

24-PWR XL: Catalyst 3524-PWR XL Stackable 10/100 Ethernet

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Introduction



[Complete Marketing Data Sheet](#)

The Catalyst 3524-PWR XL switch has 24 10/100 switched ports with integrated inline power and two Gigabit Interface Converter (GBIC)-based Gigabit Ethernet ports (See Figure 1). Integrated inline power provides DC current to devices that can accept power over traditional unshielded twisted pair (UTP) cabling (for example, the Cisco 7900 family of Cisco IP phones).

Ordering Information

Product Number: WS-C3524-PWR-XL-EN

Description: 24-port 10/100 with integrated inline power + two-port 1000Base-X, Enterprise Edition

Key Features/Benefits

Twelve, 24, or 48 10Base-T/100Base-TX autosensing ports, each delivering up to 200 Mbps of bandwidth to individual users, servers, or workgroups to support bandwidth-intensive applications

Two built-in, GBIC-based Gigabit Ethernet ports, delivering up to 4 Gbps aggregated bandwidth to Gigabit Ethernet backbones, Gigabit Ethernet servers, or between switches

10.8 Gbps switching fabric and up to a 8.0-million-packets-per-second forwarding rate, ensuring high performance forwarding to each 10Base-T/100Base-TX and Gigabit Ethernet port

4 MB shared-memory architecture, ensuring the highest-possible throughput with a design that eliminates head-of-line blocking, minimizes packet loss, and delivers better overall performance in environments with extensive multicast and broadcast traffic

Full-duplex operation on all ports, delivering up to 200 Mbps on 10/100 ports or 2 Gbps on 1000Base-X ports

Dual-priority forwarding queues on each 10/100 and Gigabit Ethernet ports, enabling network traffic prioritization and seamless data, voice, and video integration through IEEE 802.1p protocol

Trusted extension settings allows the switch to set trusted port settings for the PC port on Cisco IP phones, ensuring voice traffic receives highest priority

Port-based reclassification allows users to reclassify IEEE 802.1p class-of-service (CoS) values on a per-port basis (via command-line interface [CLIs]) enabling a finer granularity of control to implement LAN edge QoS

Bandwidth aggregation through Fast EtherChannel and Gigabit EtherChannel technologies, enhancing fault tolerance and offering from 400 Mbps to 4 Gbps of aggregated bandwidth between switches, and to routers and individual servers

GigaStack GBIC delivers a low-cost, independent stack bus with a 1 Gbps forwarding bandwidth in a daisy-chain configuration, with up to nine Catalyst 3500 XL or gigabit-enabled Catalyst 2900 Series XL switches or a 2 Gbps forwarding rate in a point-to-point configuration

GBIC-based Gigabit Ethernet ports give customers a choice of 1000Base-T, 1000Base-SX, 1000Base-LX/LH, 1000Base-ZX or Cisco GigaStack stacking GBICs to fit their connection needs

Per-port broadcast, multicast and unicast storm control prevents faulty end stations from degrading overall system performance

Flexible and Scalable Switch Clustering Architecture

Cisco Switch Clustering technology allows a user to manage up to sixteen interconnected Catalyst 3500 XL, 2900 XL, and Catalyst 1900 switches through a single IP address regardless of location

Command Switch Redundancy allows customers to designate a backup command switch, which takes over cluster management functions in the event of a failure of the primary command switch

Ease of Use and Ease of Deployment

Auxiliary VLAN via 802.1Q supports automatic segmentation of phone and data endpoints into separate logical networks

Cluster software administration feature allows the network manager to quickly and easily upgrade the system software on a group of Catalyst 3500 XL, 2900 XL, and Catalyst 1900 switches

IEEE 802.3z-compliant 1000Base-T, 1000Base-SX, 1000Base-LX/LH, and 1000Base-ZX physical interface support through a field-replaceable GBIC module provides customers unprecedented flexibility in switch deployment

Autosensing on each port detects attached device speed and automatically configures the port for 10 or 100 Mbps operation, easing the deployment of the switch in mixed 10Base-T and 100Base-TX environments

Autonegotiating on all ports automatically selects half- or full-duplex transmission mode to optimize bandwidth

Autoconfiguration eases switch deployment in the network by automatically configuring multiple switches across a network via a boot server

Default configuration stored in Flash memory ensures that a switch can be quickly connected to the network and can pass traffic with minimal user

	intervention, preserving configuration in case of a power outage
	Voice VLAN creates a new subnet for use by IP phones in cases where there are not enough free IP addresses in the existing subnets

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Integrated Cisco IOS Switching Solution

	Cisco Group Management Protocol (CGMP) enables a switch to selectively and dynamically forward routed IP multicast traffic to targeted multimedia end stations, reducing overall network traffic
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	CGMP Fast Leave allows end stations to quickly exit from a multicast session, reducing superfluous network traffic
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	Virtual LAN trunks can be created from any port using either standards-based 802.1Q tagging or the Cisco Inter Switch Link (ISL) VLAN architecture
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	IEEE 802.1p Layer 2 protocol for prioritization of mission-critical and time-sensitive traffic from data, voice, and telephony applications
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	Cisco Virtual Trunking Protocol (VTP) supports dynamic VLANs and trunk configuration across all switches
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	Cisco Discovery Protocol (CDP) enables a CiscoWorks network management station to automatically discover a switch in a network topology
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Performance

	10.8 Gbps switching fabric
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	6.5 million pps wire-speed forwarding rate for 64-byte packets
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	5.4 Gbps maximum forwarding bandwidth
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	4 MB memory architecture shared by all ports
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	8 MB dynamic random-access memory (DRAM) and 4 MB Flash memory
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	8192 MAC addresses
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Network Management

Simple Network Management Protocol (SNMP) Management Information Base (MIB) II, SNMP MIB extensions, Bridging MIB (RFC 1493)

Standards

IEEE 802.3x full duplex on 10Base-T, 100Base-TX, and 1000Base-X ports

IEEE 802.1D Spanning-Tree Protocol

IEEE 802.1p CoS prioritization

IEEE 802.1Q VLAN

IEEE 802.3ab 1000Base-T specification

IEEE 802.3z 1000Base-X specification

1000Base-X (GBIC), 1000Base-T, 1000Base-SX, 1000Base-LX/LH, 1000Base-ZX

IEEE 802.3u 100Base-TX specification

IEEE 802.3 10Base-T specification

Connectors and Cabling

10Base-T ports: RJ-45 connectors; two-pair Category 3, 4, or 5 UTP cabling

100Base-TX ports: RJ-45 connectors; two-pair Category 5 UTP cabling

1000Base-T GBIC ports: RJ-45 connectors; two-pair Category 5 UTP cabling

1000Base-SX, -LX/LH and -ZX GBIC ports: SC fiber connectors, single-mode or multimode fiber

GigaStack GBIC ports: copper-based Cisco GigaStack cabling

Management console port: RJ-45 connector, RS-232 serial cabling

Indicators

	Port status LEDs – link integrity, disabled, activity, speed, full-duplex indications and inline power enabled
	System status LEDs – system, RPS, and bandwidth utilization indications
	Fan-fault and over-temperature indicators

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Dimensions and Weight (H x W x D)

	1.75 x 17.5 x 11.8 in. (4.4 x 44.5 x 30 cm)
	One rack-unit (RU) high
	12 lb (5.45 kg)

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Environmental Conditions and Power Requirements

	Operating temperature: 32 to 113° F (0 to 45° C)
	Storage temperature: –13 to 158° F (–25 to 70° C)
	Operating relative humidity: 10 to 85% noncondensing
	Operating altitude: Up to 10,000 ft (3000 m)
	Power consumption: 325 W maximum; 1100 BTU per hour (Actual power consumption depends on number of IP phones connected. 325 W represents 24 IP phones connected)
	AC input voltage/frequency: 100 to 127/200 to 240 VAC (autoranging) 50 to 60 Hz
	MTBF 150,000 hours

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Safety Certifications

	UL 1950, Third Edition
	CAN/CSA 22.2 No. 950–95, Third Edition

	NOM-019-SCFI
	AS/NZS 3260 and TS001-1997
	IEC 60950 with all country deviations
	EN60950 with Amendments A1-A4 and A11
	CE-Marking
Electromagnetic Emissions Certifications	
	FCC Part 15 Class A
	EN55022b Class A (CISPR 22 Class A)
	VCCI Class A
	BCRQ
	CE-Marking

Configuration

- [2900 XL / 3500 XL Installation and Configuration Documentation](#)

Platform Support

The 3524-PWR requires [IOS 12.0\(5.2\)XU](#) or newer.

Related Information

- [Understanding the Cisco IP Phone 10/100 Ethernet In-Line Power Detection Algorithm](#)
- [Voice, Telephony and Messaging Technical Tips](#)
- [Voice, Telephony and Messaging Technologies](#)
- [Voice, Telephony and Messaging Products](#)
- [Cisco Solutions: Voice, Telephony and Messaging](#)
- [Voice, Telephony and Messaging Top Issues](#)

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