

NI ExpressCard-8420/2 and NI ExpressCard-8421/2 Hardware Specifications

This document lists the specifications for the NI ExpressCard-8420/2 and NI ExpressCard-8421/2 boards.

Environment

Maximum altitude 2,000 m (at 25 °C ambient temperature)

Pollution Degree 2

Indoor use only

Operating Environment

Ambient temperature range..... 0 to 65 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)

Relative humidity range 5% to 95%, noncondensing (Tested in accordance with IEC-60068-2-56.)



Hot Surface Be careful when removing ExpressCards. Recently used ExpressCards may exceed safe handling temperatures.

Storage Environment

Ambient temperature range..... -20 to 65 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)

Nonoperating thermal shock -20 to 65 °C, 5 shocks

Shock and Vibration

| | |
|--|---|
| Nonoperating shock | 50 g, 11 ms (Tested in accordance with IEC-60068-2-27.) |
| Nonoperating vibration, sinusoidal | 15 g, 100 to 2000 Hz (Tested in accordance with IEC-60068-2-6.) |
| Nonoperating drop test | 2 drops in 3 mutually exclusive axes from 75 cm onto no-cushioning vinyl tile surface |

Other Specifications

| | |
|--------------------------|---|
| Dimensions | 34 × 75 × 5 mm (1.34 × 2.95 × 0.2 in.) |
| Weight | |
| ExpressCard-8420/2 | 16 g (0.5 oz) |
| ExpressCard-8421/2 | 17 g (0.6 oz) |

Connectors

| | |
|--------------------|--|
| IO connector | 26-position latching connector with 20 cm breakout cable to 2 DB-9 connectors (male) |
| ExpressCard | ExpressCard/34 standard connector interface |

Power Requirements

| | |
|----------------------------------|----------------|
| (from ExpressCard USB interface) | |
| Voltage | +3.3 VDC ± 10% |
| NI ExpressCard-8420/2 | |
| +3.3 VDC | 100 mA typical |
| NI ExpressCard-8421/2 | |
| +3.3 VDC | 160 mA typical |

Maximum serial transfer rate¹

| | |
|--------------|------------|
| RS-485 | 460.8 kbps |
| RS-232 | 230.4 kbps |

Maximum cable length

| | |
|---------------------------|--|
| RS-485 ² | 30 m (limited by EMC/surge) |
| RS-232 | 2,500 pF equivalent (TIA-EIA-232-F 2.1.4) |

Data line ESD protection (human body model)

| | |
|--------------|---------|
| RS-485 | ± 15 kV |
| RS-232 | ± 15 kV |

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 60950-1, EN 60950-1
- UL 60950-1
- CAN/CSA-C22.2 No. 60950-1



Note For UL and other safety certifications, refer to the product label or visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

| | |
|-----------------|--|
| Emissions | EN 55011 Class A at 10 m FCC Part 15A above 1 GHz |
| Immunity | EN 61326:1997 + A2:2001, Table 1 |
| EMC/EMI..... | CE, C-Tick, and FCC Part 15 (Class A) Compliant |



Note For EMC compliance, operate this device with shielded cabling.

¹ Actual speed may vary considerably from speed shown due to system and instrumentation capabilities.

² RS-485 is capable of 1.2 km (4,000 ft) without surge limitation.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

Low-Voltage Directive (safety).....73/23/EEC

Electromagnetic Compatibility
Directive (EMC)89/336/EEC



Note Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.