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 a 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.
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)
Nonoperating .................. 5 to 500 Hz, 0.3 grms
5 to 500 Hz, 2.4 grms
(in accordance with IEC-60068-2-64, nonoperating test profile developed in accordance with MIL-PRF-28800, Class 3)

Compliance and Safety
Online at ni.com/certification.
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**NI Factory Installation Services**

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**Repair and Extended Warranty**

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