Cisco 8100 Series Secure Routers

A Part of the Cisco 8000 Series Secure Router Family.

Contents

Overview

Cisco 8100 Series Secure Routers deliver secure networking—simplified. Powered by the all-new secure networking processor and the unified Cisco secure networking platform, Cisco 8100 Series Secure Routers deliver robust, platform-level security; advanced performance engineering via routing and SD-WAN; and on-premises, infrastructure-as-code, or cloud management flexibility that enables businesses to seamlessly scale and grow. Each class of secure routers is designed to deliver risk reduction, enhanced reliability, and future readiness.

Platform highlights

Purpose-built for small branch environments, Cisco 8100 Series Secure Routers deliver enterprise-grade security and high performance in a compact, energy-efficient form factor. With integrated next-generation firewall, zero-trust capabilities, and SASE-ready architecture, the 8100 Series empowers small sites to operate securely and reliably—simplifying management while scaling with your business needs.

Use Cases

- Secure routing or SD-WAN for point-of-sale transactions
- Reliable and secure connectivity for small branch workers, remote workers, and IoT
- Prioritize application traffic based on centralized policies
- Data Protection with encryption designed to remain unbreakable—even in the era of quantum computing
- Remote asset management and monitoring
- Quick deployment of secure networking for temporary or mobile operations

Key features

Hardware accelerated security and networking	• Fast cryptography and deep packet inspection • Hardware acceleration ensures high throughput with robust threat protection
Fanless model for small branches	• Quiet, reliable fanless SKU ideal for noise-sensitive or space-constrained sites • Reduced moving parts for lower maintenance and enhanced durability
Secure connectivity for small branches	• Combines NGFW security, routing, and SD-WAN in one unified platform • Optimize performance with cloud security services like Cisco SSE or third-party options, enabling robust protection and a leaner branch • Simplifies branch infrastructure and management with all-in-one secure access
Secure networking with PQC readiness	• Future-proofs campus security with advanced, quantum-resistant encryption

Models and specifications

Cisco 8100 Series Secure Routers are 1 RU fixed form factor devices with four models: Cisco C8130-G2, C8140-G2, C8151-G2, and C8161-G2.

Cisco C8130-G2 with 6 x GE, Cisco C8140-G2 with 10 x GE, Cisco C8151-G2 with 10 x GE and 1 x PIM and Cisco C8161-G2 with 10 x GE, 1 x PIM with PoE+. Only Cisco C8151-G2 and C8161-G2 support SD-WAN.

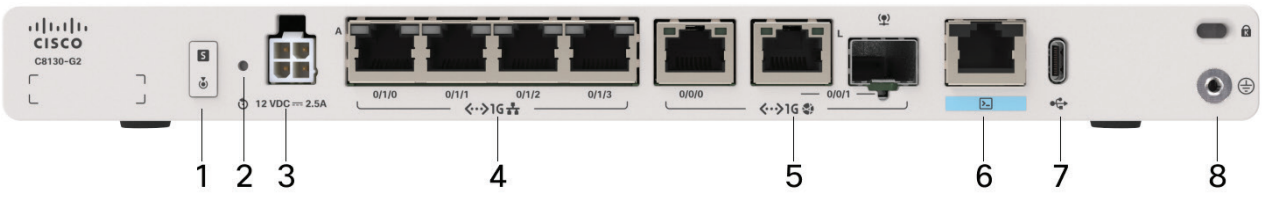

Figure 1. Front panel of Cisco C8130-G2 Secure Router

Table 1: Cisco C8130-G2 front-panel components

Label	Description
1	Status LED, blue beacon LED
2	Reset button
3	12 VDC power input
4	5 x GE RJ-45 ports
5	1 x GE RJ-45/SFP combo
6	1xRJ-45 console port
7	USB Type-C 3.0
8	Kensington lock, ground screw

Figure 2. Front view of a Cisco C8140-G2 Secure Router

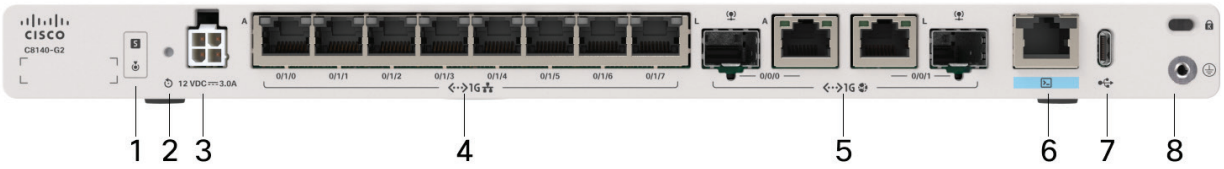

Table 2: Cisco C8140-G2 front-panel components

Label	Description
1	Status LED, blue beacon LED
2	Reset button
3	12 VDC power input
4	8 x GE RJ-45 ports
5	2 x GE RJ-45/SFP combo
6	1 x RJ-45 console port
7	USB Type-C 3.0
8	Kensington lock, ground screw

Figure 3. Front view of a Cisco C8151-G2 Secure Router

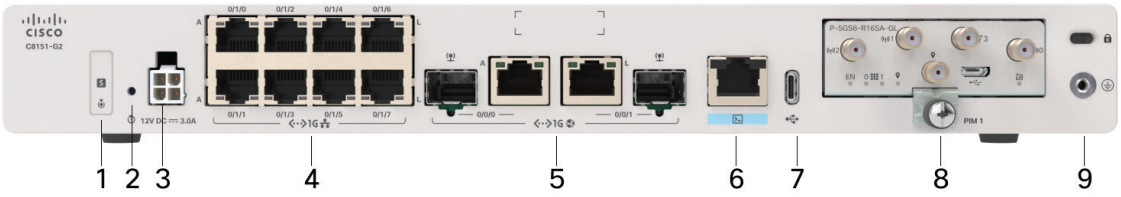

Table 3: Cisco C8151-G2 front-panel components

Label	Description
1	Status LED, blue beacon LED
2	Reset button
3	12 VDC power input
4	8 x GE RJ-45 ports
5	2 x GE RJ-45/SFP combo
6	1 x RJ-45 console port
7	USB Type-C 3.0
8	Optional PIM Slot – CAT 7 LTE or 5G
9	Kensington lock, ground screw

Figure 4. Front View of a Cisco C8161-G2 Secure Router

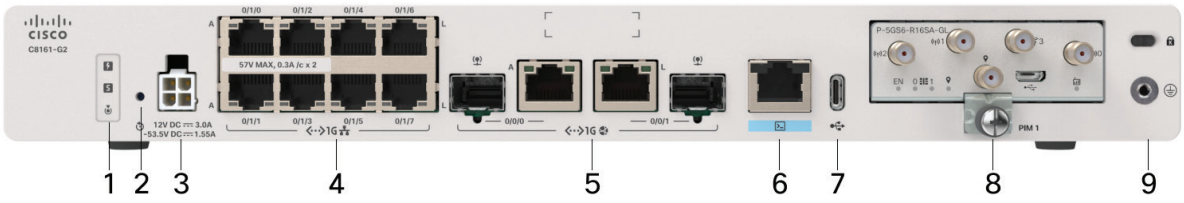

Table 4: Cisco C8161-G2 front-panel components

Label	Description
1	Status LED, blue beacon LED, PoE LED
2	Reset button
3	12 VDC power input
4	8 x GE RJ-45 ports
5	2 x GE RJ-45/SFP combo
6	1 x RJ-45 console port
7	USB Type-C 3.0
8	Optional PIM Slot – CAT 7 LTE or 5G
9	Kensington lock, ground screw

Table 5. Technical specifications

	C8130-G2	C8140-G2	C8151-G2	C8161-G2
Interfaces and slots				
WAN ports	1x 1GE RJ-45, 1x 1GE RJ-45/SFP Combo	2x 1GE RJ-45/ SFP combo	2x 1GE RJ-45/ SFP combo	2x 1GE RJ-45/ SFP combo
Flex ports	2 x GE RJ-45	2 x GE RJ-45	2 x GE RJ-45	2 x GE RJ-45
LAN ports	2x 1GE RJ-45	6x 1GE RJ-45	6x 1GE RJ-45	6 x GE RJ-45 (4PoE/2PoE+) PoE output max power 80W
Cellular slot	-	-	Optional Pluggable Module – CAT 7 or 5G	
Management port	1 x RJ-45 console			
Memory and storage				
DRAM	4GB RAM	4GB RAM	8GB RAM	8GB RAM
Flash	16 GB			
Storage	1 x USB Type-C 3.0 OOB management			
External power supply	30W/66W	66W	66W	150W
Typical Power	16W	20W	23W	25W

*SD-WAN feature combination: IPsec + QoS + Deep Packet Inspection + Flexible NetFlow ** Threat protection feature combination: 100% DIA-NAT + ZBFW + IPS + URLF + AMP

Table 6: Mechanical specifications

Description	C8130-G2	C8140-G2	C8151-G2	C8161-G2
Dimensions (H x W x D)	1.09 in x 7.8 in x 10.8 in	1.09 in x 6.9 in x 12.7 in	1.57 in x 8.5 in x 12.7 in	1.57 in x 8.5 in x 12.7 in
MTBF	> 100,000 hours			
Rack Units (RU)	1RU (mounting options: rack mount, under desk, din-rail)			
Chassis weight	3.5 lb	3.57 lb	5.1 lb	5.1 lb
Temperature	Operating temperature: 0° C to 40° C (32° F to 104° F) at sea level, 1° C/1000 ft derating from 40° C Non-operating temperature: -40° C to 70° C (-40° F to 158° F)			
Humidity	Operating conditions humidity: 5% to 85% relative humidity (non-condensing) Non-operating conditions humidity: -40° C to 70° C (-40° C to 158° F)			
Altitude	Operating altitude: 0 to 10,000 ft (0 to 3048 m) Non-operating altitude: 0 to 15,000 ft (0 to 4572 m)			

Performance

Table 7. Throughput

Throughput	C8130-G2	C8140-G2	C8151-G2	C8161-G2
Forwarding (512B)	1.9 Gbps	5.6 Gbps	5.6 Gbps	5.6 Gbps
IPsec (512B)	1.5 Gbps	1.5 Gbps	1.5 Gbps	1.5 Gbps
SD-WAN* (512B)	-	-	900 Mbps	900 Mbps
Threat protection (EMIX)**	-	-	1 Gbps	1 Gbps

* SD-WAN feature combination: IPsec + QoS + Deep Packet Inspection + Flexible NetFlow

** Threat Protection feature combination: 100% DIA-NAT + ZBFW + IPS + URLF + AMP

Table 8: Scalability

Scalability	C8130-G2	C8140-G2	C8151-G2	C8161-G2
Number of IPv4 Routes	280K	280K	500K	500K
Number of IPv4 ACLs	4K	4K	4K	4K
Number of IPv4 ACEs	10K	10K	10K	10K
Number of IPv6 Routes	260K	260K	500K	500K
Number of NAT Sessions	100K	100K	100K	100K
Number of VRFs	1K	1K	4K	4K
Number of IPSec SRVI Tunnels	100	100	100	100

Modules

Table 9: Pluggable Interface Modules (PIM) supported

Product number	Description
P-5GS6-R16SA-GL*	5G Sub-6 GHz Pluggable – 5G SA Global
P-LTEA7-NA*	CAT7 LTE Advanced Pluggable - North America
P-LTEA7-EAL*	CAT7 LTE Advanced Pluggable - EMEA, APAC, and LATAM
P-LTEA7-JP*	CAT7 LTE Advanced Pluggable - Japan

*Supported only on C8151-G2 and C8161-G2

Software management

Cisco 8100 Series Secure Routers support multiple features; the prominent ones are listed below. For a more detailed list, please refer to the software guide.

Table 10: Feature Highlights

Basic Routing	Network Services and Management
Networking Protocols **IPv6 Support** **Mobile Routing** **Multicasting**	Tunnelling Mechanisms IP Service Level Analysis Network Based App Recognition Device Management Programmability Quality of Service High Availability Application Services Traffic Management & Analytics Broadband CPE Support
Security	**Specialized Features**
Next Generation Firewall **URL Filtering** **Secure Authentication** **Cisco Secure Access** **Advanced Malware Protection** **Intrusion Prevention/Detection** **Public Key Infrastructure** **TLS Decryption** **Support for VRF, VPN & MPLS** **Post Quantum Cryptography Ready**	Content Routing Thousand Eyes Voice Capability

Table 11: Supported Release Version

	Device OS	Cisco Catalyst SD-WAN Manager*
Cisco 8100 Series Secure Routers	Starting IOS XE 17.18.1	Starting SD-WAN Release 20.18.1

* Supported only on C8151-G2 and C8161-G2

Offers

To connect with a Cisco sales expert, build your own estimate, or find a partner, visit our How to Buy hub.

Ordering information

For a detailed overview of the ordering process, please visit the Cisco 8000 Series Secure Routers Ordering Guide. For information on installation of the router please visit the Hardware Installation Guide.

Warranty

Cisco 8100 Series Secure Routers come standard with a Cisco Limited 2-Year Return To Factory Hardware Warranty. For more information, refer to:
https://www.cisco.com/c/en/us/products/warranties/warr-2yr-ltd-hw.html

Sustainability profile

Cisco is embedding sustainability into the product lifecycle—from manufacturing to end of use. Designed with consideration for Cisco's Circular Design Principles, our products feature both individual and portfolio-wide programs and innovations, including those that address efficient architecture design, power consumption, energy management, packaging sustainability, and takeback. These elements are pivotal in reducing operational costs and advancing net-zero greenhouse gas (GHG) emissions targets, and other sustainability-related ambitions.

Information about Cisco's environmental, social, and governance (ESG) initiatives and performance is available in Cisco's Purpose Reporting Hub.

Table 12: Sustainability References

Sustainability topic		Description
Power	Power management configuration	The power management chapter in the System Management Configuration Guide provides detailed information on power management features and configurations available for Cisco 8100 Series Secure Routers. The features discussed include power-supply modes and power-budgeting considerations.
	Auto-off ports without Small Form-factor Pluggable (SFP)	Once enabled, the system checks for the presence of SFPs in Fiber ports on a regular basis and turns on SerDes when SFP is detected. If no SFP is detected, the system will keep SerDes off to save energy
	Auto-off port LEDs	Once enabled, port light emitting diodes (LEDs) will stay depowered, saving energy until a link event is triggered or manually enabled by the Command Line Interface or Mode button.
Energy management	Energy Management dashboard	The Energy Management dashboard on the Catalyst SD-WAN Manager offers comprehensive energy management capabilities, allowing users to monitor energy usage, energy mix, costs, and greenhouse gas emissions in real time. Energy Management
	Environmental monitoring configuration	Cisco 8100 Series Secure Routers monitor temperature and voltage to ensure optimal operation and system reliability. Environmental Monitoring

Sustainability topic		Description
Materials, modularity, and reuse	Hardware standardization and modularity	Cisco 8100 Series Secure Routers use standard subassemblies and common components across products to streamline production and enhance repairability and upgradability.
	Simplified architecture	Cisco 8100 Series Secure Routers offer a simplified architecture by consolidating multiple discreet ASIC/NPU components into a central system-on-chip (SoC) architecture, providing multiple discrete functions in a more integrated design.
	Powder-coat finish	Cisco 8100 Series Secure Routers use a powder-coating finish instead of oil-based wet paint. In comparison, a powder-coating finish reduces the amount of harmful solvents used and volatile organic compounds (VOCs) emitted during the painting process.
	Bezel-free design	Cisco 8100 Series Secure Routers use a bezel-free design reducing plastic usage.
	Cisco Takeback and Reuse	This program allows customers to return used equipment for responsible recycling and reuse. Takeback and Reuse Program
	Cisco Refresh	This program offers certified remanufactured products, providing cost-effective alternatives to new equipment. Cisco Refresh
	Foam reduction	Cisco 8000 Series Secure Routers are packaged with corrugated and fiber flute materials, containing minimum 25% post-consumer recycled content. Circular economy and packaging sustainability
	Accessory opt-in	Accessory opt-in allows customers to select whether to include the accessory kit. Not including the kit results in using fewer materials and reducing waste. The default is now to not include the kit unless it is required.

Sustainability topic		Description
Regulatory compliance	Environmental compliance	Information regarding Cisco compliance with applicable environmental laws and regulations is available at the Environmental Compliance section of Cisco's Purpose Reporting Hub. Environmental compliance
	Product Approvals Status (PAS)	Information regarding the certification status for given Cisco products in certain countries is available at Cisco's self-service Product Approvals Database. PAS database
	Product-related materials compliance	This page addresses Cisco's position regarding relevant product-related materials legislation, such as Restriction of Hazardous Substances (RoHS); Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH). RoHS and REACH
	Waste Electrical and Electronic Equipment (WEEE), battery, and packaging compliance	This page discusses Cisco's position regarding relevant product-related legislation on recycling and battery and packaging regulations. WEEE, battery and packaging
	Cisco packaging materials and codes	This table provides packaging material identification for packaging used for Cisco products. Packaging materials and codes

Sustainability topic		Description
General	Sustainability inquiries	For ESG or CSR inquiries, please contact your Cisco account team.
	Cisco policies, positions, and guides	Links to select Cisco's Environmental Sustainability policies, positions, and guides are provided in the "Policies, positions, and guides" section of Cisco's Purpose Reporting Hub. Policies, positions, and guides
	Cisco Green Pay	This page provides an overview of Cisco Green Pay, a financing program aimed at promoting more sustainable technology adoption by providing flexible payment options. Green Pay

Safety and compliance

Chassis

The section below lists the safety and compliance information for the Cisco 8100 Series Secure Routers chassis.

Table 13: Safety and Compliance Specifications

Safety and certifications	EMC and EMI compliance
• UL 60950-1 • CSA 60950-1 • UL 62368-1 • CSA 62368-1 • EN 62368-1 • IEC 62368-1	• EN 55032 • 47 CFR Part 15 • ICES-003 • VCCI-CISPR 32 • AS/NZS CISPR 32 • CNS 15936 • EN 300 386 • EN 55035 • EN 55024 • EN 61000-3-2 • EN 61000-3-3 • EN 61000-4-2 • EN 61000-4-3 • EN 61000-4-4 • EN 61000-4-5 • EN 61000-4-6 • EN 61000-4-11 • EN 61000-6-1

Document History

New or revised topic	Described in	Date
Document created	Datasheet	June 10, 2025
Document updated	Datasheet	September 15, 2025
Document updated	Datasheet	October 15, 2025

Next steps

Cisco Capital	Cisco Capital flexible payment solutions offer choices so you get the tech you need and the business outcomes you want.
Explore Cisco Capital	https://www.cisco.com/site/us/en/buy/payment-solutions/index.html
Find a partner	Solve your business challenges by finding a Cisco partner authorized to design, sell, and support custom solutions.
Meet our partners	https://www.cisco.com/site/us/en/partners/connect-with-a-partner/index.html
Community	Cisco Community is an active and collaborative place to learn more about our products and ask questions of peers and Cisco experts.
Join the community	https://community.cisco.com/
Cisco Services	Transform with more ease and less risk while making sure your technology delivers tangible business value.
Browse Cisco Services	https://www.cisco.com/site/us/en/services/index.html