



Technical Specifications

This appendix lists certain technical specifications for the Cisco ASR 9000 Series Fixed-Port Routers.

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Physical Specifications

Table 1: Physical Specifications

Description	Value
Chassis height	ASR 9902: 3.45 in (8.763 cm) ASR 9903: 5.18 in (13.157 cm) ASR 9901: 3.43 in. (8.7 cm) ASR 9001: 3.46 in. (8.79 cm)
Chassis width	ASR 9902: 17.30 in (43.94 cm) ASR 9903: 17.475 in (44.386 cm) ASR 9901: 17.32 in. (44.0 cm) ASR 9001: 17.42 in. (44.2 cm)

Description	Value
Chassis depth	ASR 9902: 19.00 in (48.26 cm) ASR 9903: 30 in (76.2 cm) ASR 9901: 23.62 in. (60.0 cm) ASR 9001: 18.5 in. (47.0 cm)
Chassis weight	<p>ASR 9902</p> <ul style="list-style-type: none"> • Fully configured AC powered chassis: 47.80 lbs (18.96 kg) <p>Note Fully configured includes two power modules and three fan trays.</p> <ul style="list-style-type: none"> • Fully configured DC powered chassis: 42.196 lbs (19.14 kg) <p>ACR 9903</p> <ul style="list-style-type: none"> • Fully configured AC or DC powered chassis: 81.57 lbs (37 kg) <p>Note Fully configured chassis includes two route processors, four power modules, and four fan trays.</p> <p>ASR 9901</p> <ul style="list-style-type: none"> • Chassis only: 47.62 lb (21.6kg) <p>Note Chassis only does not include power modules, fan trays, or chassis accessories.</p> <ul style="list-style-type: none"> • Fully configured chassis: 55.97 lb (25.4 kg) <p>Note Fully configured includes two power modules and three fan trays.</p> <p>ASR 9001</p> <ul style="list-style-type: none"> • Chassis only: 24.69 pounds (11.2 kg) <p>Note Chassis only does not include cards, power modules, fan tray, or chassis accessories.</p> <ul style="list-style-type: none"> • Fully configured chassis: 37.91 pounds (17.2 kg) <p>Note Fully configured includes two MPAs, two power modules, and one fan tray.</p>

Environmental Specifications

Table 2: Environmental Specifications

Description	Value
Operating Temperature (Nominal):	41° to 104°F (5° to 40°C)
Operating Temperature(Short term): Note Short-term refers to a period of not more than 96 consecutive hours, and a total of no more than 15 days in a year. (This refers to a total of 360 hours in any given year, but no more than 15 occurrences during that 1-year period.)	23° to 131° F (–5° to 55°C)
Humidity	Operating: 10 to 85 percent noncondensing Nonoperating: 5 to 95 percent noncondensing
Altitude	Operating: 0 to 13,000 ft (0 to 4,000 m) Nonoperating: 0 to 15,000 ft (0 to 4,570 m)
Power Dissipation	Cisco 9901—1100 W maximum Cisco 9001—750 W maximum
Acoustic noise	70 dB at 80.6°F (27°C) maximum
Shock	Operating (halfsine): 21 in/sec (0.53 m/sec) Nonoperating (trapezoidal pulse): 20 G, 52 in/sec (1.32 m/sec) Note G is a value of acceleration, where 1G equals 32.17 ft/sec ² (9.81 m/sec ²).
Vibration	Operating: 0.35 Grms from 3 to 500 Hz Note Grms is the root mean square value of acceleration. Nonoperating: 1.0 Grms from 3 to 500 Hz

AC Electrical Specifications



Caution

Be sure that the chassis configuration complies with the required power budgets. Failure to properly verify the configuration may result in an unpredictable state if one of the power units fails. Contact your local sales representative for assistance.

Cisco ASR 9902 AC Electrical Specifications

Description	Value
Total AC input power	1200 VA (volt-amps) per AC power supply (up to two AC power supply modules per system)
Rated input voltage Note For each AC power supply module.	100–240 VAC nominal (range: 90 to 264 VAC) 220–240 VAC (UK)
Rated input line frequency	50/60 Hz nominal (range: 47 to 63 Hz) 50/60 Hz (UK)
Input current rating	10 A maximum at 100 VAC 13 A maximum at 220 to 240 VRMS (UK)
Source AC service requirement	15 A North America and Japan; 10 A international; 13 A UK
Redundancy	Power redundancy requirements vary, based on system configuration (number and type of line cards, etc). AC powered systems are 1+1 protected.

Cisco ASR 9903 AC Electrical Specifications

Description	Value
Power modules per system	Up to four AC power modules per system
Total AC input power	AC high line (200-240V): 2+2 redundancy AC low line (90-130V): 3+1 redundancy
Rated input line frequency	50/60 Hz nominal (range: 47 to 63 Hz) 50/60 Hz (UK)
Input current rating	10 A maximum at 100 VAC 13 A maximum at 220 to 240 VRMS (UK)
Source AC service requirement	15 A North America and Japan; 10 A international; 13 A UK
Redundancy	Power redundancy requirements vary, based on system configuration (number and type of line cards, etc).

Cisco ASR 9901 AC Electrical Specifications

Description	Value
Power modules per system	Up to two AC power modules per system

Description	Value
Total AC input power	1633 VA (volt-amps) per AC power supply (up to two AC power supply modules per system)
Rated input voltage Note For each AC power supply module.	100–240 VAC nominal (range: 90 to 264 VAC) 220–240 VAC (UK)
Rated input line frequency	50/60 Hz nominal (range: 47 to 63 Hz) 50/60 Hz (UK)
Input current rating	14 A maximum at 100 VAC 13 A maximum at 220 to 240 VRMS (UK)
Source AC service requirement	15 A North America and Japan; 10 A international; 13 A UK
Redundancy	Power redundancy requirements vary, based on system configuration (number and type of line cards, etc). AC powered systems are 1+1 protected.

Cisco ASR 9001 AC Electrical Specifications

Description	Value
Power modules per system	Up to two AC power modules per system
Total AC input power	765 VA (volt-amps) per AC power supply (up to two AC power supply modules per system)
Rated input voltage Note For each AC power supply module.	100–240 VAC nominal (range: 90 to 264 VAC) 220–240 VAC (UK)
Rated input line frequency	50/60 Hz nominal (range: 47 to 63 Hz) 50/60 Hz (UK)
Input current rating	15 A maximum at 100 VAC 13 A maximum at 220 to 240 VRMS (UK)
Source AC service requirement	15 A North America and Japan; 10 A international; 13 A UK
Redundancy	Power redundancy requirements vary, based on system configuration (number and type of line cards, etc). AC and DC powered systems are N+1 protected.

DC Electrical Specifications

Cisco ASR 9903, 9902, and 9901 DC Electrical Specifications

Description	Value
Power modules per system	<ul style="list-style-type: none"> • ASR 9901 and 9902—Up to two DC power modules per system • ASR 9903—Up to four DC power modules per system
Total DC input power per power module	1600 W
Rated input voltage per power module	–48 VDC nominal in North America –60 VDC nominal in the European Community (range: –40.5 to –72 VDC [–75 VDC for 5 ms])
Input current rating Note For each DC power supply module. Some power/chassis configurations may operate at lower current ratings than those specified in this table. Contact your Cisco technical representative for more information.	45 A maximum at –48 VDC nominal 35 A maximum at –60 VDC nominal
Source DC service requirement ¹	Sufficient to supply the rated input current. Local codes apply.
Redundancy	DC powered systems are 1+1 protected.

¹ For each DC power supply module. Some power/chassis configurations may operate at lower current ratings than those specified in this table. Contact your Cisco technical representative for more information.

Cisco ASR 9001 DC Electrical Specifications

Description	Value
Power modules per system	Up to two DC power modules per system
Total DC input power per power module	750 W

Description	Value
Rated input voltage per power module	–48 VDC nominal in North America –60 VDC nominal in the European Community (range: –40.5 to –72 VDC [–75 VDC for 5 ms])
Input current rating Note For each DC power supply module. Some power/chassis configurations may operate at lower current ratings than those specified in this table. Contact your Cisco technical representative for more information.	15 A maximum at –48 VDC nominal 15 A maximum at –60 VDC nominal
Source DC service requirement ²	Sufficient to supply the rated input current. Local codes apply.
Redundancy	Power redundancy requirements vary, based on system configuration (number and type of line cards, etc). DC powered systems are N+1 protected.

² For each DC power supply module. Some power/chassis configurations may operate at lower current ratings than those specified in this table. Contact your Cisco technical representative for more information.

AC Input Voltage Range

AC Input Voltage Range (Single-Phase Power Source)

Range	Minimum	Minimum Nominal	Nominal	Maximum Nominal	Maximum
Input Voltage	90 VAC	100 VAC	220 VAC	240 VAC	264 VAC
Line Frequency	47 Hz	50 Hz	50/60 Hz	60 Hz	63 Hz

DC Input Voltage Range

Table 3: DC Input Voltage Range

Range	Minimum	Nominal	Maximum
Input Voltage	-40 VDC	-48 VDC	-72 VDC

Power System DC Output Levels

Table 4: DC Output Levels for AC or DC Power System

Parameter	Value
Voltage	
Maximum	12.6 VDC
Nominal	12 VDC
Minimum	11.4 VDC
Power	
Minimum (one power module)	Cisco ASR 9903, and Cisco ASR 9902—1200 W Cisco ASR 9001—750 W Cisco ASR 9901—1600 W
Maximum (two power modules)	Cisco ASR 9903, and Cisco ASR 9902—2400 W Cisco ASR 9001—1500 W Cisco ASR 9901—3200 W

RP Port Specifications

Table 5: RP Port Specifications

Description	Value
Console port	EIA/TIA-232 RJ-45 interface, 115200 Baud, 8 data, no parity, 1 stop bit with software handshake (default)

Description	Value
Auxiliary port	EIA/TIA-232 RJ-45 interface, 115200 Baud, 8 data, no parity, 1 stop bit with software handshake (default)
Management ports (0, 1)	Triple-speed (10M/100M/1000M) RJ-45
Sync ports (0, 1)	Can be configured as one of the following: <ul style="list-style-type: none"> • BITS (Building Integrated Timing System) port • J.211 or UTI (Universal Timing Interface) port

Power Consumption Specifications

The following table lists the power consumption specifications for a fully configured chassis.



Caution Be sure that the chassis configuration complies with the required power budgets. Failure to properly verify the configuration may result in an unpredictable state if one of the power units fails. Contact your local sales representative for assistance.

Table 6: Power Consumption Specifications

Cisco ASR 9901	Cisco ASR 9001	Cisco ASR 9902	Cisco ASR 9903 (1.6T)	Cisco ASR 9903 (3.6T)	Cisco ASR 9903 (2.4T)
750 W at 77°F (25°C)	400 W at 77°F (25°C)	760 W at 77°F (25°C)	1188 W at 77°F (25°C)	2024 W at 77°F (25°C)	1742 W at 77°F (25°C)
800 W at 104°F (40°C)	425 W at 104°F (40°C)	900 W at 104°F (40°C)	1360 W at 104°F (40°C)	2231 W at 104°F (40°C)	1938 W at 104°F (40°C)
900 W at 131°F (55°C)	450 W at 131°F (55°C)	990 W at 131°F (55°C)	1576 W at 131°F (55°C)	2546 W at 131°F (55°C)	2166 W at 131°F (55°C)

Transceiver Modules

Refer to the [Cisco Transceiver Compatibility Information](#) page for information on supported transceiver modules on the Cisco ASR 9901 Router and Cisco ASR 9001 Router.

Refer to the [Data Sheets](#) for transceiver specifications.

