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SPECIFICATIONS

PCI-8511

1- or 2-Port, Low-Speed/Fault-Tolerant CAN Interface Device

This document lists specifications for the PCI-8511 1-port and 2-port low-speed/fault-tolerant CAN interface device.

Definitions

Warranted specifications describe the performance of a model under stated operating conditions and are covered by the model warranty.

Characteristics describe values that are relevant to the use of the model under stated operating conditions but are not covered by the model warranty.

- *Typical* specifications describe the performance met by a majority of models.
- *Nominal* specifications describe an attribute that is based on design, conformance testing, or supplemental testing.

Specifications are *Typical* unless otherwise noted.

Conditions

Specifications are typical at 0 °C to 55 °C unless otherwise noted.

Power Requirements

+5 VDC (±5%)	640 mA
+3.3 VDC (±5%)	940 mA

Physical

Dimensions and Weight

Dimensions	10.67 cm x 16.76 cm (4.2 in. x 6.6 in.)

Weight	
1 port	98 g (3.5 oz.)
2 port	102 g (3.6 oz.)

RTSI/Front Panel Sync Connectors

Trigger lines	7 input/output
Clock lines	1 input/output
I/O compatibility	TTL
Power-on state	Input (High-Z)
Response	Rising edge triggers

Physical Characteristics

CAN Physical Layer	Low-Speed/Fault-Tolerant CAN
Transceiver[1]	NXP TJA1054A or TJA1055T
Max baud rate	125 kbps
Min baud rate	40 kbps, 10 kbps min for all error modes

Environmental

Operating Environment

Ambient temperature	0 °C to 55 °C
Relative humidity	10% to 90% RH, noncondensing
Maximum altitude	2,000 m (800 mbar) at 25 °C ambient temperature

Indoor use only.

[1] PCI-8511 revision E and later use the TJA1055T transceiver; previous hardware revisions use the TJA1054A transceiver. To identify your hardware revision, refer to the 19xxxx<rev>-4xL text on the green label in the top left corner on the secondary side of the board; <rev> indicates the hardware revision.

Storage Environment

Ambient temperature	-20 to 70 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity	5 to 95% RH, noncondensing (Tested in accordance with IEC-60068-2-56.)
Pollution Degree (IEC 60664)	2

Isolation Voltages

Port-to-port ground	
Withstand	500 V_{rms} verified by a 5 s dielectric withstand test
Continuous	60 VDC, Measurement Category I
Port-to-earth ground	
Withstand	500 V_{rms} verified by a 5 s dielectric withstand test
Continuous	60 VDC, Measurement Category I

Note This isolation is intended to prevent ground loops.

Measurement Category I is for measurement performed on circuits not directly connected to the electrical distribution system referred to as MAINS voltage. MAINS is a hazardous live electrical supply system that powers equipment. This category is for measurements of voltages from specially protected secondary circuits. Such voltage measurements include signal levels, special equipment, limited-energy parts of equipment, circuits powered by regulated low-voltage sources, and electronics.

Caution Do not connect the PCI-8511 to signals or use for measurements within Measurement Categories II, III, or IV.

Attention Ne connectez pas le PCI-8511 à des signaux et ne l'utilisez pas pour effectuer des mesures dans les catégories de mesure II, III ou IV.

Note Measurement Categories CAT I and CAT O (Other) are equivalent. These test and measurement circuits are not intended for direct connection to the MAINs building installations of Measurement Categories CAT II, CAT III, and CAT IV.

Safety Compliance Standards

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

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA C22.2 No. 61010-1

Note For UL and other safety certifications, refer to the device label or the *Product Certifications and Declarations* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- EN 55022 (CISPR 22): Class A emissions
- EN 55024 (CISPR 24): Immunity
- AS/NZS CISPR 11: Group 1, Class A emissions
- AS/NZS CISPR 22: Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

Note Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.

Note In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia and New Zealand (per CISPR 11) Class A equipment is intended for use only in heavy-industrial locations.

Notice For EMC declarations and certifications, and additional information, refer to the *Product Certifications and Declarations* section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)

Product Certifications and Declarations

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

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at *ni.com/environment*. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)



EU Customers At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit *ni.com/environment/weee*.

Battery Replacement and Disposal



Battery Directive This device contains a long-life coin cell battery. If you need to replace it, use the Return Material Authorization (RMA) process or contact an authorized National Instruments service representative. For more information about compliance with the EU Battery Directive 2006/66/EC about Batteries and Accumulators and Waste Batteries and Accumulators, visit *ni.com/environment/batterydirective*.

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