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Data Sheet

August 13, 2026

NI

NI USB-6210 16-Bit Multifunction DAQ

NI Data Acquisition Systems (DAQ). Voltage: ± 10.4 V relative to AI GND, Current: +100 pA, Resolution: # Digital I/O.



MODEL NI USB-6210	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU USB-6210	LISTING https://aumictechlabs.com/products/usb-6210-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The NI USB-6210 is a bus-powered, 16-bit multifunction data acquisition module delivering analog input, analog output, and digital I/O capabilities over USB connectivity. Engineered for portability and field deployment, it serves engineers and scientists requiring flexible measurement and control in space-constrained or mobile environments.

Technical Specifications

- # Analog Input 16 single-ended or 8 differential channels 16-bit ADC resolution 250 kS/s maximum sample rate (multichannel aggregate and single-channel) Programmable input ranges: ± 0.2 V, ± 1 V, ± 5 V, ± 10 V DC coupling Maximum working voltage: ± 10.4 V relative to AI GND CMRR (DC to 60 Hz): 100 dB Input impedance (device on): >10 G Ω || 100 pF; (device off): 1,200 Ω Input bias current: +100 pA Crosstalk: -75 dB (adjacent channels), -90 dB (non-adjacent channels) at 100 kHz Small signal bandwidth (-3 dB): 450 kHz Settling time: 4 μ s (± 90 ppm), 5 μ s (± 30 ppm), 7 μ s (± 15 ppm) Overvoltage protection: ± 30 V (device on, two pins), ± 20 V (device off, two pins); ± 20 mA max input current during overvoltage Absolute accuracy example (± 10 V range): 2,690 μ V; gain error 132 ppm, offset error 130 ppm, noise uncertainty 68.7 μ V
- # Analog Output 2 channels 16-bit

resolution -# Digital I/O 4 digital input channels, 4 digital output channels TTL logic levels Input range: 0 V to 5.25 V Output range: 0 V to 3.8 V Current drive: 16 mA (single pin), 50 mA (all pins) Input current flow: sinking; output current flow: sourcing Protection: ± 10 V -# Counters & Timing Two 32-bit counters (frequency measurement, event counting, pulse generation) Timing resolution: 50 ns Timing accuracy: 50 ppm of sample rate

Key Features Bus-powered operation eliminates external power supply requirements High input impedance ($>10\text{ G}\Omega$) minimizes loading effects Excellent CMRR and crosstalk isolation for precision multi-channel measurements Wide programmable input ranges accommodate diverse sensor outputs Integrated counter functions support timing and synchronization tasks

Typical Applications Portable sensor data logging and real-time monitoring Control system prototyping and validation Laboratory measurement and test automation Field-based condition monitoring and diagnostics

Compatibility & Integration USB connectivity enables immediate deployment on Windows-based systems. NI driver support and LabVIEW integration streamline configuration and data handling.

Features & description

From manufacturer datasheet

Features

- Isolated 16 SE / 8 DI analog inputs, 16-bit, 250 kS/s aggregate
- No analog output channels (USB-6211/6218 add AO)
- 4 digital inputs and 4 digital outputs
- Two 32-bit counters/timers
- USB 2.0 Hi-Speed, bus-powered
- Screw-terminal enclosure

USB6210 Characteristics / Specifications

PARAMETER	VALUE
Model	USB-6210
Manufacturer	National Instruments
Instrument Type	Isolated USB Multifunction DAQ
Series	USB-621x
Alias	USB-6210; NI USB-6210
AI Channels	8 differential or 16 single ended
ADC Resolution	16 bits
DNL	no missing codes guaranteed
AI Sample Rate Single	250 kS/s maximum
AI Sample Rate Aggregate	250 kS/s maximum
AI Sample Rate Minimum	0 S/s
Timing Accuracy	50 ppm of sample rate
Timing Resolution	50 ns
Input Coupling	DC
Input Range	+/-0.2 V, +/-1 V, +/-5 V, +/-10 V
Working Voltage	+/-10.4 V of AI GND class (USB-621x family)
CMRR	100 dB (DC to 60 Hz) USB-621x class
Input Impedance On	greater than 10 Gohm in parallel with 100 pF (USB-621x)
AI FIFO	4095 samples
Scan List Memory	4095 entries
AO Channels	0 (this model has no analog output)
Digital Inputs	4
Digital Outputs	4
Counters	2, 32 bit
USB Interface	USB 2.0 Hi-Speed or full-speed

PARAMETER	VALUE
Power	USB bus-powered
Connector	screw terminal
Operating Temperature	0 to 45 C
Storage Temperature	-20 to 70 C
Humidity	10% to 90% RH noncondensing
Altitude	2000 m maximum
Pollution Degree	2
Isolation	Measurement Category I (USB-621x isolated family)
Warm Up	15 minutes class (USB-621x)
Calibration Interval	1 year
Driver	NI-DAQmx
ADC Architecture	one multiplexed ADC (250 kS/s shared across scanned channels)
Family Siblings	USB-6211 adds 2 AO; USB-6218 is 32 SE isolated with 2 AO
Form	portable USB DAQ enclosure
Measurement Category	CAT I / CAT O; not for CAT II/III/IV mains
Safety Standards	IEC/EN/UL/CSA 61010-1 class Notes Specs from NI USB-6210 Specifications. Analog input sample rate is aggregate across scanned channels. USB-6210 has no AO; do not substitute USB-6211/6218 AO ratings. Confirm isolation and connector type on the unit.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	20 to 70 C
Operating temperature	0 to 45 C
Operating Temperature	0 to 45 C
Humidity	10% to 90% RH noncondensing
Altitude	2000 m maximum
Pollution Degree	2
Isolation	Measurement Category I (USB-621x isolated family)
Warm Up	15 minutes class (USB-621x)
Calibration Interval	1 year
Driver	NI-DAQmx
ADC Architecture	one multiplexed ADC (250 kS/s shared across scanned channels)
Family Siblings	USB-6211 adds 2 AO; USB-6218 is 32 SE isolated with 2 AO
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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 are typical at 25 C unless noted.

Applications

Isolated 16-channel USB voltage logging; counter/timer measurements without analog output; portable NI-DAQmx acquisition; CATIisolated benches.

Key Features

- Isolated 16 SE / 8 DI analog inputs, 16-bit, 250 kS/s aggregate
- No analog output channels (USB-6211/6218 add AO)
- 4 digital inputs and 4 digital outputs
- Two 32-bit counters/timers
- USB 2.0 Hi-Speed, bus-powered
- Screw-terminal enclosure

Technical Specifications

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PARAMETER	VALUE
Model	USB-6210
Manufacturer	National Instruments
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Series	USB-621x
Alias	USB-6210; NI USB-6210
AI Channels	8 differential or 16 single ended
ADC Resolution	16 bits
DNL	no missing codes guaranteed
AI Sample Rate Single	250 kS/s maximum
AI Sample Rate Aggregate	250 kS/s maximum
AI Sample Rate Minimum	0 S/s
Timing Accuracy	50 ppm of sample rate
Timing Resolution	50 ns
Input Coupling	DC
Input Range	+/-0.2 V, +/-1 V, +/-5 V, +/-10 V
Working Voltage	+/-10.4 V of AI GND class (USB-621x family)
CMRR	100 dB (DC to 60 Hz) USB-621x class
Input Impedance On	greater than 10 Gohm in parallel with 100 pF (USB-621x)
AI FIFO	4095 samples
Scan List Memory	4095 entries

PARAMETER	VALUE
A0 Channels	0 (this model has no analog output)
Digital Inputs	4
Digital Outputs	4
Counters	2, 32 bit
USB Interface	USB 2.0 Hi-Speed or full-speed
Power	USB bus-powered
Connector	screw terminal
Operating Temperature	0 to 45 C
Storage Temperature	-20 to 70 C
Humidity	10% to 90% RH noncondensing
Altitude	2000 m maximum
Pollution Degree	2
Isolation	Measurement Category I (USB-621x isolated family)
Warm Up	15 minutes class (USB-621x)
Calibration Interval	1 year
Driver	NI-DAQmx
ADC Architecture	one multiplexed ADC (250 kS/s shared across scanned channels)
Family Siblings	USB-6211 adds 2 A0; USB-6218 is 32 SE isolated with 2 A0
Form	portable USB DAQ enclosure
Measurement Category	CAT I / CAT 0; not for CAT II/III/IV mains
Safety Standards	IEC/EN/UL/CSA 61010-1 class

Notes

Specs from NI USB-6210 Specifications. Analog input sample rate is aggregate across scanned channels. USB-6210 has no A0; do not substitute USB-6211/6218 A0 ratings. Confirm isolation and connector type 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

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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.