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Data Sheet

August 13, 2026

NI

NI USB-6009 14-Bit Multifunction DAQ USB Device

The NI USB-6009 is a low-cost, multifunction DAQ device with 8 analog inputs (14-bit, 48 kS/s), 2 analog outputs (12-bit, 150 Hz), 13 digital I/O lines, and a 32-bit counter. It connects to a computer via USB and is ideal for basic data logging, portable measurements, and academic projects.



MODEL

NI USB-6009

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

USB-6009

LISTING

<https://aumictechlabs.com/products/usb-6009-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The NI USB-6009 is a 14-bit multifunction DAQ device engineered for data logging, portable field measurements, and academic research. Bus-powered via USB 2.0, it requires no external power supply and integrates directly with NI-DAQmx driver software for simplified configuration and control. Technical Specifications Analog Input 8 single-ended or 4 differential channels 14-bit resolution (differential); 13-bit (single-ended) 48 kS/s aggregate sample rate Differential input ranges: ± 20 V, ± 10 V, ± 5 V, ± 4 V, ± 2.5 V, ± 2 V, ± 1.25 V, ± 1 V Single-ended input range: ± 10 V 144 k Ω input impedance ± 35 V overvoltage protection 512-byte FIFO buffer 41.67 ns timing resolution (24 MHz timebase); 100 ppm timing accuracy Analog Output 2 channels at 12-bit resolution 150 Hz maximum update rate (software-timed) 0 V to ± 5 V output range 50 Ω output impedance; 5 mA

drive current 0 V power-on state Digital I/O 13 individually programmable lines CMOS, LVTTTL, and TTL compatible Open-drain and push-pull output options ± 8.5 mA source/sink current (active drive) Input thresholds: Low (-0.3 V to $+0.8$ V), High (2.0 V to $+5.8$ V) Counter 32-bit edge counter (falling-edge) 5 MHz maximum input frequency 100 ns minimum pulse width (high and low) 4.7 k Ω pull-up to 5 V Power & References +5 V source: 200 mA maximum +2.5 V external reference: 1 mA maximum

Key Features Full-speed USB 2.0 interface (12 Mb/s) Bus-powered operation - no external supply needed Screw-terminal signal connectivity Compact form factor: 81.8 mm $\times$ 85.1 mm $\times$ 23.2 mm with connectors Weight: 85 g (with connectors)

Typical Applications Environmental and sensor data logging Portable test and measurement systems Educational laboratory experiments Low-speed process monitoring

Compatibility & Integration NI-DAQmx driver software enables configuration across Windows and Linux platforms. USB Series B connector provides standard connectivity to host computers.

Features & description

From manufacturer datasheet

Features

- 8 SE / 4 DI analog inputs, 14-bit differential / 13-bit single-ended
- 48 kS/s aggregate maximum (system dependent)
- Two 12-bit analog outputs, 0 to 5 V
- 12 DIO, each programmable open-collector or active drive
- 32-bit counter; PFI 0 timing
- USB 2.0 full-speed, bus-powered

USB6009 Characteristics / Specifications

PARAMETER	VALUE
Model	USB-6009
Manufacturer	National Instruments
Instrument Type	USB Multifunction DAQ
Series	USB-6008/6009
Alias	USB-6009; NI USB-6009
AI Differential	4
AI Single Ended	8, software selectable
AI Resolution Differential	14 bits
AI Resolution Single Ended	13 bits
Maximum Sample Rate	48 kS/s aggregate, system dependent
Converter Type	multiplexed successive approximation (one ADC)
Timing Resolution	41.67 ns (24 MHz timebase)
Timing Accuracy	100 ppm of actual sample rate
AI FIFO	512 bytes
Input Ranges	+/-20 V, +/-10 V, +/-5 V, +/-4 V, +/-2.5 V, +/-2 V, +/-1.25 V, +/-1 V
Overvoltage Protection	+/-35 V
Input Impedance	144 kohm
AO Channels	2
AO Resolution	12 bits
AO Range	0 to 5 V
AO Update	software timed, 150 Hz class
DIO Channels	12 (P0.0..7 and P1.0..3)
DIO Configuration	each channel individually programmable as open collector or active drive
Counter Resolution	32 bits
USB Specification	USB 2.0 full-speed (12 Mb/s)

PARAMETER	VALUE
Power	USB bus-powered
Wiring Gauge	16 AWG to 28 AWG
Terminal Torque	0.22 Nmto 0.25 N m (2.0 to 2.2 lb in)
Connectors	two detachable screw terminal plugs
USB Connector	USB with cable strain relief
Status LED	green, blinks when initialized and powered
Firmware	uploaded by NI-DAQmx on connect
Driver Minimum	NI-DAQmx 7.5
EMC Note	specified EMC with shielded cables and accessories
Form	portable USB DAQ enclosure
Compared Sibling	USB-6008 is 12-bit differential / 11-bit SE at 10 kS/s open-collector DIO Notes Specs from NI USB-6008/6009 User Guide and USB-6009 Device Specifications. Maximum sample rate is system dependent. Confirm analog range jumper/software settings on the unit.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Input Impedance	144 kohm
A0 Channels	2
A0 Resolution	12 bits
A0 Range	0 to 5 V
A0 Update	software timed, 150 Hz class
DIO Channels	12 (P0.0..7 and P1.0..3)
DIO Configuration	each channel individually programmable as open collector or active drive
Counter Resolution	32 bits
USB Specification	USB 2.0 full-speed (12 Mb/s)

PARAMETER	VALUE
Power	USB bus-powered
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Notes

Specs from NI USB-6008/6009 User Guide and USB-6009 Device Specifications. Maximum sample rate is system dependent. Confirm analog range jumper/software settings on the unit.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.