



# APPENDIX **A**

## Technical Specifications

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This appendix provides information and technical specifications for the Cisco 12006 and Cisco 12406 Routers.

### Specifications

This section lists the Cisco 12006 and Cisco 12406 Router specifications in these tables:

- For physical specifications, see [Table A-1 on page A-2](#)
- For electrical specifications for systems equipped with the AC-input power subsystem, see [Table A-2 on page A-3](#)
- For electrical specifications for systems equipped with the DC-input power subsystem, see [Table A-3 on page A-4](#)
- For a list of the environmental specifications, see [Table A-4 on page A-5](#)

**Table A-1 Physical Specifications**

<b>Description</b>	<b>Value</b>
Chassis height	18.5 in (46.9 cm)
Chassis width	17.3 in (43.9 cm)
Chassis depth	28.0 in (71.1 cm), including cable-management system
Slot capacity	6 slots
Aggregate switching capacity	Cisco 12006: 30 Gbps Cisco 12406: 120 Gbps
Full-duplex throughput per slot	Cisco 12006: 2.5 Gbps/slot Cisco 12406: 10 Gbps/slot
Physical	<p>Chassis height</p> <ul style="list-style-type: none"> <li>• 18.5 in. (47.0 cm)</li> </ul> <p>Chassis width</p> <ul style="list-style-type: none"> <li>• 17.3 in. (43.9 cm)</li> <li>• 19 in. (48.24 cm)<sup>1</sup></li> </ul> <p>Chassis depth</p> <ul style="list-style-type: none"> <li>• 28.0 in. (71.1 cm)</li> <li>• 30.75 in. (78.1 cm)<sup>2</sup></li> </ul> <p>Weight</p> <ul style="list-style-type: none"> <li>• 140 lb (64 kg)<sup>3</sup></li> <li>• 213 lb (97.4 kg)<sup>4</sup></li> </ul>
Chassis per rack	Four

1. Including chassis rack-mount flanges and front door width
2. Including cable-management system and front cover
3. Chassis only
4. Chassis fully configured, using all card slots, AC or DC power supplies, and frosted doors and hinges

The electrical specifications and values listed in [Table A-2](#) are for a system equipped with the AC-input power distribution unit (PDU) and AC-input power supply modules.

**Table A-2 AC-Input Power Supply Electrical Specifications**

Description	Value
Rated input voltage <sup>1</sup>	100–120 VAC nominal (range: 85 to 135 VAC) <sup>2</sup> 200-240 VAC nominal (range: 180-264 VAC) 220–240 VAC (UK)
Rated input line frequency <sup>1</sup>	50/60 Hz nominal (range: 47 to 63 Hz) 50/60 Hz UK
Input current rating <sup>1</sup>	13A @ 200-240 VRMS per line cord (max)
Source AC service requirement <sup>1</sup>	20A North America; 16A international; 13A UK
Nominal output voltage and current	-54.5VDC @ 30A maximum (original series) -54.5VDC @ 36A maximum (enhanced series)
Total AC input power	1708 VA (original series) 2210 VA (enhanced series)
Redundancy	2 AC-input power supply modules are required for 2N redundancy

1. For each AC-input power supply module.
2. Original series only. 110 V AC is not supported on enhanced series.



**Caution**

To ensure that the chassis configuration complies with the required power budgets, use the on-line power calculator. 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.

The electrical specifications and values listed in [Table A-3](#) are for a system equipped with the DC-input PDU and DC-input power entry modules (PEMs).

**Table A-3 DC Power Entry Module Electrical Specifications**

Description	Value
Rated input voltage <sup>1</sup>	–48 VDC nominal in North America –60 VDC nominal in the European Community (range: –40.5 to –72 VDC) –40 VDC to –72 VDC steady-state input voltage
Input current rating <sup>1</sup>	60A per feed (max)
Source DC service requirement <sup>1</sup>	60A
Nominal output voltage and current	–48VDC @ 40A maximum (original series) –54.5VDC @ 36A maximum (enhanced series)
Total DC input power	1630 VA (original series) 2290 VA (enhanced series)
Redundancy	2 DC-input PEMs are required for 2N redundancy

1. For each DC-input PEM.

**Caution**

To ensure that the chassis configuration complies with the required power budgets, use the on-line power calculator. 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 A-4 Environmental Specifications**

Description	Value
Temperature	32° to 104°F (0° to 40°C) operating -4° to 149°F (-20° to 65°C) non-operating
Humidity	10 to 90% noncondensing operating 5 to 95% noncondensing non-operating
Altitude	0 to 10,000 ft. (0 to 3,000 m) operating 0 to 15,000 ft. (0 to 4,570m) non-operating
Heat dissipation	5,828 Btu/hr maximum (AC original series) 8,871 Btu/hr maximum (AC enhanced series) 5,562 Btu/hr maximum (DC original series) 8,871 Btu/hr maximum (DC enhanced series)
Cooling	Facing the router, right-side-to-back cooling
Shock	5 to 500 Hz, 0.5g <sup>1</sup> (0.1 oct/min <sup>2</sup> ) operating 5 to 100 Hz, 1g (0.1 oct/min) non-operating 100 to 500 Hz, 15g (0.2 oct/min) 500 to 1,000 Hz, 1.5g (0.2 oct/min)

1. g = Gravity
2. oct/min = Octave per minute

**Caution**

Exhaust from other equipment vented directly into the Cisco 12006 and Cisco 12406 Router air inlet may cause overheating. Install the router so that it is protected from a direct flow of hot air from other equipment.

## Alarm Card Alarm Relay Connector Specifications

The alarm card alarm relay connector is a standard DB-9 connector. The relay interface is rated at max 2A, 60V, or 50VA, whichever is greater. The connector pins and their definitions are shown in [Table A-5](#).

**Table A-5 Alarm Card Alarm Relay Contact Connector Pinout**

Pin	Name	Definition
1	Critical_NO	Critical, normally open contact
2	Critical_C	Critical, common contact
3	Major_NO	Major, normally open contact
4	Minor_NO	Minor, normally open contact
5	Minor_C	Minor, common contact
6	Critical_NC	Critical, normally closed contact
7	Major_NC	Major, normally closed contact
8	Major_C	Major, common contact
9	Minor_NC	Minor, normally closed contact

## Router Performance Upgrades and Model Identification

The compliance information label on the side of the chassis also identifies the Cisco 12000 Series Router by its model number. The model number indicates the router is in the Cisco 12000 Series, the maximum switching capacity the router supports, and the number of line card and RP slots in the chassis.

For example, the Cisco 12006 Router features 30 Gbps switching capacity in a 6-slot, 2.5-Gigabit per slot chassis, whereas the Cisco 12406 Router features 120 Gbps switching capacity in a 6-slot, 10-Gigabit per slot chassis. [Table A-6](#) lists the Cisco 12006 and Cisco 12406 Routers and provides model comparison information based on chassis slot counts, maximum switching capacity, and switch fabric type.

**Table A-6 Cisco 12006 and Cisco 12406 Router Model Comparison**

<b>Model</b>	<b>Chassis Slots</b>	<b>Switching Capacity</b>	<b>Switch Fabric Identification</b>
<b>12406</b>	6	120 Gbps	SFC and CSC
<b>12006</b>	6	30 Gbps	SFC-30/120 and CSC-30/120

On Cisco 12000 Series Routers that support switching capacity increases through switch fabric upgrades, there are some administrative considerations to observe after performing the upgrade and verifying its installation:

- The switch fabric upgrade does not include a new label that identifies the router by the new model number. The compliance label on the router chassis does not change. This could confuse technicians who might service the router in the future. Cisco recommends that the upgrade technician take any required administrative steps to make the new, post-upgrade router identity outwardly obvious.
- If steps are not taken to identify a router with upgraded switch fabric, the alternative methods for identifying an upgraded router are through either Cisco IOS software commands or the Cisco identification labels on the switch fabric cards (SFCs and CSCs) installed in the router. [Table A-6](#) lists the router models and their corresponding switch fabric card identification labels.

