

## NATIONAL INSTRUMENTS

# GPIB-USB-HS

The National Instruments GPIB-USB-HS is a high-performance, compact USB-to-GPIB controller interface that transforms any computer with a USB port into a fully functional IEEE 488.2 controller. Designed for high reliability and maximum throughput, it supports standard IEEE 488.1 transfer rates up to 1.8 MB/s and high-speed HS488 protocol transfers up to 7.7 MB/s.

## SPECIFICATIONS

### General

|            |                                                      |
|------------|------------------------------------------------------|
| Interfaces | USB 2.0 High Speed, GPIB (IEEE 488.1 and IEEE 488.2) |
| Display    | None (LED status indicators only)                    |

### Physical

|                       |                                   |
|-----------------------|-----------------------------------|
| Power Supply          | USB bus-powered, 4.75 to 5.25 VDC |
| Operating Temperature | 0 to 55 °C °C                     |
| Dimensions (W×H×D)    | 107 mm × 66 mm × 26 mm mm         |
| Weight                | 114 g kg                          |

### Bus Interface & Connectivity

|                                     |                                                                  |
|-------------------------------------|------------------------------------------------------------------|
| USB Specification Version           | USB 2.0 High Speed (480 Mbps)                                    |
| USB Port Connection Type            | USB Type-A (integrated cable)                                    |
| GPIB Standard Compliance            | IEEE 488.1 and IEEE 488.2                                        |
| Maximum Number of GPIB Devices      | 14 instruments (up to 15 total devices including the controller) |
| Maximum Interconnected Cable Length | 20 m total (or 2 m per device, whichever is less)                |
| GPIB Controller Capability          | Talker, Listener, Controller (System Controller capability)      |

### Performance & Data Transfer Rates

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Maximum Transfer Rate (IEEE 488.1)     | 1.8 MB/s                         |
| Maximum Transfer Rate (HS488 Protocol) | 7.7 MB/s                         |
| Handshake Protocols Supported          | Standard 3-wire handshake, HS488 |

### Software & Driver Compatibility

|                                    |                                                                     |
|------------------------------------|---------------------------------------------------------------------|
| Driver Software Required           | NI-488.2                                                            |
| VISA API Compatibility             | Fully compatible (NI-VISA)                                          |
| Supported Development Environments | LabVIEW, LabWindows/CVI, Microsoft Visual Studio (C/C++<br>+, .NET) |

**Power Requirements**

|                      |                 |
|----------------------|-----------------|
| Power Source         | USB Bus-Powered |
| Typical Current Draw | 140 mA          |
| Maximum Current Draw | 500 mA          |

**Physical & Mechanical**

|                             |                                     |
|-----------------------------|-------------------------------------|
| Integrated USB Cable Length | 2 m                                 |
| LED Status Indicators       | Ready (Green/Amber), Active (Green) |

**Environmental Specifications**

|                            |                               |
|----------------------------|-------------------------------|
| Storage Temperature Range  | -20 to 70 °C                  |
| Operating Humidity Range   | 10% to 90% RH, non-condensing |
| Storage Humidity Range     | 5% to 95% RH, non-condensing  |
| Maximum Operating Altitude | 2000 m                        |

**Regulatory Compliance & Certifications**

|                    |         |
|--------------------|---------|
| FCC Class Rating   | Class A |
| CE Mark Compliance | Yes     |

**Software & Drivers**

|                          |                                          |
|--------------------------|------------------------------------------|
| Operating System Support | Windows, Linux, macOS (driver dependent) |
|--------------------------|------------------------------------------|

**Environmental**

|                        |                                   |
|------------------------|-----------------------------------|
| Pollution Degree       | 2                                 |
| Indoor Use Only        | Yes                               |
| Operating Shock        | 30 g peak, half-sine, 11 ms pulse |
| Nonoperating Shock     | 50 g peak, half-sine, 11 ms pulse |
| Operating Vibration    | 5 Hz to 500 Hz, 0.3 grms          |
| Nonoperating Vibration | 5 Hz to 500 Hz, 2.4 grms          |

**Compliance & Certifications**

|                          |                              |
|--------------------------|------------------------------|
| EMC Compliance Standards | EN 61326-1, EN 55011 Class A |
| Safety Standards         | IEC 61010-1, EN 61010-1      |

**Hardware**

|                 |            |
|-----------------|------------|
| Controller ASIC | NI TNT5002 |
|-----------------|------------|

**Compliance**

|                 |                |
|-----------------|----------------|
| RoHS Compliance | RoHS Compliant |
|-----------------|----------------|

**TECHNOLOGY**

GPIO (IEEE 488)

## APPLICATIONS

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### Instrument Control and Automation

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