



Cisco ASR 1001-X Router Supported Hardware Components

This chapter contains information about the supported hardware components on the Cisco ASR 1001-X Router, and contains the following sections:

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Supported Hardware Components

The following table lists the hardware components supported on the Cisco ASR 1001-X Router.

Table 1: Supported Hardware Components

Component	Description
Chassis	1 RU form factor
Ethernet Ports	Six built-in Gigabit Ethernet and two built-in 10-Gigabit Ethernet ports
ESP	A nonmodular, fixed ESP with a default throughput of 2.5 Gbps, which is upgradable with a software-activated performance license of 5 Gbps, 10 Gbps, or 20 Gbps.
Route Processor	Single integrated route processor
SIP	Integrated SIP
SPA Slots	1 half-height (HH) SPA bay
NIM Slots	1
USB Slots	2

Supported Half-Height SPAs

The following table lists the supported half-height SPAs on the Cisco ASR 1001-X Router. Supported Half-Height SPAs

Table 2: Supported Half-Height SPAs

PID	Description
SPA-1X10GE-L-V2	Cisco 1-Port 10GE LAN-PHY
SPA-1XCHSTM1/OC3	1-port Channelized STM-1/OC-3c to DS0
SPA-1XOC12-POS	1-port OC12/STM4 POS
SPA-2XOC12-POS	2-port OC12/STM4 POS
SPA-4XOC12-POS	4-port OC-12/STM-4 POS
SPA-8XOC12-POS	8-port OC12/STM4
SPA-1XOC3-ATM-V2	1-port OC-3c/STM-1 ATM
SPA-2X1GE-V2	Cisco 2-Port Gigabit Ethernet
SPA-2XCT3/DS0	2-port Channelized T3 to DS0
SPA-2XOC3-POS	2-port OC3/STM1 POS
SPA-8XOC3-POS	8-port OC-3/STM-1 POS
SPA-1XOC48POS/RPR	1-port OC48/STM16 POS/RPR
SPA-2XOC48POS/RPR	2-port OC48/STM16 POS/RPR
SPA-2XT3/E3	2-port Clear Channel T3/E3
SPA-3XOC3-ATM-V2	3-port OC-3c/STM-1 ATM
SPA-4X1FE-TX-V2	Cisco 4-Port Fast Ethernet (TX)
SPA-4XCT3/DS0	4-port Channelized T3 to DS0
SPA-4XOC3-POS	4-port OC3/STM1 POS
SPA-4XOC48POS/RPR	4-port OC48/STM16 POS/RPR Shared Port Adapters
SPA-OC192POS-XFP	1-port OC192/STM64 POS/RPR XFP Optics
SPA-4XT-SERIAL	Cisco 4-port serial SPA
SPA-4XT3/E3	4-port Clear Channel T3/E3
SPA-5X1GE-V2	Cisco 5-Port Gigabit Ethernet

PID	Description
SPA-8X1FE-TX-V2	Cisco 8-Port Fast Ethernet (TX)
SPA-8X1GE-V2	Cisco 8-Port Gigabit Ethernet
SPA-8XCHT1/E1	8-port Channelized T1/E1 to DS0
SPA-1XOC12-ATM-V2	1-port OC12 STM
SPA-DSP	Digital Signal Processor SPA
SPA-1X10GE-WL-V2	Cisco 1-port 10GE LAN/WAN-PHY
SPA-2CHT3-CE-ATM	2-Port Channelized T3/E3 ATM and Circuit Emulation SPA
SPA-4XOC3-POS-V2	4-port OC-3/STM-1 POS
SPA-2X1GE-SYNCE ¹	Cisco Synchronous Ethernet SPA
SPA-8XT3/E3	Cisco 8-Port Clear Channel T3/E3 Shared Port Adapter
SPA-24CHT1-CE-ATM	Cisco 24 Port T1/E1/J1 Circuit Emulation SPA
SPA-1CHSTM1/OC3V2	1-Port Channelized OC-3/STM-1 SPA, Version 2
SPA-1XOC12-POS-V2	1-Port OC-12C/STM-4 Multirate POS SPA (license)
SPA-2XOC3-POS-V2	2-Port OC-3C/STM-1 POS SPA (license)
SPA-2XCT3/DS0-V2	2-Port Channelized T3 SPA, Version 2
SPA-4XCT3/DS0-V2	4-Port Channelized T3 SPA, Version 2
SPA-2XT3/E3-V2	2-Port Clear Channel T3/E3 SPA, Version 2
SPA-4XT3/E3-V2	4-Port Clear Channel T3/E3 SPA, Version 2
SPA-8XCHT1/E1-V2	8-Port Channelized T1/E1 SPA, Version 2

¹ There is a limitation for clock switchover scenarios between the Cisco ASR 1001-X Router's built-in ports and the SPA-2X1GE-SYNCE. All the other functionalities on the SPA-2X1GE-SYNCE are supported.

Supported Small Form-Factor Pluggable (SFP and SFP+) Transceivers

The tables below list the supported SFP optics and SFP copper interfaces on the Cisco ASR 1001-X Router.

Table 3: Supported 1 GE SFP Optics and SFP Copper Interfaces

PID	Description
SFP-GE-S	1000BASE-SX SFP (DOM)
GLC-SX-MMD	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM
SFP-GE-L	1000BASE-LX/LH SFP (DOM)
GLC-LH-SMD	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM
SFP-GE-Z	1000BASE-ZX Gigabit Ethernet SFP (DOM)
SFP-GE-T	1000BASE-T SFP (NEBS 3 ESD)
GLC-BX-U	1000BASE-BX SFP, 1310NM
GLC-BX-D	1000BASE-BX SFP, 1490NM
GLC-TE	1000BASE-T SFP transceiver module for category 5 copper wire
GLC-EX-SMD	GE SFP, LC Connector, EX transceiver
GLC-ZX-SMD	1000BASE-ZX SFP transceiver module, SMF, 1550nm, DOM
DWDM-SFP	1000BASE DWDM
CWDM-SFP	1000BASE CWDM
GLC-BX40-D-I	1000BASE BX40-D
GLC-BX40-DA-I	1000BASE BX40-DA
GLC-BX40-U-I	1000BASE BX40-U
GLC-BX80-D-I	1000BASE BX80-D
GLC-BX80-U-I	1000BASE BX80-U
GLC-GE-100FX	100BASE-FX



Note ASR1001-X does not support GLC-SX-MM and GLC-LH-SM. You can use GLC-SX-MMD instead of GLC-SX-MM and GLC-LH-SMD instead of GLC-LH-SM.

Table 4: Supported 10 GE SFP Optics and SFP Copper Interface

PID	Description
SFP-10G-SR	10GBASE-SR SFP+ Module for MMF
SFP-10G-SR-X	10GBASE-SR SFP Module for Extended Temp range

PID	Description
SFP-10G-LR	10GBASE-LR SFP+ Module for SMF
SFP-10G-LR-X	10GBASE-LR SFP Module for Extended Temp range
SFP-10G-ER	10GBASE-ER SFP+ Module for SMF

Supported NIMs

The Cisco ASR 1001-X Router supports the following NIM form factors:

NIM-SSD

The following table lists the supported NIM with Solid State Disk (SSD) on the Cisco ASR 1001-X Router:

Table 5: Supported NIM SSDs

Part Number	Description
NIM-SSD	NIM Carrier Card for SSD drives
SSD-SATA-200G	200 GB, SATA Solid State Disk
SSD-SATA-400G	400 GB, SATA Solid State Disk

NIM-T1/E1

The following table lists the supported T1/E1 NIMs on the Cisco ASR 1001-X Router:

Table 6: Supported NIM-T1/E1s

Part Number	Number of Ports	Clear-Channel Data	MFT Packet Voice	Unstructured E1 (G.703) Support	Channelized Data
NIM-1MFT-T1/E1	1	Yes	No	No	No
NIM-2MFT-T1/E1	2	Yes	No	No	No
NIM-4MFT-T1/E1	4	Yes	No	No	No
NIM-8MFT-T1/E1	8	Yes	No	No	No
NIM-1CE1T1-PRI	1	Yes	No	Yes	Yes
NIM-2CE1T1-PRI	2	Yes	No	Yes	Yes
NIM-8CE1T1-PRI	8	Yes	No	Yes	Yes



Note Each port of NIM-8CE1T1-PRI supports only 15 channel groups. If any additional channel groups are created, the following error is displayed:

Insufficient resources to create channel group.

Cisco ASR 1001-X Router Power Supplies

The Cisco ASR 1001-X Router supports AC and DC power supply options. The modular chassis configurations support the installation of two power supplies for redundancy. When an external power supply fails or is removed, the other power supply provides power requirements for the chassis. This allows you to hot-swap the power supply without impacting the functionality of the router.

Power Supplies for the Cisco ASR 1001-X Router

Each Cisco ASR 1001-X Router power supply provides 250 W of output power. The power supplies are used in a 1 + 1 redundant configuration. There is no input switch on the faceplate of the power supplies. A power supply is switched from Standby to On by way of a system chassis STANDBY/ON switch. When facing the rear of the chassis, power supply slot 0 (PS0) is to the left (next to the power supply standby switch) and power supply slot 1(PS1) is to the right.

The Cisco ASR 1001-X Router supports the following power supplies:

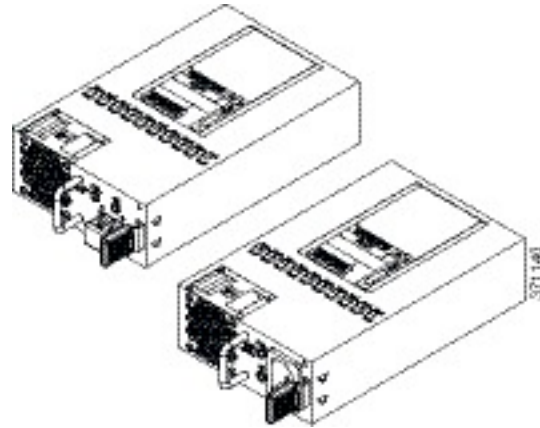
- Cisco ASR 1001-X Router AC power supply—Provides 250 W output power with DC voltage output of +12 V. The AC power supply operates between +85 and +264 VAC. The AC power supply current shares on the 12 V output and is used in a dual hot pluggable configuration.
- Cisco ASR 1001-X Router DC power supply—Provides 242 W output power with DC voltage output of +12 V. The power supply operates between -40 and -72 VDC. The DC power supply current shares on the 12 V output and is used in a dual hot-pluggable configuration.



Note The Cisco ASR 1001-X Router can support two AC or two DC power supplies. Do not install mixed AC and DC power supply units in the same chassis.

The following figure shows both the DC and AC power supplies for the Cisco ASR 1001-X Router.

Figure 1: Cisco ASR 1001-X Router DC Power Supply and AC Power Supply



Cisco ASR 1001-X Power Supply Fans

The fans in the power supply module of the Cisco ASR 1001-X Router are used for cooling the power supply module itself while system-level cooling is provided by four fans within the chassis. The power supplies do not depend on the system-level fans for cooling. Fan failure is determined by fan-rotation sensors.

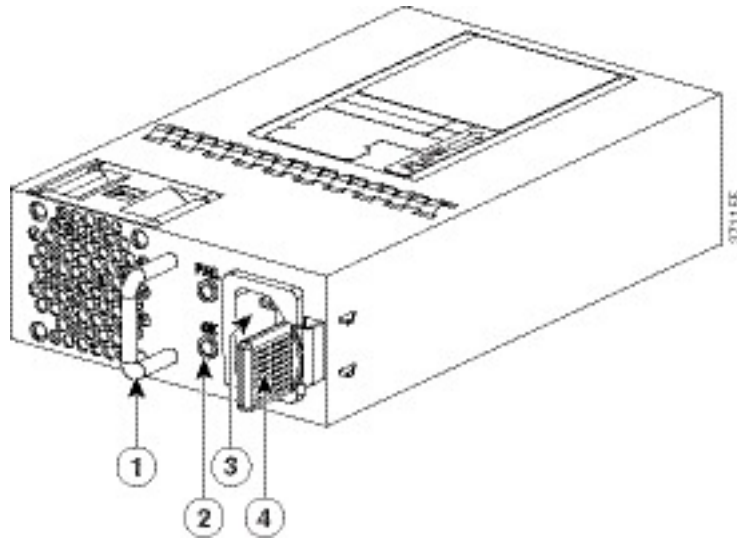


Note The fans in the power supply modules will run as soon as the power supply is plugged in, even if the Standby switch is in the Standby position.

Cisco ASR 1001-X Router AC Power Supply

The Cisco ASR 1001-X Router has two AC power supplies in the rear of the chassis. The input receptacle is an IEC60320 C14 type of filtered AC inlet. The current rating on the connector is 10 A. The following figure shows the Cisco ASR 1001-X Router AC power supply.

Figure 2: Cisco ASR 1001-X Router AC Power Supply



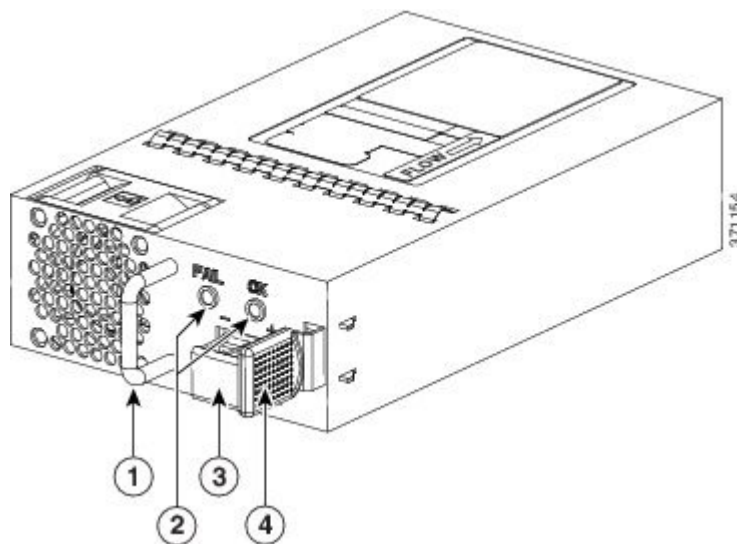
1	Handle	3	AC power connector
2	FAIL and OK LEDs	4	Retaining latch

Cisco ASR 1001-X Router DC Power Supply

The Cisco ASR 1001-X Router DC input connector is a two-wire connector with connection polarity from left to right (when facing the unit) of negative (-) positive (+).

The power supply has a handle to be used for insertion and extraction. The module must be supported with one hand because of its length. The following figure shows the Cisco ASR 1001-X Router DC power supply.

Figure 3: Cisco ASR 1001-X Router DC Power Supply



1	Handle	3	DC power connector
2	FAIL and OK LEDs		Retaining latch

AC/DC Power System Input Range and Voltage for the Cisco ASR 1001-X Router

The power supply DC Input Range is -40 to -72 VDC, and the AC Input Range is $+85$ to $+264$ VAC. The following table describes the Cisco ASR 1001-X Router power supply LEDs.

Table 7: Cisco ASR 1001-X Router—AC and DC Power Supply LEDs

LED Color and State	Description
OK - (Solid green)	Input power is on and within the normal operating range. On the AC unit, the LED is solid green when the system is powered on. When the system is powered off, the LED will blink until the AC power is removed.
OK - (Blinking Green at the rate of one blink per second)	Input power that is within the normal operating range is being supplied, but the Standby switch is in the Standby position (and not in the On position).
Fail - (Red)	Power output has failed.
Off	Power supply is shut down.

Power Cords Supported by the Cisco ASR 1001-X Router

The following table lists the power cords that are supported by the Cisco ASR 1001-X Router.

Table 8: Power Cords Supported by the Cisco ASR 1001-X Router

Power Cord Item Number	Description
CAB-AC	Power Cord, 110 V
CAB-ACA Plug	Power Cord, Australia, 10 A
CAB-ACC	Power Cord, China
CAB-ACE AC	Power Cord, Europe, C13, CEE 7, 1.5 M
CAB-ACI AC	Power Cord, Italy, C13, CEI 23-16, 2.5 m
CAB-ACR AC	Power Cord, Argentina, C13, EL 219 (IRAM 2073), 2.5m
CAB-ACS AC	Power Cord, Switzerland, C13, IEC 60884-1, 2.5 m
CAB-ACU AC	Power Cord, UK, C13, BS 1363, 2.5 m
CAB-IND AC	Power Cord, India

Power Cord Item Number	Description
CAB-JPN AC	Power Cord, Japan, C13, JIS C 8303, 2.5 m
CAB-L620P-C13-US	Power Cord, 250 VAC, 15A, NEMA L6-20 to C13, U.S.
CAB-L620P-C13-JPN	Power Cord, 250 VAC, 15A, NEMA L6-20 to C13, Japan
CAB-C13-CBN Cabinet Jumper	Power Cord, 250 VAC 10 A, C14-C13 Connectors
CAB-C13-C14-JMPR Cabinet Jumper	Power Cord, 250 VAC 13 A, C14-C15 Connector
CAB-C13-C14-2M	Power Cord Jumper, C13-C14 Connectors, 2-Meter Length
CAB-C13-C14-AC	Power Cord Jumper, C13-C14 Connectors, 3-Meter Length