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GPIB Bus Isolator/Expander

NI GPIB-120B

- IEEE 488.1 and IEEE 488.2 compatible
- 60 VDC continuous electrical isolation
- 2,500 VDC noncontinuous overvoltage isolation between GPIB ports and between each port and power supply based on 5 s withstand test
- Transfer rates
  - Up to 1.2 MB/s (buffered mode)
  - Up to 450 kB/s (unbuffered mode)
- Expands the number of GPIB devices allowed on the bus to 28
- Bidirectional expansion – controllers, talkers, and listeners can exist on either side of the expansion
- Software transparent – no software modifications required
- Signal buffering extends the maximum GPIB cable limit to 40 m (device load every 2 m of bus cable)
- External 12 VDC universal power supply (100 to 240 VAC input)
- Meets CE and FCC Class A electromagnetic compatibility (EMC) requirements
- Optional rack-mount or DIN-rail/wall-mount kit



Overview

The National Instruments GPIB-120B is a GPIB bus isolator and expander. You can use it in test and measurement systems to provide electrical isolation as well as expand the number of devices allowed on the GPIB bus.

The NI GPIB-120B provides an electrically isolated interface to one or more GPIB devices. It offers up to 2,500 VDC of noncontinuous isolation between the GPIB ports and between each GPIB port and the power supply, based on a 5 s dielectric withstand test.

The GPIB-120B also expands the number of devices allowed on the GPIB. The IEEE 488.1 standard prescribes a maximum of 15 electrical device interface loads in a GPIB system. The GPIB-120B increases the number of GPIB system devices from 15 to 28. It also provides bidirectional expansion, where controllers, talkers, and listeners can exist on either side of the expansion.

The GPIB-120B is completely software transparent. You can insert a GPIB-120B into your system without having to rewrite your software application.

Data Transfer Modes

The GPIB-120B isolator/expander can operate in one of two data transfer modes: unbuffered and buffered. The data transfer mode determines how data is transmitted across the expansion.

In unbuffered mode, each data byte is transmitted using the standard GPIB double-interlocked handshaking protocol, keeping the GPIB-120B isolator/expander transparent.

In buffered mode, the GPIB-120B isolator/expander uses FIFO (first-in-first-out) buffers to buffer data between the remote and local sides of the isolation barrier. For long data streams, the data throughput can be much higher than with unbuffered mode.

The GPIB-120B is capable of data transfers of up to 1.2 MB/s in buffered mode and up to 450 kB/s in unbuffered mode.

Ordering Information

NI GPIB-120B

U.S. 120 VAC	779651-01
Universal Euro 240 VAC	779651-04
U.K. 240 VAC	779651-06
Japan 100 VAC	779651-07

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to **ni.com/gpib**.

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Specifications

IEEE 488 Compatibility

IEEE 488.1 and IEEE 488.2 compatible

Maximum IEEE 488 Bus Transfer Rates

Buffered mode	Up to 1.2 MB/s
Unbuffered mode	Up to 450 kB/s

Physical

Dimensions	16.01 by 9.35 by 3.15 cm (6.30 by 3.68 by 1.24 in.)
Weight	245 g (8.64 oz)

Power Requirements

Input voltage range	12 to 18 VDC
Current consumption (@ 12 VDC)	500 mA max, 300 mA typical
Internally fused (nonreplaceable)	F 2.2 A 125 V (fast acting)

12 VDC power supply (included)

Input voltage/current range	100 to 240 VAC, 0.4A, 47 to 63 Hz

Isolation, Continuous (operating)

Between GPIB ports	60 VDC
Between each port and power supply	60 VDC

Isolation, Noncontinuous (overvoltage)

Between GPIB ports	2,500 VDC, verified by a dielectric withstand test, 5 s max
Between each port and power supply	2,500 VDC, verified by a dielectric withstand test, 5 s max

Operating Environment

Ambient temperature	0 to 55 °C

(Note: For the GPIB-120B to operate over the entire specified ambient temperature range, stacking the product is not recommended.)

Relative humidity	10 to 90%, noncondensing
Maximum altitude	2,000 m (at 25 °C ambient temperature)
Pollution degree	2

Indoor use only

(in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56)

Storage Environment

Ambient temperature	-20 to 70 °C
Relative humidity	5 to 95%, noncondensing

(in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56)

Shock and Vibration

Operational shock	30 g peak, half-sine, 11 ms pulse

(in accordance with IEC-60068-2-27; test profile developed in accordance with MIL-PRF-28800F)

Random vibration

Operating	5 to 500 Hz, 0.3 grms
Nonoperating	5 to 500 Hz, 2.4 grms

(in accordance with IEC-60068-2-64; nonoperating test profile developed in accordance with MIL-PRF-28800F, Class 3)

Compliance and Safety

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Calibration Services

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Repair and Extended Warranty

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