, ±1V, ±0.1V and ±0.01V
- 16-bit high-speed ADC (up to 100k samples/s)
- 24-bit low-speed ADC (resolution as low as 1uV noise-free)
- 23 digital I/O
- Up to 10 counters
- 2 analog outputs (12-bit, 0-5V)
- Serial protocols: SPI, I2C, and more ...
- Up to 8 PWM, quadrature, pulse width, and more ...

T7: $429
T7-Pro: $549

Low Cost Ethernet DAQ

T4

- Lowest cost Modbus TCP Ethernet DAQ device. Also supports USB communication.
- 4 dedicated high voltage analog inputs (±10V, 12-bit resolution)
- 8 configurable low voltage analog inputs (0-2.5V, 12-bit resolution) that can function as
digital I/O lines
- 8 dedicated digital I/O lines (EIO4-EIO7 and CIO0-CIO3)
- Multiple timers and counters (Pulse Timing, PWM Output, Quadrature Input, ...)
- Digital I/O lines support SPI, I2C, 1-Wire, and UART (Master modes only)
- 2 Analog Outputs (10-bit, 0-5 volts)

Most Affordable DAQ

U3-LV/U3-HV

- Lowest cost DAQ device supporting USB
- 16 Flexible I/O (Digital Input, Digital Output, or Analog Input)
- Up to 2 Timers (Pulse Timing, PWM Output, Quadrature Input, ...)
- Up to 2 Counters
- 4 Additional Digital I/O
- Up to 16 12-bit Analog Inputs (0-2.4 V or 0-3.6 V, SE or Diff.)
- 2 Analog Outputs (10-Bit, 0-5 volts)
- Supports SPI, I2C, and Asynchronous Serial Protocols (Master Only)

Performance

U6/U6-Pro

- 14 Analog Inputs (16-18+ Bits Depending on Speed)
- Expand to 84 analog inputs with Mux80 add-on
- U6-Pro Adds 24-bit Low-Speed ADC for 22-Bit Effective Resolution
- Instrumentation Amplifier Inputs
- Software Programmable Gains of x1, x10, x100, and x1000
- Analog Input Ranges of ±10, ±1, ±0.1, and ±0.01 Volts
- 2 Analog Outputs (12-Bit, ~0-5 Volts)
- 20 Digital I/O
- Up to 2 Counters, 4 Timers (Pulse Timing, PWM Output, Quadrature Input, ...)
- Supports SPI, I2C, and Asynchronous Serial Protocols (Master Only)

**The Original, USB & Ethernet DAQ**

**UE9/UE9-Pro**

- USB 2.0/1.1 Full Speed and 10Base-T Ethernet
- Mostly compatible with Modbus TCP and most SCADA programs
- 14 Analog Inputs (12-16 Bits Depending on Speed)
- Expand to 84 analog inputs with Mux80 add-on
- UE9-Pro Adds 24-bit Low-Speed ADC for 20-Bit Effective Resolution
- ±5 or 0-5 Volt Maximum Analog Input Range
- 2 Analog Outputs (12-Bit, 0-5 Volts) with Stream-Out Feature
- 23 Digital I/O
- Maximum Input Stream Rate of 50+ kHz (Depending on Resolution)
- Supports SPI, I2C, and Asynchronous Serial Protocols (Master Only)
- Dual-Processor Design with 168 MHz of Total Processing Power
- Electrical Isolation Possible with Ethernet Interface

**Low Cost Multifunction DAQ**

UE9: $579
UE9-Pro: $679
U12

- 8 Single-Ended, 4 Differential 12-Bit Analog Inputs
- ±10 Volt Analog Input Range
- PGA with Gains of 1, 2, 4, 5, 8, 10, 16, or 20 V/V
- Up to 8 kSamples/Sec (Burst) or 1.2 kSamples/Second (Stream)
- 2 Analog Outputs
- 20 Digital I/O (Up to 50 Hz per I/O)
- USB 2.0/1.1 Low Speed HID Interface
- Connect Up to 80 LabJacks to One USB Host
- Complete Software Control, No Jumpers or Switches

U12: $159

Popular LabJack Accessories

- CB37 Terminal Board
- CB15 Terminal Board
- CJTick-DAC
- Mux80 AIN Expansion Board

Why LabJack?

All Software Is Free!

Windows, Mac OS X, Linux

Examples In:
- LabVIEW
- C/C++
- Python
- MATLAB

LabJack Software Options

The LJM Library is a set of functions used to easily communicate with several of our devices using a simple Modbus over USB interface (as well as Modbus TCP/UDP when applicable). The goal
Java is to be easy to use and understand, yet flexible.
Visual Basic All important values and data from the device can be read and/or written by using the associated register(s).
.NET
More...

LabJack’s DAQ devices have a wide range of features

- Analog Inputs
- Digital I/O
- Analog Outputs
- PWM, Quadrature ...
- SPI, I2C, Async Serial ...

*Check Individual Devices for support

We don't force you into a certain operating system, software, or programming environment. We provide free support for C/C++, C#, Delphi, Java, LabVIEW, MATLAB, Python, VBA, VB.NET, DAQFactory and more. If you use something we don't already support, we will work with you to add support. Add new kinds of sensors on-the-fly. We provide inexpensive signal conditioning modules. Control valves, motors, lights, pumps, etc - using one of many digital I/O control options. Embed LabJack DAQ hardware in your product using our OEM options. Leveraging smart designs and the latest semiconductors, allows us to provide more performance for less money. Have confidence in your measurements. Each device is individually tested and calibrated traceable to NIST standards. New features are readily available through field-programmable firmware. Each device has multiple protection mechanisms on every I/O to help prevent damage. Free lifetime support. Timely Email responses that actually answer your question. Get answers from the engineers who made the product.