

PowerLab Hardware

High-performance data acquisition hardware for a wide range of research applications.

PowerLab is engineered for precise, consistent and reliable data acquisition and is ideal for researchers looking to maximize the data collected from every small animal. The flexible design allows researcher's to collect physiologic data from telemetry in conjunction with data from other sources such as flow probes, running wheels, etc.. Capabilities include automated start/stop features to trigger external devices initiated by data points or software commands.

Simple to Use

PowerLabs are USB DAQ devices. Simply set the PowerLab on your bench space, plug it in, and start using it with LabChart software.

It's that easy!

Reliable Performance

- High-throughput full-bandwidth sampling of any analog signal 2 mV - 10 V
- Full 16-bit ADC resolution; resolve voltage differences as small as 61 nV (35 Series)
- 200 kHz maximum sampling rate (35 Series)
- Built to last, ISO certified, with a hardware warranty of up to 5 years

Flexible Connectivity

- Analog outputs for external device control or stimulation protocols
- DIN connectors for precalibrated transducers and low-cost amplifiers
- Digital input and output connectors for signaling to/from TTL devices

35 Series PowerLab systems include LabChart data acquisition and analysis software.

PowerLab

For nearly 30 years, ADInstruments' data acquisition and analysis products have been successfully supporting customers with powerful user-friendly software, specialized training & support, and flexible solution focused systems.



PowerLab 35 Series

Built for the most demanding research applications, all 35 Series PowerLabs are 16-bit, with a 400kS/s ADC giving a maximum per channel sampling rate of 200 kS/s. Each channel has individual filters and noise reduction circuitry to minimize channel crosstalk and signal noise. All 35 Series have 2 analog outputs, a TTL trigger input, 8 digital inputs and 8 digital outputs.

PowerLab 16/35 - The most powerful ADInstruments DAQ system, with 16 analog input channels, 4 of which can be used in differential mode.

PowerLab 8/35 - 8 analog input channels – 4 of which can be used in differential mode.

PowerLab 4/35 - The entry level 35 series system, with 4 analog input channels that can be used in single-ended or differential modes.

Specifications & Feature Comparison

	16/35	8/35	4/35
Included Software	LabChart	LabChart	LabChart
CPU processor	PowerPC 405GPr	PowerPC 405GPr	PowerPC 405GPr
RAM	16 Mb SDRAM	16 Mb SDRAM	16 Mb SDRAM
Data communication	USB 2.0	USB 2.0	USB 2.0
Analog input channels	16	8	4
Single ended inputs	16	8	4
Differential inputs	4	4	4
Input voltage range	± 2 mV to ± 10 V	± 2 mV to ± 10 V	± 2 mV to ± 10 V
ADC resolution	16 bit	16 bit	16 bit
Min sampling rate	1 S/10 min	1 S/10 min	1 S/10 min
Max sampling rate	200 kS/s	200 kS/s	200 kS/s
Input crosstalk	75 dB (min)	75 dB (min)	75 dB (min)
Frequency response	- 3 dB (25 kHz, 10 V)	- 3 dB (25 kHz, 10 V)	- 3 dB (25 kHz, 10 V)
CMRR	>100 dB @ 100 Hz, 2-100 mV	>100 dB @ 100 Hz, 2-100 mV	>100 dB @ 100 Hz, 2-100 mV
Input impedance	1 M Ω @ 100 pF	1 M Ω @ 100 pF	1 M Ω @ 100 pF
Output amplifier	Yes	Yes	Yes
Output channels	2	2	2
Output resolution	16 bit	16 bit	16 bit
Output voltage	± 200 mV to ± 10 V	± 200 mV to ± 10 V	± 200 mV to ± 10 V
Analog output current	± 50 mA	± 50 mA	± 50 mA
Digital output channels	8	8	8
Digital input channels	8	8	8