

**Aumictech**

Test &amp; measurement · bought, sold, repaired, calibrated

**Data Sheet**

August 13, 2026

NI

# NI USB-6259 16-Bit Multifunction DAQ - Mass Termination

NI Data Acquisition Systems (DAQ). Sample rate: 1.25 MS/s (single channel), Voltage:  $\pm 11$  V relative to AI GND, Current:  $\pm 100$  pA.



|                    |                                                                                                             |
|--------------------|-------------------------------------------------------------------------------------------------------------|
| MODEL              | CALIBRATION                                                                                                 |
| <b>NI USB-6259</b> | <b>Available on request</b>                                                                                 |
| CONDITION          | STATUS                                                                                                      |
| <b>Used</b>        | <b>In stock</b>                                                                                             |
| RFQ / SKU          | LISTING                                                                                                     |
| <b>USB-6259</b>    | <a href="https://aumictechlabs.com/products/usb-6259-2/">https://aumictechlabs.com/products/usb-6259-2/</a> |

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

## This unit

The NI USB-6259 is a 16-bit multifunction data acquisition device that combines analog input, analog output, digital I/O, and counter/timer capabilities in a single USB 2.0 interface. It supports up to 32 single-ended or 16 differential analog input channels with sample rates to 1.25 MS/s per channel (1 MS/s aggregate), four analog output channels with update rates to 2.86 MS/s, and 48 TTL/CMOS digital I/O lines with hardware-timed operation up to 1 MHz. The device integrates two 32-bit counter/timers running at 80 MHz, analog and digital triggering, and NI-MCal technology for enhanced accuracy. Mass termination connectivity via connector part number 779695-01 enables efficient integration into measurement systems. Technical Specifications Analog Input 32 single-ended or 16 differential channels 16-bit resolution Maximum sample rate: 1.25 MS/s (single channel), 1.00 MS/s (multi-channel aggregate) DC input coupling with ranges  $\pm 10$  V,  $\pm 5$  V,  $\pm 2$  V,  $\pm 1$  V,  $\pm 0.5$  V,  $\pm 0.2$  V,  $\pm 0.1$  V Maximum working voltage:  $\pm 11$  V relative to AI GND Input impedance:  $>10$

G $\Omega$  parallel with 100 pF (device on); 820  $\Omega$  (device off) Input bias current:  $\pm 100$  pA CMRR (DC to 60 Hz): 100 dB Small signal bandwidth (-3 dB): 1.7 MHz Adjacent channel crosstalk (100 kHz): -75 dB; non-adjacent: -90 dB to -95 dB Overvoltage protection:  $\pm 25$  V (device on),  $\pm 15$  V (device off) for up to four pins Input current during overvoltage:  $\pm 20$  mA max per pin Input FIFO: 4,095 samples; Scan list memory: 4,095 entries Timing accuracy: 50 ppm of sample rate; timing resolution: 50 ns Analog Output 4 channels, 16-bit resolution Maximum update rates: 2.86 MS/s (1 channel), 2.00 MS/s (2 channels), 1.54 MS/s (3 channels), 1.25 MS/s (4 channels) DC output coupling, 0.2  $\Omega$  output impedance Output current drive:  $\pm 5$  mA Digital I/O & Timing 48 TTL/CMOS digital I/O lines; up to 32 hardware-timed at 1 MHz Two 32-bit counter/timers at 80 MHz Analog and digital triggering support

**Key Features** USB 2.0 connectivity (hi-speed and full-speed modes) NI-MCal technology for measurement accuracy Mass termination connector for rapid integration Wide input voltage ranges optimized for low-signal acquisition High input impedance minimizes loading effects

**Typical Applications** Multi-channel sensor monitoring and industrial control Signal generation and waveform synthesis Precision timing and counting operations Mixed-signal test and measurement systems

**Compatibility & Integration** Windows 2000, XP, and Vista compatible. Mass termination connector (779695-01) standard.

## Features & description

---

From manufacturer datasheet

### Features

- 32 SE / 16 DI analog inputs, 16-bit, 1.25 MS/s single / 1.00 MS/s aggregate
- Four 16-bit analog outputs to +/-10 V (and +/-5 V / external APFI reference)
- 48 DIO with up to 32 clocked lines
- Two 32-bit 80 MHz counters/timers
- Analog and digital triggering
- USB 2.0 Hi-Speed Signal Stream; NI-DAQmx

## USB6259 Characteristics / Specifications

| PARAMETER                | VALUE                                                         |
|--------------------------|---------------------------------------------------------------|
| Model                    | USB-6259                                                      |
| Manufacturer             | National Instruments                                          |
| Instrument Type          | USB Multifunction DAQ                                         |
| Series                   | M Series High Speed                                           |
| Alias                    | USB-6259; NI USB-6259; NI 6259                                |
| Part Number Examples     | 779628-01; 780114-01; 779695-01                               |
| AI Channels              | 16 differential or 32 single ended                            |
| ADC Resolution           | 16 bits                                                       |
| DNL                      | no missing codes guaranteed                                   |
| AI Sample Rate Single    | 1.25 MS/s maximum                                             |
| AI Sample Rate Aggregate | 1.00 MS/s maximum                                             |
| Timing Resolution        | 50 ns                                                         |
| Timing Accuracy          | 50 ppm of sample rate                                         |
| Input Coupling           | DC                                                            |
| Input Range              | +/-0.1 V, +/-0.2 V, +/-0.5 V, +/-1 V, +/-2 V, +/-5 V, +/-10 V |
| Working Voltage          | +/-11 V of AI GND (signal plus common mode)                   |
| CMRR                     | 100 dB (DC to 60 Hz)                                          |
| Small Signal Bandwidth   | 1.7 MHz (-3 dB)                                               |
| AI FIFO                  | 4095 samples                                                  |
| Scan List Memory         | 4095 entries                                                  |
| AO Channels              | 4                                                             |
| DAC Resolution           | 16 bits                                                       |
| AO Monotonicity          | 16 bit guaranteed                                             |
| AO Update 1 Ch           | 2.86 MS/s                                                     |
| AO Update 2 Ch           | 2.00 MS/s per channel                                         |

| PARAMETER             | VALUE                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| AO Update 3 Ch        | 1.54 MS/s per channel                                                                                                              |
| AO Update 4 Ch        | 1.25 MS/s per channel                                                                                                              |
| Output Range          | +/-5 V, +/-10 V, +/-external reference on APFI 0, 1                                                                                |
| Output Impedance      | 0.2 ohm                                                                                                                            |
| Output Drive          | +/-5 mA                                                                                                                            |
| Overdrive Protection  | +/-25 V                                                                                                                            |
| Overdrive Current     | 20 mA                                                                                                                              |
| Power On State        | +/-5 mV class                                                                                                                      |
| AO FIFO               | 8191 samples shared                                                                                                                |
| DIO Channels          | 48 total, 32 (P0.0..31), 16 (PFI 0..7/P1, PFI 8..15/P2)                                                                            |
| Clocked DIO           | up to 32 bits Port 0                                                                                                               |
| Pull Down             | 50 kohm typical, 20 kohm minimum                                                                                                   |
| DIO Protection        | +/-20 V on up to two pins                                                                                                          |
| Counters              | 2, 32 bit, 80 MHz class                                                                                                            |
| USB Interface         | USB 2.0 Hi-Speed or full-speed; USB Signal Stream                                                                                  |
| Power Supply Fuse     | 2 A, 250 V (USB enclosure)                                                                                                         |
| Wiring Gauge          | 16 to 28 AWG                                                                                                                       |
| BNC Size              | 26.67 × 17.09 × 4.45 cm (10.5 × 6.73 × 1.75 in)                                                                                    |
| Mass Term Size        | 28.6 × 17 cm x 6.9 cm (11.25 × 6.7 × 2.7 in)                                                                                       |
| Screw Terminal Size   | 18.8 × 17.09 × 4.45 cm (7.4 × 6.73 × 1.75 in)                                                                                      |
| Operating Temperature | 0 to 45 C (USB)                                                                                                                    |
| Storage Temperature   | -20 to 70 C                                                                                                                        |
| Humidity              | 10% to 90% RH noncondensing                                                                                                        |
| Calibration Interval  | 1 year                                                                                                                             |
| Measurement Category  | CATISafety Standards: IEC/EN/UL/CSA 61010-1                                                                                        |
| Triggering            | analog triggering and digital triggering                                                                                           |
| Driver                | NI-DAQmx Notes Specs from NI 6259 Device Specifications and USB-6259 product data. USB enclosure temperature is 0 to 45 C (PCI/PXI |

PARAMETER

VALUE

6259 0 to 55 C). Confirm screw-terminal, BNC, or mass-termination part number on the unit.

Bandwidth

1.7 MHz (-3 dB)

# General Specifications & Supplementary Characteristics

| PARAMETER             | VALUE                                                                                                                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage temperature   | 20 to 70 C                                                                                                                                                                                                                    |
| Operating temperature | 0 to 45 C (USB)                                                                                                                                                                                                               |
| Operating Temperature | 0 to 45 C (USB)                                                                                                                                                                                                               |
| Humidity              | 10% to 90% RH noncondensing                                                                                                                                                                                                   |
| Calibration Interval  | 1 year                                                                                                                                                                                                                        |
| Measurement Category  | CATISafety Standards: IEC/EN/UL/CSA 61010-1                                                                                                                                                                                   |
| Triggering            | analog triggering and digital triggering                                                                                                                                                                                      |
| Driver                | NI-DAQmx Notes Specs from NI 6259 Device Specifications and USB-6259 product data. USB enclosure temperature is 0 to 45 C (PCI/PXI 6259 0 to 55 C). Confirm screw-terminal, BNC, or mass-termination part number 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 are typical at 25 C unless noted.

Applications

High-speed USB voltage acquisition and analog waveform generation; clocked digital I/O; NI-DAQmx automated test; USB equivalent of PCI/PXI-6259.

Key Features

- 32 SE / 16 DI analog inputs, 16-bit, 1.25 MS/s single / 1.00 MS/s aggregate
- Four 16-bit analog outputs to +/-10 V (and +/-5 V / external APFI reference)
- 48 DIO with up to 32 clocked lines
- Two 32-bit 80 MHz counters/timers
- Analog and digital triggering
- USB 2.0 Hi-Speed Signal Stream; NI-DAQmx

Technical Specifications

### Technical Specifications

| PARAMETER                | VALUE                                                         |
|--------------------------|---------------------------------------------------------------|
| Model                    | USB-6259                                                      |
| Manufacturer             | National Instruments                                          |
| Instrument Type          | USB Multifunction DAQ                                         |
| Series                   | M Series High Speed                                           |
| Alias                    | USB-6259; NI USB-6259; NI 6259                                |
| Part Number Examples     | 779628-01; 780114-01; 779695-01                               |
| AI Channels              | 16 differential or 32 single ended                            |
| ADC Resolution           | 16 bits                                                       |
| DNL                      | no missing codes guaranteed                                   |
| AI Sample Rate Single    | 1.25 MS/s maximum                                             |
| AI Sample Rate Aggregate | 1.00 MS/s maximum                                             |
| Timing Resolution        | 50 ns                                                         |
| Timing Accuracy          | 50 ppm of sample rate                                         |
| Input Coupling           | DC                                                            |
| Input Range              | +/-0.1 V, +/-0.2 V, +/-0.5 V, +/-1 V, +/-2 V, +/-5 V, +/-10 V |
| Working Voltage          | +/-11 V of AI GND (signal plus common mode)                   |
| CMRR                     | 100 dB (DC to 60 Hz)                                          |
| Small Signal Bandwidth   | 1.7 MHz (-3 dB)                                               |
| AI FIFO                  | 4095 samples                                                  |
| Scan List Memory         | 4095 entries                                                  |



| PARAMETER             | VALUE                                                   |
|-----------------------|---------------------------------------------------------|
| A0 Channels           | 4                                                       |
| DAC Resolution        | 16 bits                                                 |
| A0 Monotonicity       | 16 bit guaranteed                                       |
| A0 Update 1 Ch        | 2.86 MS/s                                               |
| A0 Update 2 Ch        | 2.00 MS/s per channel                                   |
| A0 Update 3 Ch        | 1.54 MS/s per channel                                   |
| A0 Update 4 Ch        | 1.25 MS/s per channel                                   |
| Output Range          | +/-5 V, +/-10 V, +/-external reference on APFI 0, 1     |
| Output Impedance      | 0.2 ohm                                                 |
| Output Drive          | +/-5 mA                                                 |
| Overdrive Protection  | +/-25 V                                                 |
| Overdrive Current     | 20 mA                                                   |
| Power On State        | +/-5 mV class                                           |
| A0 FIFO               | 8191 samples shared                                     |
| DIO Channels          | 48 total, 32 (P0.0..31), 16 (PFI 0..7/P1, PFI 8..15/P2) |
| Clocked DIO           | up to 32 bits Port 0                                    |
| Pull Down             | 50 kohm typical, 20 kohm minimum                        |
| DIO Protection        | +/-20 V on up to two pins                               |
| Counters              | 2, 32 bit, 80 MHz class                                 |
| USB Interface         | USB 2.0 Hi-Speed or full-speed; USB Signal Stream       |
| Power Supply Fuse     | 2 A, 250 V (USB enclosure)                              |
| Wiring Gauge          | 16 to 28 AWG                                            |
| BNC Size              | 26.67 x 17.09 x 4.45 cm (10.5 x 6.73 x 1.75 in)         |
| Mass Term Size        | 28.6 x 17 cm x 6.9 cm (11.25 x 6.7 x 2.7 in)            |
| Screw Terminal Size   | 18.8 x 17.09 x 4.45 cm (7.4 x 6.73 x 1.75 in)           |
| Operating Temperature | 0 to 45 C (USB)                                         |
| Storage Temperature   | -20 to 70 C                                             |
| Humidity              | 10% to 90% RH noncondensing                             |
| Calibration Interval  | 1 year                                                  |
| Measurement Category  | CAT I                                                   |
| Safety Standards      | IEC/EN/UL/CSA 61010-1                                   |
| Triggering            | analog triggering and digital triggering                |

| PARAMETER | VALUE    |
|-----------|----------|
| Driver    | NI-DAQmx |

## Technical Specifications

| PARAMETER                | VALUE                                                         |
|--------------------------|---------------------------------------------------------------|
| Model                    | USB-6259                                                      |
| Manufacturer             | National Instruments                                          |
| Instrument Type          | USB Multifunction DAQ                                         |
| Series                   | M Series High Speed                                           |
| Alias                    | USB-6259; NI USB-6259; NI 6259                                |
| Part Number Examples     | 779628-01; 780114-01; 779695-01                               |
| AI Channels              | 16 differential or 32 single ended                            |
| ADC Resolution           | 16 bits                                                       |
| DNL                      | no missing codes guaranteed                                   |
| AI Sample Rate Single    | 1.25 MS/s maximum                                             |
| AI Sample Rate Aggregate | 1.00 MS/s maximum                                             |
| Timing Resolution        | 50 ns                                                         |
| Timing Accuracy          | 50 ppm of sample rate                                         |
| Input Coupling           | DC                                                            |
| Input Range              | +/-0.1 V, +/-0.2 V, +/-0.5 V, +/-1 V, +/-2 V, +/-5 V, +/-10 V |
| Working Voltage          | +/-11 V of AI GND (signal plus common mode)                   |
| CMRR                     | 100 dB (DC to 60 Hz)                                          |
| Small Signal Bandwidth   | 1.7 MHz (-3 dB)                                               |
| AI FIFO                  | 4095 samples                                                  |
| Scan List Memory         | 4095 entries                                                  |
| AO Channels              | 4                                                             |
| DAC Resolution           | 16 bits                                                       |
| AO Monotonicity          | 16 bit guaranteed                                             |
| AO Update 1 Ch           | 2.86 MS/s                                                     |
| AO Update 2 Ch           | 2.00 MS/s per channel                                         |
| AO Update 3 Ch           | 1.54 MS/s per channel                                         |
| AO Update 4 Ch           | 1.25 MS/s per channel                                         |
| Output Range             | +/-5 V, +/-10 V, +/-external reference on APFI 0, 1           |
| Output Impedance         | 0.2 ohm                                                       |

| PARAMETER             | VALUE                                                   |
|-----------------------|---------------------------------------------------------|
| Output Drive          | +/-5 mA                                                 |
| Overdrive Protection  | +/-25 V                                                 |
| Overdrive Current     | 20 mA                                                   |
| Power On State        | +/-5 mV class                                           |
| AO FIFO               | 8191 samples shared                                     |
| DIO Channels          | 48 total, 32 (P0.0..31), 16 (PFI 0..7/P1, PFI 8..15/P2) |
| Clocked DIO           | up to 32 bits Port 0                                    |
| Pull Down             | 50 kohm typical, 20 kohm minimum                        |
| DIO Protection        | +/-20 V on up to two pins                               |
| Counters              | 2, 32 bit, 80 MHz class                                 |
| USB Interface         | USB 2.0 Hi-Speed or full-speed; USB Signal Stream       |
| Power Supply Fuse     | 2 A, 250 V (USB enclosure)                              |
| Wiring Gauge          | 16 to 28 AWG                                            |
| BNC Size              | 26.67 x 17.09 x 4.45 cm (10.5 x 6.73 x 1.75 in)         |
| Mass Term Size        | 28.6 x 17 cm x 6.9 cm (11.25 x 6.7 x 2.7 in)            |
| Screw Terminal Size   | 18.8 x 17.09 x 4.45 cm (7.4 x 6.73 x 1.75 in)           |
| Operating Temperature | 0 to 45 C (USB)                                         |
| Storage Temperature   | -20 to 70 C                                             |
| Humidity              | 10% to 90% RH noncondensing                             |
| Calibration Interval  | 1 year                                                  |
| Measurement Category  | CATISafety Standards: IEC/EN/UL/CSA 61010-1             |
| Triggering            | analog triggering and digital triggering                |
| Driver                | NI-DAQmx                                                |

#### Notes

Specs from NI 6259 Device Specifications and USB-6259 product data. USB enclosure temperature is 0 to 45 C (PCI/PXI 6259 0 to 55 C). Confirm screw-terminal, BNC, or mass-termination part number 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](mailto:sales@aumictech.com) · +1 (484) 841-9341

#### Aumictech

788 S 500 E, Pleasant Grove, UT 84062  
[sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341  
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·  
30-day returns  
NAICS 423690 · 811210 · 541380  
Generated August 13, 2026

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