Cisco Business 350 Series Managed Switch Physical Security and Power Efficiency - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The Cisco Business 350 Series Managed Switch platform delivers a hardened physical and logical security posture coupled with industry-leading power efficiency for small office and branch deployments. This datasheet details the hardware-anchored security mechanisms — including Trustworthy Systems runtime defenses, IEEE 802.1X port authentication, and comprehensive threat mitigation controls — that protect business-critical transactions without requiring dedicated security appliances. Simultaneously, the platform integrates IEEE 802.3az Energy Efficient Ethernet, automatic port power shutoff, cable-length-based signal optimization, and fanless thermal design in most models to minimize operational expenditure and environmental footprint.



HARDWARE ARCHITECTURE & SILICON

The Cisco Business 350 Series is built upon a fixed-configuration switching ASIC architecture with an 800 MHz ARM processor, 512 MB RAM, and 256 MB flash memory, providing deterministic forwarding for Layer 2 and Layer 3 workloads. Physical security is rooted at the silicon level through the Trustworthy Systems framework, which implements Executable Space Protection (X-Space), Address Space Layout Randomization (ASLR), and Built-In Object Size Checking (BOSC) to defend against runtime exploitation attempts. The hardware chassis is available in rack-mountable 1RU form factors with internal power supplies, and most non-PoE-heavy models employ a fanless design that eliminates a common physical attack vector while reducing acoustic signature and mechanical failure points.

KEY FEATURES & SECURITY LOGIC

PHYSICAL AND PORT-LEVEL SECURITY

- Port Security: Locks source MAC addresses to specific interfaces and limits the maximum number of learned MAC addresses per port, preventing unauthorized device attachment and MAC flooding attacks.
- IEEE 802.1X Authentication: Supports authenticator role with RADIUS authentication and accounting, guest VLAN, unauthenticated VLAN, single/multiple host modes, and time-based 802.1X policies for granular access control.
- Private VLAN and Protected Ports: Provides Layer 2 isolation between switch ports within the same VLAN, preventing peer-to-peer traffic snooping while supporting multiple uplinks.

NETWORK INFRASTRUCTURE DEFENSE

- DHCP Snooping: Filters DHCP messages from untrusted interfaces to prevent rogue DHCP server injection.
- IP Source Guard (IPSG): Discards packets with spoofed source IP addresses not statically configured or dynamically learned via DHCP snooping.
- Dynamic ARP Inspection (DAI): Validates ARP packets against the IP/MAC binding table to block man-in-the-middle attacks.
- BPDU Guard and STP Loop Guard: Shuts down ports receiving unauthorized

BPDUs and prevents Layer 2 forwarding loops from propagating across the topology.

- Storm Control: Rate-limits broadcast, multicast, and unknown unicast traffic to preserve control-plane availability.

POWER EFFICIENCY ARCHITECTURE

- IEEE 802.3az Energy Efficient Ethernet: Monitors link utilization and transitions active links to a sleep state during low-traffic periods, reducing baseline power draw without compromising forwarding latency.

- Automatic Port Power Shutoff: Cuts power to ports when link status is down, eliminating phantom energy consumption.

- Cable-Length Signal Optimization: Embedded intelligence adjusts signal strength based on the physical cable length, avoiding unnecessary transmit power overhead.

- Fanless Design: Most models operate without active cooling fans, reducing total power consumption, increasing mean time between failures, and enabling silent operation in open office environments.

COMPLIANCE & STANDARDS

The Cisco Business 350 Series adheres to IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.3ae, 802.3an, 802.3ad (LACP), 802.3x, 802.3az, 802.1D/w/s, 802.1Q/p,

802.1X, 802.3af, 802.3at, and 802.1AB. The platform is certified for USGv6 and IPv6 Gold Logo compliance, with full IPv6 first-hop security including DHCPv6 Guard and Neighbor Binding Integrity. Safety certifications include UL 60950 and CSA C22.2.

TECHNICAL SPECIFICATIONS

Parameter	**Specification**
Form Factor	1RU Rack-Mountable (fixed configuration); fanless on most non-high-power PoE models
Processor / Memory	800 MHz ARM; 512 MB RAM; 256 MB Flash
Switching Capacity	Varies by model: 20 Gbps to 104 Gbps
Forwarding Rate	Varies by model: 14.88 Mpps to 77.38 Mpps (64-byte packets)
MAC Address Table	16K entries
VLAN Support	Up to 4,094 VLANs
Power Efficiency	IEEE 802.3az EEE; automatic port power shutoff; cable-length signal optimization; fanless design (most models)

Security Hardware	Trustworthy Systems (X-Space, ASLR, BOSC); Secure Core Technology (SCT); Secure Sensitive Data (SSD)
PoE Budget	Varies by model: up to 370W (CBS350-48P-4G)
Operating Temperature	-5°C to 50°C (23°F to 122°F)
Safety Certifications	UL 60950, CSA C22.2, FCC CFR47, USGv6

ORDERING SKU INFORMATION

Representative SKUs within the Cisco Business 350 Series include: CBS350-8T-E-2G (8 Gigabit Ethernet ports, 2 combo uplinks), CBS350-24P-4G (24 PoE+ ports, 195W budget, 4 SFP uplinks), CBS350-48P-4G (48 PoE+ ports, 370W budget, 4 SFP uplinks), and CBS350-16XTS (8 10GE copper ports, 8 10G SFP+ uplinks). All models ship with rack-mounting kits and are backed by a limited lifetime hardware warranty.


System
Power
Fan