
NI-9467

Specifications

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Contents

NI-9467 Specifications 3

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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.

Related information:

- [Software Support for CompactRIO, CompactDAQ, Single-Board RIO, R Series, and EtherCAT](#)

Conditions

Specifications are valid for the range -40 °C to 70 °C unless otherwise noted.

General Characteristics

Signal type	L1 frequency; GPS C/A code
Datum	WGS-84

RF GPS signal frequency	1575.42 MHz
Recommended signal strength at SMA ¹	-135 dBm to -120 dBm
Max RF power at input	3 dBm
Input impedance	50 Ω , nominal
MTBF	2,234,702 h at 25 °C; Bellcore Issue 2, Method 1, Case 3, Limited Part Stress Method
PPS accuracy ²	± 100 ns, > 99% typical

GPS Antenna Connector Characteristics

GPS antenna connector type	SMA female
DC voltage output for active antenna	+5 V \pm 10%
Max. current output	30 mA
Minimum current for antenna presence detection	6 mA typical, 9.5 mA max

1. Higher signal strength might saturate the receiver and degrade performance.
2. For the best timing accuracy performance, ensure that the GPS antenna has a clear view of the sky. Refer to the **Antenna Installation** section for more details.

Over-voltage protection	± 30 VDC
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Environmental Characteristics

Temperature	
Operating	-40 °C to 70 °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
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To meet these shock and vibration specifications, you must panel mount the system.

Safety Voltages

DC voltage output for active antenna	+5 V \pm 10%
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Power Requirements

Power consumption from chassis	
Active mode	150 mA maximum
Sleep mode	1 mA
Thermal dissipation (at 70 °C)	
Active mode	550 mW maximum
Sleep mode	5 mW

Physical Characteristics

Dimensions	Visit ni.com/dimensions and search by module number.
Weight	141 g (4.5 oz)