cRIO-9067 Specifications

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Contents

cRIO-9067 Specifications

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 valid for -20 °C to 55 °C unless otherwise noted.

Processor

Type	Xilinx Zynq-7000, XC7Z020 All Programmable SoC
Architecture	ARM Cotex-A9
Speed	667 MHz
Cores	2

Flash reboot endurance[1]	100,000 cycles

Operating System

Note For minimum software support information, visit ni.com/info and enter the Info Code `swsupport`.

Supported operating system	NI Linux Real-Time (32-bit)
Software requirements	
Application software	
LabVIEW	LabVIEW 2014 or later, LabVIEW Real-Time Module 2014 or later, LabVIEW FPGA Module 2014 or later [2]
Driver software	NI-RIO Device Drivers 14.0 or later

Memory

Nonvolatile memory[3]	1 GB
Volatile memory (DRAM)	512 MB

1. You can increase the flash reboot endurance value by performing field maintenance on the device. If you expect that your application may exceed the maximum cycle count listed in this document, contact NI support for information about how to increase the reboot endurance value.
2. LabVIEW FPGA Module is not required when using Scan Interface mode. To program the user-accessible FPGA on the cRIO-9067, LabVIEW FPGA Module is required.
3. Formatted capacity of nonvolatile memory may be slightly less than this value.

Network

Network interface	10Base-T, 100Base-T, 1000Base-T Ethernet
Compatibility	IEEE 802.3
Communication rates	10 Mb/s, 100 Mb/s, 1,000 Mb/s auto-negotiated
Maximum cabling distance	100 m/segment

Internal Real-Time Clock

Accuracy	5 ppm

USB Ports

USB device port	
Type	USB 2.0 Hi-Speed, with standard B connector
Maximum data rate	480 Mb/s
USB host port	
Type	USB 2.0 Hi-Speed, with standard A connector
Maximum data rate	480 Mb/s

Reconfigurable FPGA

Type	Xilinx Zynq-7000, XC7Z020 All Programmable SoC
Number of logic cells	85,000
Number of flip-flops	106,400
Number of 6-input LUTs	53,200
Number of DSP slices (18 × 25 multipliers)	220
Available block RAM	4,480 kbits
Number of DMA channels	16
Number of logical interrupts	32

Battery

Note The battery is not user-replaceable. Refer to the ***cRIO-9067 Safety, Environmental, and Regulatory Information*** document for information about replacing the battery.

Note Battery life may drop dramatically in extreme temperatures.

Typical battery life with power applied to power connector	10 years
Typical battery life in storage at 55 °C	5 years

Power Requirements

Voltage input range	9 V DC to 30 V DC
Reverse-voltage protection	30 V DC maximum
Maximum power input, with four C Series modules	25 W
Maximum power input, without C Series modules	17 W

Physical Characteristics

Dimensions and Weight

Dimensions	272.8 mm × 88.1 mm × 62.3 mm (10.74 in. × 3.47 in. × 2.45 in.)
Weight	1,050 g (37.04 oz)

Screw Terminal Wiring

Gauge	0.2 mm^2 to 2.1 mm^2 (24 AWG to 14 AWG) copper conductor wire
Wire strip length	6 mm (0.24 in.) of insulation stripped from the end
Temperature rating	85 °C
Torque for screw terminals	0.20 N · m to 0.25 N · m (1.8 lb · in. to 2.2 lb · in.)
Wires per terminal	One wire per screw terminal
Connector securement	
Securement type	Screw flanges provided
Torque for screw flanges	0.3 N · m to 0.4 N · m (2.7 lb · in. to 3.5 lb · in.)

Safety Voltages

Connect only voltages that are within the following limits:

V terminal to C terminal	30 V DC maximum, Measurement Category I

Measurement Category

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

Attention Ne pas connecter le produit à des signaux dans les catégories de mesure II, III ou IV et ne pas l'utiliser pour effectuer des mesures dans ces catégories.

Warning Do not connect the product to signals or use for measurements within Measurement Categories II, III, or IV, or for measurements on MAINs circuits or on circuits derived from Overvoltage Category II, III, or IV which may have transient overvoltages above what the product can withstand. The product must not be connected to circuits that have a maximum voltage above the continuous working voltage, relative to earth or to other channels, or this could damage and defeat the insulation. The product can only withstand transients up to the transient overvoltage rating without breakdown or damage to the insulation. An analysis of the working voltages, loop impedances, temporary overvoltages, and transient overvoltages in the system must be conducted prior to making measurements.

Mise en garde Ne pas connecter le produit à des signaux dans les catégories de mesure II, III ou IV et ne pas l'utiliser pour des mesures dans ces catégories, ou des mesures sur secteur ou sur des circuits dérivés de surtensions de catégorie II, III ou IV pouvant présenter des surtensions transitoires supérieures à ce que le produit peut supporter. Le produit ne doit pas être raccordé à des circuits ayant une tension maximale supérieure à la tension de fonctionnement continu, par rapport à la terre ou à d'autres voies, sous peine d'endommager et de compromettre l'isolation. Le produit peut tomber en panne et son isolation risque d'être endommagée si les tensions transitoires dépassent la surtension transitoire nominale. Une analyse des tensions de fonctionnement, des impédances de boucle, des surtensions temporaires et des surtensions transitoires dans le système doit être effectuée avant de procéder à des mesures.

Measurement Category I is for measurements 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.

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

Environmental

Temperature	
Operating	-20 °C to 55 °C
Storage	-40 °C to 85 °C
Humidity	
Operating	10% RH to 90% RH, noncondensing
Storage	5% RH to 95% RH, noncondensing
Ingress protection	IP40
Pollution Degree	2
Maximum altitude	5,000 m

Shock and Vibration	
Operating vibration	
Random	5 g RMS, 10 Hz to 500 Hz
Sinusoidal	5 g, 10 Hz to 500 Hz
Operating shock	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations

Notice Use NI-9917 and NI-9918 industrial enclosures to protect the cRIO-9067 in harsh, dirty, or wet environments

To meet the shock and vibration specifications, you must mount the cRIO-9067 system directly on a flat, rigid surface as described in the user manual, affix ferrules to the ends of the terminal wires, install an SD card cover (SD Door Kit, 783660-01), and use retention accessories for the USB host ports (NI Industrial USB Extender Cable, 152166-xx), USB device port (NI Locking USB Cable, 157788-01), and mini DisplayPort connector (NI Retention Accessory for Mini DisplayPort, 156866-01). All cabling should be strain-relieved near input connectors. Take care to not directionally bias cable connectors within input connectors when applying strain relief.