



Cisco

C1-C6824-X-LE-40G

Datasheet

Product Overview

- The Cisco Catalyst 6840-X Series belongs to Cisco's premium backbone switch lineup, positioned for high-performance aggregation.
- This model is made for medium and large businesses, data centers, and campus networks that demand robust uptime and high switching capacity.
- Supporting up to 24x10G SFP+ and 2x40G QSFP+ ports, it features up to 960Gbps switching and advanced L3/L2 capabilities.
- It provides full MPLS, virtualization, and advanced security like TrustSec®, plus rich application monitoring for business control.
- Easy setup, VSS-supported high availability, and simple management reduce IT efforts and speed time to deployment.
- The Cisco C1-C6824-X-LE-40G helps enterprises ensure stable connectivity, secure information flow, and scalable future-ready networks.

Product Highlights

- **Scalable Port Density:** Flexible chassis with models supporting from 16x10G up to 40x10G SFP+ ports, and options with dual 40G QSFP+ uplinks.
- **Platform Performance:** Delivers up to 960Gbps switching, and up to 1.92Tbps capacity with VSS for demanding enterprise applications.
- **Integrated Security:** Features Cisco TrustSec® with MACsec encryption and advanced policy controls for enterprise security.
- **Virtualization & Operations:** Offers full-featured MPLS/ VPLS, flexible VPN, Instant Access, and Smart Install for fast, simplified deployment.

Detailed Features



C1-C6824-X-LE-40G

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Component	Specification
Enclosure Type	Desktop, rack-mountable 2U
Port Configuration	24 x 1 Gigabit / 10 Gigabit SFP+ + 2 x 40 Gigabit QSFP+ (breakout compatible)
Subtype	10 Gigabit Ethernet
Redundancy	1+1 Power Supply (optional)
Fan Design	Single removable fan-tray with 4 redundant fans



Extreme Scalability

The Catalyst 6840-X offers up to 960Gbps of switching capacity, which can be doubled to 1.92Tbps with VSS technology, ensuring that your backbone is ready for growing bandwidth needs. It supports large table sizes, ideal for environments with intense data flow and multiple virtual routing domains.

Comprehensive Security

Security is enforced via Cisco TrustSec® with IEEE 802.1AE MACsec encryption, CoPP to avoid DoS attacks, and Cisco ISE integration. The switch supports role-based ACLs, enabling fine-tuned access policies and comprehensive enterprise protection against modern threats.

Full-Stack Virtualization

Extensive virtualization features include L2/L3 VPN, end-to-end MPLS/VPNS, EVN, and VRF-aware NetFlow. These capabilities enable flexible user segmentation, service separation, and tailored security or QoS settings for diverse business requirements.

Application Visibility

Enhanced monitoring through Flexible and Sampled NetFlow lets administrators track usage down to the application level. Hierarchical QoS ensures that mission-critical traffic always receives priority, supporting quality for real-time voice, video, and data applications.

Simplified Smart Operations

Catalyst Instant Access allows remote switches to act as line cards, with Smart Install enabling zero-touch deployments. These tools decrease setup complexity and reduce the need for manual configuration across large distributed networks.

High Availability & VSS

Supports Virtual Switching System (VSS) which combines two switches for seamless redundancy and minimal downtime. Single-point management means less admin overhead and automatic link failure restorationno more reliance on STP or extra routing protocols.

Proven OS Stability

Runs on the same trusted operating system codebase as the Catalyst 6500 Supervisor 2T, benefiting from thousands of tested features and years of operational reliability. This foundation gives enterprise networks confidence in day-to-day operation and software maintenance.

Integrated Hardware Resilience

With 1+1 power supply redundancy and a fan-tray with four redundant fans, the switch offers built-in hardware fault tolerance. This translates to reduced risk of outages and increased assurance for business continuity and service delivery.

Technical Specifications

Product Specifications

Feature	Value
Device Type	Switch - 24 ports - L3 - managed
Enclosure Type	Desktop, rack-mountable 2U
Subtype	10 Gigabit Ethernet
Ports	24 x 1 Gigabit / 10 Gigabit SFP+ + 2 x 40 Gigabit QSFP+ (breakout compatible)
Forwarding performance	up to 120 Mpps
Switching capacity (full duplex)	up to 160 Gbps
IPv4 routing	up to 120 Mpps
IPv6 routing	up to 60 Mpps
Layer 2 bridging	up to 120 Mpps
Capacity IPv4 routes	256000
Capacity IPv6 routes	128000



Feature	Value
NetFlow entries	1000000
IPv4 routes (Multicast)	128000
IPv6 routes (Multicast)	64000
Virtual interfaces (VLANs)	4094
Domains	16000
ACL entries	64000
Logical interfaces	128000
MAC Address Table Size	128K entries
Jumbo Frame Support	9216 bytes
Routing Protocol	GRE
Features	NAT support, MPLS support, IGMP snooping, High Availability, Access Control List (ACL) support, Virtual Route Forwarding-Lite (VRF-Lite), MLD snooping, NetFlow, Virtual Private LAN Service (VPLS), Label Distribution Protocol (LDP), Location ID Separation Protocol (LISP), LISP Across Subnet Mode (ASM), Instant Access (IA), Virtual Switching System (VSS)
Compliant Standards	IEEE 802.1ae
RAM	4 GB
Interfaces	24 x 10GBase-X SFP+ 1 x management (LAN) RJ-45 1 x console RJ-45 1 x USB Type A 1 x mini-USB Type B
Power Device	Internal power supply - hot-plug
Installed Qty	0 (installed) / 2 (max)
Power Redundancy	Optional
Power Redundancy Scheme	1+1 (with optional power supply)
Width	17.4 in
Depth	21.8 in
Height	3.5 in
Weight	34.83 lbs
Min Operating Temperature	32 °F
Max Operating Temperature	104 °F
Humidity Range Operating	5 - 90% (non-condensing)
Min Storage Temperature	-4 °F
Max Storage Temperature	149 °F



Feature	Value
Humidity Range Storage	5 - 95% (non-condensing)
Miscellaneous	NEBS level 3, CISPR 22 Class A, EN 60950, IEC 60950, EN55024, EN55022 Class A, UL 60950, EN50082-1, EN 61000-6-1, AS/NZS 3548 Class A, AS/NZS 60950, GR-1089-CORE, CAN/CSA C22.2 No. 60950, VCCI Class A, ETS 300 386, ETS300019-2-3, FCC CFR47 Part 15 A

Product Comparison

Feature	C1-C6824-X-LE-40G	C1-C6840-X-LE-40G	C9300L-48P-4X-E
Fixed Ports	24 x 1G/10G SFP+ + 2 x 40G QSFP+	40 x 1G/10G SFP+ + 2 x 40G QSFP+	48 x 1G PoE+ + 4 x 10G SFP+
Switching Capacity	960Gbps (up to 1.92Tbps VSS)	1.36Tbps (up to 2.72Tbps VSS)	176 Gbps
Forwarding Rate	Up to 120 Mpps	Up to 240 Mpps	130.95 Mpps
Redundant Power	1+1 (with optional PSU)	1+1 (with optional PSU)	Yes (Dual Internal PSU)
Virtualization	MPLS/VPLS, VRF-Lite	Full MPLS/VPLS, VRF-Lite	VRF-Lite
Layer 3 Routing	Yes (IPv4/IPv6, 256K/128K routes)	Yes (higher scaling)	Yes (IPv4/IPv6)
Fan Design	Removable fan-tray, 4 redundant fans	Removable fan-tray, 4 redundant fans	Fixed, redundant fans
Management Features	VSS, Flexible/Smart Install, Advanced NetFlow	VSS, Flexible/Smart Install, Advanced NetFlow	StackWise-320, Plug-and-Play, advanced QoS
Application Scenario	Core/aggregation for data centers/campus	High-density aggregation/backbone	Access layer with PoE for enterprise/branch

Accessories

Category	Accessories
Included Accessories	- Power Cord - Rack Mount Kit - Console Cable
Optional Accessories	- SFP+ Modules - QSFP+ Transceivers - Redundant Power Supply



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Contact Us

Email

High Connectivity: sales@router-switch.com

Expert Technical Support: ccie-support@router-switch.com

Cooperative Partnerships: ccie-support@router-switch.com

Phone

USA: +1-626-655-0998

Hong Kong: +852-25925389 / +852-25925411

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Global Branches

Headquarters (Hong Kong)

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

USA Branch

3592 Rosemead Blvd, B #220, Rosemead, CA 91770, USA

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK



References

[1] Cisco. (2015). Cisco Catalyst 6840-X Series Switches Datasheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-6840-x-switch/datasheet-c78-734470.html>