

Cisco Catalyst 4500 Series Switch Datasheet



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Leading Network Hardware Supplier

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OVERVIEW

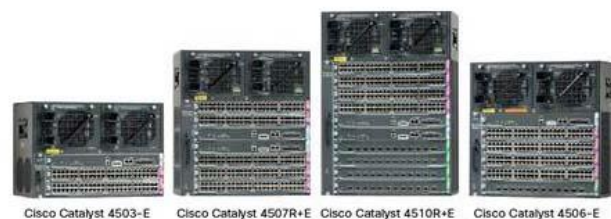
The Cisco® Catalyst® 4500 Series Switches enable Borderless Networks, providing high performance, mobile, and secure user experiences through Layer 2-4 switching investments. They enable security, mobility, application performance, video, and energy savings over an infrastructure that supports resiliency, virtualization, and automation. Cisco Catalyst 4500 Series Switches provide borderless performance, scalability, and services with reduced total cost of ownership (TCO) and superior investment protection.

The Cisco Catalyst 4500 has a centralized forwarding architecture that enables collaboration, virtualization, and operational manageability through simplified operations. With forward and backward compatibility spanning multiple generations, the new Cisco Catalyst 4500E Series provides exceptional investment protection and deployment flexibility to meet the evolving needs of organizations of all sizes. The Cisco Catalyst 4500E Series platform has 10 Gigabit Ethernet (GE) uplinks and supports Power over Ethernet Plus (PoE+) and Universal PoE (UPOE), enabling customers to future proof their network.

E-Series chassis come in four different form factors: 3-slot (4503-E), 6-slot (4506-E), 7-slot (4507R+E), and 10-slot (4510R+E). 4503-E, 4506-E, 4507R+E, and 4510R+E chassis are extremely flexible and support either 24 or 48 Gbps per line-card slot. Integrated resiliency in the Cisco Catalyst 4500E Series includes 1 + 1 supervisor engine redundancy (10-slot and 7-slot chassis only), redundant fans, software-based fault tolerance, and 1 + 1 power supply redundancy. Integrated resiliency in both hardware and software minimizes network downtime, helping to ensure workforce productivity, profitability, and customer success.

APPEARANCE

Figure 1. Cisco Catalyst 4500 Series Switches



KEY FEATURES AND BENEFITS

Cisco Catalyst 4500E Series Chassis Features				
Feature	Cisco Catalyst WS-C4503-E Chassis	Cisco Catalyst WS C4506-E Chassis	Cisco Catalyst WS C4507R+E Chassis	Cisco Catalyst WS C4510R+E Chassis
Total number of slots	3	6	7	10
Line-card slots	2	5	5	8
Supervisor engine slots	11	11	22	23
Dedicated supervisor engine slot numbers	1	1	3 and 4	5 and 6
Supervisor engine redundancy	No	No	Yes	Yes (Supervisor Engines V-10GE, 6-E, 7-E, and 8-E)
Supervisor engines supported	Supervisor Engines 8-E, 8L-E, 7-E, 7L-E, 6-E, and 6L-E	Supervisor Engines 8-E, 8L-E, 7-E, 7L-, 6-E, and 6L-E	Supervisor Engines 8-E, 8L-E, 7-E, 7L-E, 6-E, and 6L-E	Supervisor Engines 8-E, 7-E, and 6-E ⁴
Maximum PoE per slot	1500W	1500W	1500W	1500W slots 1 and 2; 750W slots 3, 4, and

				7-10
Bandwidth scalability per line-card slot	Up to 48 Gbps on all slots	Up to 48 Gbps on all slots	Up to 48 Gbps on all slots ⁵	Up to 48 Gbps on all slots ⁵
Number of power supply bays	2	2	2	2
AC input power	Yes	Yes	Yes	Yes
DC input power	Yes	Yes	Yes	Yes
Integrated PoE	Yes	Yes	Yes	Yes
Minimum number of power supplies	1	1	1	1
Power supplies supported	<ul style="list-style-type: none"> • 1000W AC • 1400W AC • 1300W ACV • 2800W ACV • 4200W ACV • 6000W ACV • 9000W ACV • 1400W DC (triple input) • 1400W-DC-P 	<ul style="list-style-type: none"> • 1000W AC • 1400W AC • 1300W ACV • 2800W ACV • 4200W ACV • 6000W ACV • 9000W ACV • 1400W DC (triple input) • 1400W-DC-P 	<ul style="list-style-type: none"> • 1000W AC • 1400W AC • 1300W ACV • 2800W ACV • 4200W ACV • 6000W ACV • 9000W ACV • 1400W DC (triple input) • 1400W-DC-P 	<ul style="list-style-type: none"> • 1400W AC • 2800W ACV • 4200W ACV • 9000W ACV • 1400W DC (triple input) • 1400W-DC-P
Number of	1	1	1	1

fan-tray bays				
Location of 19-inch rack-mount	Front	Front	Front	Front
Location of 23-inch rack-mount	Front (option)	Front (option)	Front (option)	Front (option)

Notes:

1. Slot 1 is reserved for supervisor engine only; slots 2 and higher are reserved for line cards.
2. Slots 3 and 4 are reserved for supervisor engines only in Cisco Catalyst 4507R+E; slots 1-2 and 5-7 are reserved for line cards.
3. Slots 5 and 6 are reserved for supervisor engines only in Cisco Catalyst 4510R+E; slots 1-4 and 7-10 are reserved for line cards.
4. 6 Gbps only on slots 8-10.
5. WS-C4507R+E and WS-C4510R+E chassis support up to 24 Gbps per line-card slot when used with Supervisor Engine 6-E.

PRODUCT SPECIFICATIONS OF CISCO CATALYST 4500 SERIES SWITCH

Physical Specifications of Cisco Catalyst 4500 Series Chassis				
Specification	WS-C4503-E	WS-C4506-E	WS-C4507R+E	WS-C4510R+E
Dimensions (H x W x D)	12.25 x 17.31 x 12.50 in. (31.12 x 43.97 x 31.70 cm)	17.38 x 17.31 x 12.50 in. (44.13 x 43.97 x 31.70 cm)	19.19 x 17.31 x 12.50 in. (48.74 x 43.97 x 31.70 cm)	24.35 x 17.31 x 12.50 in. (61.84 x 43.97 x 31.70 cm)
Rack units (RU)	7RU	10RU	11RU	14RU
Chassis weight (with fan tray)	32.25 lb (14.63 kg)	40.50 lb (18.37 kg)	44.50 lb (20.19 kg)	54.50 lb (24.73 kg)

Mounting	19- and 23-in. rack compatible (19-in. rack and cable guide hardware included)	19- and 23-in. rack compatible (19-in. rack and cable guide hardware included)	19- and 23-in. rack compatible (19-in. rack and cable guide hardware included)	19- and 23-in. rack compatible (19-in. rack and cable guide hardware included)
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Cisco Catalyst 4500E Series Power Supply Specifications (Data Only)

Power Supply	1000W AC	1400W AC	1400W DC Triple Input
Integrated PoE	No (data only)	No (data only)	No (data only)
Input current (rated)	12A at 100 VAC, 5A at 240 VAC	16A at 100 VAC, 7A at 240 VAC	Two -48 VDC at 15A; One -48 VDC at 12.5A
Output current (data)	<ul style="list-style-type: none"> • 12V at 83.4A • 3.3V at 12.2A 	<ul style="list-style-type: none"> • 12V at 113.4A • 3.3V at 12.2A 	<ul style="list-style-type: none"> • 12V at 1360W • 3.3V at 40W
Output power redundant mode (data)	1000W + 40W	1360W + 40W	1400W + 40W
Output power combined mode (data)	1667W	2473W	-
Heat dissipation	943 BTU per hour	1048 BTU per hour	1048 BTU per hour
Holdup time	20 ms	20 ms	8 ms
Hot-swappable	Yes	Yes	Yes

Cisco Catalyst 4500E Series Power Supply Specifications (Data and PoE)

Power	1300W AC	2800W AC	4200W AC	6000 AC	9000 AC	1400W DC with Power
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Supply						Entry Module (PEM)
Integrated PoE	Yes (up to 800W)	Yes (up to 1400W)	Yes (up to 3855W)	Yes (up to 4800W)	Yes (up to 7500W)	Up to 7500W (minus the power consumed for data) when connected directly to a DC power plant or 2 external AC power shelves
Input current (rated)	<ul style="list-style-type: none"> • 16A at 100 VAC • 7A at 240 VAC 	<ul style="list-style-type: none"> • 16A at 200 VAC 	<ul style="list-style-type: none"> • Two 12A at 100 VAC Or <ul style="list-style-type: none"> • Two 12A at 200 VAC 	<ul style="list-style-type: none"> • Two 12A at 100 VAC Or <ul style="list-style-type: none"> • Two 16A at 200 VAC 	<ul style="list-style-type: none"> • Three 12A at 100 VAC Or <ul style="list-style-type: none"> • Three 16A at 200 VAC 	<ul style="list-style-type: none"> • 31A at -60 VDC (data only) • 180A at -48 VDC (PoE)
Output current (data)	<ul style="list-style-type: none"> • 12V at 84.7A • 3.3V at 12.5A 	<ul style="list-style-type: none"> • 12V at 113.3A • 3.3V at 12.5A 	<ul style="list-style-type: none"> • 12V at 115.3A • 3.3V at 12.5A 	<ul style="list-style-type: none"> • 12V at 186.9A • 3.3V at 12.5A 	<ul style="list-style-type: none"> • 12V at 163.3A • 3.3V at 12.5A 	<ul style="list-style-type: none"> • 12V at 120A • 3.3V at 12.5A

Output current (PoE)	-50V at 16.7A	-50V at 28A	-50V at 77.1A (200V) -50V at 38A (100V)	-50V at 100.0A (200V) -50V at 38.5A (120V)	-50V at 150.0A (200V) -50V at 50.0A (120V)	140A at -8/-60 VDC
Output power redundant mode (data)	1000W + 40W	1360W + 40W	1383W + 40W	2200W + 40W	1960W + 40W	1360W + 40W
Output power redundant mode (PoE)	800W maximum per power supply	1400W maximum per power supply	<ul style="list-style-type: none"> • 3700W (220V) • 1850W (110V) 	<ul style="list-style-type: none"> • 4800W (220V) • 1850W (110V) 	<ul style="list-style-type: none"> • 7500W (220V) • 2500W (110V) 	Up to 7500W (minus the power consumed for data)
Output power combined mode (data)	1667W	2473W	2766W	4400W	3920W	-
Output power combined mode (PoE)	1333W	2333W	6700W (220V) 3360W (110V)	8700W (220V) 3360W (110V)	14,400W (220V) 4150W (110V)	3800W (100V)
Heat dissipation	1568 BTU/hr	2387 BTU/hr	3580 BTU/hr	2720 BTU/hr	3010 BTU/hr	Data only: 1591 BTUs

						per hour Data and voice: 2905 BTUs per hour
Holdup time	20 ms	20 ms	20 ms	20 ms	20 ms	4 ms
Hot swappable	Yes	Yes	Yes	Yes	Yes	Yes
Regulatory Standards Compliance						
Specification			Standard			
Regulatory compliance			CE Marking			
Safety			<ul style="list-style-type: none"> ● UL 60950 ● CAN/CSA-C22.2 No. 60950 ● EN 60950 ● IEC 60950 ● TS 001 ● AS/NZS 3260 			
EMC			<ul style="list-style-type: none"> ● FCC Part 15 (CFR 47) Class A ● ICES-003 Class A ● EN55022 Class A ● CISPR22 Class A ● AS/NZS 3548 Class A 			

	<ul style="list-style-type: none"> ● VCCI Class A ● EN 50121-4 ● EN 55022 ● EN 55024 ● EN 61000-6-1 ● EN 50082-1 ● EN 61000-3-2 ● EN 61000-3-3 ● ETS 300 386
Industry EMC, safety, and environmental standards	<ul style="list-style-type: none"> ● NEBS Level 3 ● ETS 300 019 Storage Class 1.1 ● ETS 300 019 Transportation Class 2.3 ● ETS 300 019 Stationary Use Class 3.1 ● ETS 300 386
Telecom (E1)	<ul style="list-style-type: none"> ● CTR 12/13 ● CTR 4 ● ACA TS016
Telecom (T1)	<ul style="list-style-type: none"> ● FCC Part 68 ● Canada CS-03 ● JATE Green Book
ROHS compliance	ROHS5

CISCO 4500 BASIC ORDERING INFORMATION

Product Number	Product Description
WS-C4503-E	Cisco Catalyst E-Series 4503 switch (3-slot chassis), fan, no power supply
WS-C4506-E	Cisco Catalyst E-Series 4506 switch (6-slot chassis), fan, no power supply
WS-C4507R+E	Cisco Catalyst E-Series 4507R+E switch (7-slot chassis), fan, no power supply, redundant supervisor capable
WS-C4510R+E	Cisco Catalyst E-Series 4510R+E switch (10-slot chassis), fan, no power supply; redundant supervisor capable
PWR-C45-1000AC	Cisco Catalyst 4500 Series 1000W AC power supply (data only)
PWR-C45-1400AC	Cisco Catalyst 4500 Series 1400W AC power supply (data only)
PWR-C45-1300ACV	Cisco Catalyst 4500 Series 1300W AC power supply (with integrated PoE)
PWR-C45-2800ACV	Cisco Catalyst 4500 Series 2800W AC power supply (with integrated PoE)
PWR-C45-4200ACV	Cisco Catalyst 4500 Series 4200W AC power supply (with integrated PoE)
PWR-C45-6000ACV	Cisco Catalyst 4500 Series 6000W AC power supply (with integrated PoE)
PWR-C45-9000ACV	Cisco Catalyst 4500 Series 9000W AC power supply (with integrated PoE)
PWR-C45-1400DC-P	Cisco Catalyst 4500 Series 1400W DC power supply with integrated power entry module (PEM)
PWR-C45-1400DC	Cisco Catalyst 4500 Series triple input 1400W DC power supply (data only)
WS-X4516-10GE	Cisco Catalyst 4500 Series Supervisor Engine V-10GE
WS-X45-SUP6-E	Cisco Catalyst 4500 Series Supervisor Engine 6-E

WS-X45-SUP6L-E	Cisco Catalyst 4500 Series Supervisor Engine 6L-E
WS-X45-SUP7-E	Cisco Catalyst 4500 Series Supervisor Engine 7-E
WS-X45-SUP7L-E	Cisco Catalyst 4500 Series Supervisor Engine 7L-E
WS-X45-SUP8-E	Cisco Catalyst 4500 Series Supervisor Engine 8-E
WS-X45-SUP8L-E=	Cisco Catalyst 4500 Series Supervisor Engine 8L-E
MEM-C4K-FLD64M	Compact Flash memory, 64-MB option
MEM-C4K-FLD128M	Compact Flash memory, 128-MB option

SOURCES

https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4500-series-switches/product_data_sheet0900aecd801792b1.html