

## SPECIFICATIONS

# cRIO-9805

4-Port 802.1AS Ethernet Switch Expansion Module for CompactRIO

## Definitions

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*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 -40 °C to 70 °C unless otherwise noted.

## Network Interface

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Network ports used	TCP:830 (configuration only) TCP:2537 (configuration only) UDP:5353 (configuration only) TCP:5353 (configuration only) UDP:7865 (configuration only) UDP:8463 (configuration only)
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Network IP configuration	DHCP + Link-Local
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# Ethernet

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Number of ports	4 ports, internally switched <sup>1</sup>
Network interface	1000 Base-TX, full-duplex 1000 Base-TX, half-duplex 100 Base-TX, full-duplex 100 Base-TX, half-duplex 10 Base-T, full-duplex 10 Base-T, half-duplex
Communication rates	10/100/1000 Mbps, auto-negotiated
Maximum cabling distance	100 m/segment
Maximum hops per line	15

## Timing and Synchronization

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Protocol	IEEE 802.1AS for network synchronization over 1000 Base-TX, full-duplex
Network synchronization accuracy	<1 $\mu$ s
Network synchronization accuracy with optimized configuration	<100 ns

## Power Requirements

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Maximum power consumption	5 W
Power supply voltage	9 V to 30 V
Power wire gauge <sup>2</sup>	0.20 mm <sup>2</sup> to 1.31 mm <sup>2</sup> (24 AWG to 16 AWG)

## Physical Characteristics

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**Tip** For two-dimensional drawings and three-dimensional models of the cRIO-9805, visit [ni.com/dimensions](https://ni.com/dimensions) and search by module number.

Weight	406 g (14.3 oz)
Dimensions	30.0 mm × 88.1 mm × 106.9 mm (1.18 in. × 3.47 in. × 4.21 in.)

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<sup>1</sup> This allows for line topologies or network redundancy.

<sup>2</sup> NI recommends using ferrules for stranded wires.

# Environmental Characteristics

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## Temperature and Humidity

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### Temperature

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Operating	-40 °C to 70 °C
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Storage	-40 °C to 85 °C
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### Humidity

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Operating	10% RH to 90% RH, noncondensing
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Storage	5% RH to 95% RH, noncondensing
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Ingress protection	IP40
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Pollution Degree	2
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Maximum altitude	5,000 m
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## Shock and Vibration

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### Operating vibration

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Random	5 g <sub>rms</sub> , 10 Hz to 500 Hz
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Sinusoidal	5 g, 10 Hz to 500 Hz
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Operating shock	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations
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# Hazardous Locations

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U.S. (UL)	Class I, Division 2, Groups A, B, C, D, T4; Class I, Zone 2, AEx nA IIC T4 Gc
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Canada (C-UL)	Class I, Division 2, Groups A, B, C, D, T4; Ex nA IIC T4 Gc
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Europe (ATEX) and International (IECEX)	Ex nA IIC T4 Gc DEMKO 12 ATEX 1202658X IECEX UL 14.0089X
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