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## NI USB-6289

### 18-Bit, 625 kS/s M Series Multifunction DAQ, External Power

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32 analog inputs (18-bit); 625 kS/s single-channel (500 kS/s aggregate)

4 analog outputs (16-bit, 2.8 MS/s); 48 digital I/O (32 clocked); two 32-bit counters

Use mass-termination version with SCC signal conditioning; OEM version available

NI signal streaming for sustained high-speed data streams over USB

Compatibility with LabVIEW, LabWindows™/CVI, and Measurement Studio for Visual Studio .NET

NI-DAQmx driver software and LabVIEW SignalExpress LE interactive data-logging software

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The National Instruments USB-6289 is a USB high-accuracy M Series multifunction data acquisition (DAQ) module optimized for superior accuracy at fast sampling rates. The NI USB-6289 is ideal for applications such as dynamic signal acquisition, and, when used with NI signal conditioning, for sensor measurements.

The USB-6289 is designed specifically for mobile or space-constrained applications. Plug-and-play installation minimizes configuration and setup time, while direct screw-terminal connectivity helps keep costs down and simplifies signal connections. NI-DAQmx driver and measurement services software provides easy-to-use configuration and programming interfaces with features such as the DAQ Assistant to help reduce development time.

This module also features new NI signal streaming technology, which allows for DMA-like bidirectional high-speed streaming of data across USB. Find more information on NI signal streaming under the Resources tab.

Each module also features an OEM version. View the Resources tab or use the left navigation to get pricing and technical information.

#### **Driver Software**

NI-DAQmx driver and measurement services software provides easy-to-use configuration and programming interfaces with features such as the DAQ Assistant to help reduce development time. Browse the information in the Resources tab to learn more about driver software or download a driver. NI M Series devices are not compatible with the Traditional NI-DAQ (Legacy) driver.

#### **Application Software**

Every M Series DAQ device includes a copy of NI LabVIEW SignalExpress LE so you can quickly acquire, analyze, and present data without programming. In addition to LabVIEW SignalExpress, M Series DAQ devices are compatible with the following versions (or later) of NI application software – LabVIEW 7.1, LabWindows/CVI 7.x, or Measurement Studio 7.x. M Series DAQ devices are also compatible with Visual Studio .NET, C/C++, and Visual Basic 6.0.

The mark LabWindows is used under a license from Microsoft Corporation. test

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## Specifications Documents

[Specifications](#) [View Data Sheet](#)

### Specifications Summary

#### General

Product Name	USB-6289
Product Family	Multifunction Data Acquisition
Form Factor	USB
Part Number	780055-07 , 780055-06 , 780055-04 , 780055-02 , 780055-03 , 780055-01
Operating System/Target	Windows
LabVIEW RT Support	No
DAQ Product Family	M Series
Measurement Type	Quadrature encoder , Voltage
Isolation Type	None
RoHS Compliant	Yes
USB Power	External-Powered
Signal Conditioning	Low-pass filtering

#### Analog Input

Channels	32 , 16
Single-Ended Channels	32
Differential Channels	16
Resolution	18 bits
Sample Rate	625 kS/s
Max Voltage	10 V
Maximum Voltage Range	-10 V - 10 V
Maximum Voltage Range Accuracy	980 $\mu$ V
Maximum Voltage Range Sensitivity	24 $\mu$ V
Minimum Voltage Range	-100 mV - 100 mV
Minimum Voltage Range Accuracy	28 $\mu$ V
Minimum Voltage Range Sensitivity	0.8 $\mu$ V
Number of Ranges	7
Simultaneous Sampling	No

<b>On-Board Memory</b>	4095 samples
<b>Analog Output</b>	
<b>Channels</b>	4
<b>Resolution</b>	16 bits
<b>Max Voltage</b>	10 V
<b>Maximum Voltage Range</b>	-10 V - 10 V
<b>Maximum Voltage Range Accuracy</b>	1540 $\mu$ V
<b>Minimum Voltage Range</b>	-1 V - 1 V
<b>Minimum Voltage Range Accuracy</b>	259 $\mu$ V
<b>Update Rate</b>	2.86 MS/s
<b>Current Drive Single</b>	5 mA
<b>Current Drive All</b>	10 mA
<b>Digital I/O</b>	
<b>Bidirectional Channels</b>	48
<b>Input-Only Channels</b>	0
<b>Output-Only Channels</b>	0
<b>Timing</b>	Software , Hardware
<b>Clocked Lines</b>	32
<b>Maximum Clock Rate</b>	1 MHz
<b>Logic Levels</b>	TTL
<b>Input Current Flow</b>	Sinking , Sourcing
<b>Output Current Flow</b>	Sinking , Sourcing
<b>Programmable Input Filters</b>	Yes
<b>Supports Programmable Power-Up States?</b>	Yes
<b>Current Drive Single</b>	24 mA
<b>Current Drive All</b>	448 mA
<b>Watchdog Timer</b>	No
<b>Supports Handshaking I/O?</b>	No
<b>Supports Pattern I/O?</b>	Yes
<b>Maximum Input Range</b>	0 V - 5 V
<b>Maximum Output Range</b>	0 V - 5 V
<b>Counter/Timers</b>	
<b>Counters</b>	2

<b>Buffered Operations</b>	Yes
<b>Debouncing/Glitch Removal</b>	Yes
<b>GPS Synchronization</b>	No
<b>Maximum Range</b>	0 V - 5 V
<b>Max Source Frequency</b>	80 MHz
<b>Pulse Generation</b>	Yes
<b>Resolution</b>	32 bits
<b>Timebase Stability</b>	50 ppm
<b>Logic Levels</b>	TTL

**Physical Specifications**

<b>Length</b>	26.67 cm
<b>Width</b>	17.09 cm
<b>Height</b>	4.45 cm
<b>I/O Connector</b>	68-pin male SCSI-II type

**Timing/Triggering/Synchronization**

<b>Triggering</b>	Digital , Analog
<b>Synchronization Bus (RTSI)</b>	No

★ most popular item(s)

<b>Part Number</b>	<b>Description</b>	<b>Est Ship</b>	<b>US Dollars</b>	<b>Qty</b>
780055-01	NI USB-6289 M Series Screw Term, U.S. (120 V)	1 - 3	\$ 2,775.00	<input type="text" value="0"/>
780056-01	NI USB-6289 M Series Mass Term, U.S. (120 V)	12 - 20	\$ 2,775.00	<input type="text" value="0"/>
776844-01★	SCB-68 Noise Rejecting, Shielded I/O Connector Block	1 - 3	\$ 330.00	<input type="text" value="0"/>
199006-01	SH68-68-EPM Shielded Cable, 68 D-Type to 68 D-Type, 1M	5 - 10	\$ 113.00	<input type="text" value="0"/>
780315-01	Rugged Carrying Case for Portable Instrumentation	5 - 10	\$ 175.00	<input type="text" value="0"/>
780214-01	Externally Powered USB M Series Panel Mounting Kit	5 - 10	\$ 57.00	<input type="text" value="0"/>

You have selected **United States** as the country where you will use the product(s) ([change](#)).

## Extended Warranties

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National Instruments designs and manufactures all products to minimize failures, however unexpected failures can still occur. Extended warranties provide a fixed economical price at the time of system purchase, covering any repair costs for up to three years. In addition, they offer the following benefits:

- Significant cost savings compared to individual repair incidents

- Fault location, diagnostics, and repair by NI any time the system product fails

- All parts and labor costs covered as well as any adjustments needed to restore the hardware to manufacturing specifications

For more information about your warranty options:

- [Learn More About Warranty Services](#)

- [Talk to an Expert About Extended Warranties](#)

- [View Warranty Repair Policies](#)

## Calibration

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NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. NI provides manual calibration procedures, services to recalibrate your products, and automated calibration software to calibrate many NI measurement products.

- [Learn More About Calibration Services](#)

## Training

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NI training is the fastest, most certain route to productivity with NI tools and successful application development.

- [Learn More About NI Training and Certification](#)

- [Find a Course Near You and View Schedules](#)

## Repair Services

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Return your registered product under warranty at no additional labor and parts cost. NI offers fault location, diagnostics, and repair any time the system fails as well as any adjustments needed to restore the hardware to manufacturing specifications.

- [Learn More About Repair Services](#)

- [Contact NI to obtain a Return Material Authorization \(RMA\) form and shipping instructions.](#)

- [View your RMA support request status online.](#)

- [Register your product.](#)

## Technical Support

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## Additional Product Information

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[Manuals \(7\)](#) 

[Dimensional Drawings \(2\)](#) 

[Product Certifications](#) 

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## Related Information

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[NI USB Data Acquisition for OEM](#) 

[Download NI Data Acquisition Drivers](#) 

[NI LabVIEW SignalExpress Interactive Data-Logging Software](#) 

[NI Signal Streaming: Bidirectional High-Speed Data Streams over USB](#) 

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