

# Cisco 8010 Series Large Density Fixed Routers

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Powered by the Cisco Silicon One™ A100 ASIC, the Cisco® 8010 Series Large Density Fixed Routers offer Class C timing support and end-to-end encryption, enabling seamless network growth and scalability. Built on the robust Cisco IOS® XR operating system, these routers are designed for use in dense metro access and preaggregation deployments, delivering both Capital Expenditure (CapEx) savings and enhanced operational simplicity.

## Product overview

Building on the success of our Cisco 8000 Series Routers, which use the Cisco Silicon One™ ASIC, we are thrilled to introduce the Cisco 8010 Series, powered by the new A100 ASIC. This unified silicon architecture eliminates boundaries across a significant portion of the networking market, providing scalability from web-scale to service provider deployments. The Cisco 8010 Series offers versatile Ethernet interface options, ranging from 1G and 25G to 100G and 400G. These industrial-temperature devices support Class C timing and feature encryption capabilities, including MACsec at line rate on all ports and IPsec for data security.

Powered by the industry-leading, carrier-class version of Cisco IOS XR software, these routers are designed for operational efficiency and service agility. The Cisco 8010 Series uses the new Cisco IOS XR Flexible Consumption Model (FCM) 2.0, which consists of three main components: Hardware, Right to Use (RTU), and System-Level Software Innovation Access (SIA). For more details about FCM 2.0, please refer to the FCM 2.0 data sheet.

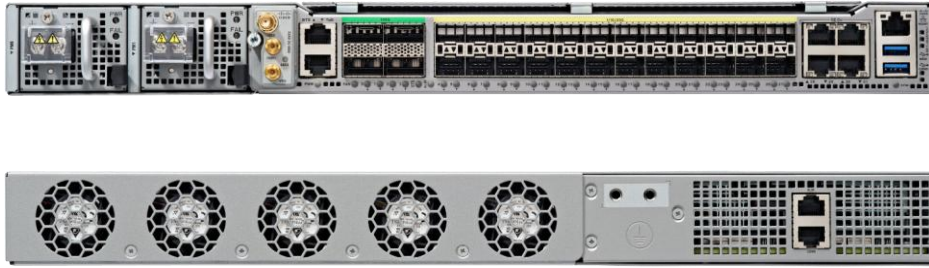
In line with our sustainability goals, these devices feature Gold-level efficient power supply units for improved power utilization and use minimal plastic labels and parts, helping to reduce your carbon footprint.

## Key product highlights

- 1 Rack-Unit (1RU) fixed form factor
- Versatile Ethernet interface options: 1/10/25G and 40/100G
- G.8273.2 Class C Timing compliant
- Modular GNSS with Primary Reference Time Clock Class B (PRTC-B) for better performance
- Suitable for indoor or outdoor (sealed IP65/IP66 cabinet with heat exchanger conforming to GR487 specs with sufficient cooling) cabinets
- MACsec and IPsec support for secure data communication<sup>1</sup>
- Fully compliant with the MEF 3.0 standard for wireline networks<sup>2</sup>
- Rich packet Ethernet Operations, Administration, and Management (OAM) capabilities, including Y.1564 SADT
- Power-optimized router with advanced algorithms for reduced Operating Expenses (OpEx)
- Based on Cisco IOS XR Flexible Consumption Model (FCM) 2.0

<sup>1</sup> Feature available post FCS.

<sup>2</sup> Certification post FCS.



**Figure 1.**  
Cisco 8010 Series Large Density Routers

## Key attributes

**Table 1.** Key attributes of the 8011-4G24Y4H-I model

Chassis product ID	8011-4G24Y4H-I
<b>CPU</b>	4 cores 2.2GHz
<b>Memory</b>	16GB DRAM
<b>Storage</b>	32GB eMMC
<b>Interfaces</b>	4 ports 40/100G QSFP28 24 ports 1/10/25G SFP28 4 ports 10/100/1000M RJ-45
<b>Performance</b>	1004 Gbps
<b>Power supplies</b>	Modular redundant (AC/DC)
<b>Fans</b>	Fixed fans with redundancy
<b>Airflow</b>	Front to back
<b>Operating temperature range</b>	I-Temp -40° to +65° C (-40° to +149° F) at 305 m (1000 ft) -40° to +60° C (-40 to +140° F) at 1829 m (6000 ft) -40° to +53° C (-40 to +127° F) at 3960 m (13,000 ft)
<b>Nonoperating (storage) temperature</b>	-40° to +70° C (-40° to +158° F)
<b>Operating humidity range</b>	5% to 95% RH, noncondensing
<b>Storage (relative) humidity</b>	5% to 95% at 40° C (104° F) per NEBS GR-63-Core
<b>Altitude</b>	Up to 3960 meters (13,000 feet)
<b>Power</b>	Worldwide ranging AC (90 to 264V; 50 to 60 Hz) Worldwide ranging DC (-40V to -72V)

<b>Chassis product ID</b>	<b>8011-4G24Y4H-I</b>
<b>Surge rating*</b>	DC: 2kV CM, 1kV DM AC: 2kV CM, 2kV DM
<b>Timing ports</b>	Time of Day (ToD) and Building Integrated Timing Supply (BITS) 8000-TIC: 1 PPS, 10 MHz 8000-TIC-GNSS (internal GNSS PRTC-B module): 1 PPS, 10 MHz, ANT
<b>Physical specifications</b>	Height: 43.6 mm (1.72 in.) Width: 439.4 mm (17.3 in.) Depth: 260 mm (10.24 in.) Weight: 4.5 kg (no PSU)
<b>Mounting options</b>	19 in. (48 cm), 23 in. (58 cm), ETSI
<b>Management interfaces</b>	USB console port USB memory port RS-232 console port 10/100/1000M RJ-45 Ethernet out-of-band management port

\* Requires external surge protection devices for installations where higher surge levels are expected. Failure to do so might lead to permanent damage.

## Key software feature support

**Table 2.** Key software feature support

<b>Specification</b>	<b>Description</b>
<b>Layer 3</b>	IPv4 and IPv6 unicast routing Virtual Routing and Forwarding (VRF) Open Shortest Path First (OSPF) v2, v3 Intermediate System to Intermediate System (IS-IS) for IPv4 and IPv6 Equal-Cost Multipath (ECMP) Virtual Router Redundancy Protocol (VRRP) Hot Standby Router Protocol (HSRP) Generic Routing Encapsulation (GRE) Policy-Based Routing (PBR) ACL-based Forwarding (ABF) L3 Virtual Private Network (L3VPN)

Specification	Description
<b>Layer 2</b>	Ethernet Flow Point (EFP) Bridge Domains Virtual Private Wire Service (VPWS) Virtual Private LAN Service (VPLS) Ethernet VPN (EVPN) Ethernet VPN Virtual Private Wire Service (EVPN-VPWS)
<b>Integrated Routing and Bridging (IRB)</b>	Bridge Virtual Interfaces (BVI) Ethernet VPN IRB (EVPN-IRB)
<b>MPLS</b>	Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) MPLS Traffic Engineering (MPLS-TE) with RSVP-TE
<b>Segment Routing (SR)</b>	Segment Routing with MPLS data plane (SR-MPLS) Segment Routing with IPv6 data plane (SRv6) Segment Routing Traffic Engineering (SR-TE) Segment Routing Path Computation Element (SR-PCE) Topology-Independent Loop-Free Alternate (TI-LFA) Segment Routing On-Demand Next-Hop (SR-ODN) Segment Routing Performance Management (SR-PM) Segment Routing v6 Performance Management (SRv6-PM) Segment Routing Data Plane Monitoring (SR-DPM) Tree-SID
<b>Multicast</b>	IPv4 and IPv6 multicast routing Protocol Independent Multicast – Sparse Mode (PIM-SM) PIM – Source Specific Multicast (PIM-SSM) Internet Group Management Protocol (IGMP) v3 Multicast Listener Discovery (MLD) v2 Multicast Label Distribution Protocol (mLDP) MPLS Point-to-Multipoint Traffic Engineering (MPLS P2MP-TE) Next Generation multicast VPN (NG mVPN)
<b>Quality of Service (QoS)</b>	Virtual Output Queueing (VOQ) with deep packet buffering Class-based 3-level hierarchical QoS Policing, shaping, remarking Multilevel priority queueing Random Early Detection (RED), Weighted RED (WRED) Dual Queue Limit (DQL)

Specification	Description
<b>Timing</b>	Enhanced Synchronous Ethernet (eSyncE) Enhanced Ethernet Synchronization Message Channel (eESMC) Internal PRTC-B GNSS receiver (optional HW module) External GNSS receiver IEEE 1588-2008 Precision Time Protocol (PTP): T-GM, T-BC, Virtual Port, A-PTS G.8275.1, G.8275.2, G.8265.1, G.8273.2 Class C Network Time Protocol (NTP)
<b>Security</b>	MACsec and IPsec Control Plane Protection (CoPP) Management Plane Protection (MPP) Local Packet Transport Services (LPTS) Authentication, Authorization, and Accounting (AAA) Access Control Lists (ACL) for IPv4, IPv6, and L2 BGP FlowSpec Unicast Reverse Path Forwarding (uRPF) 802.1X
<b>OAM</b>	Link Layer Discovery Protocol (LLDP) Cisco Discovery Protocol (CDP) Internet Control Message Protocol (ICMP) Dynamic Host Configuration Protocol (DHCP), DHCP Relay Bidirectional Forwarding Detection (BFD) v4, v6 MPLS OAM Connectivity Fault Management (CFM) Y.1731 Delay Measurement (DM) Y.1731 Synthetic Loss Measurement (SLM) Two-Way Active Measurement Protocol (TWAMP, TWAMP Lite) IP SLA (Service-Level Agreement) NetFlow, sFlow, IPFIX 315 Switch Port Analyzer (SPAN, ERSPAN, SPAN to file) Dying Gasp

Specification	Description
<b>Manageability</b>	Command-Line Interface (CLI) SSH, Telnet, SCP, FTP, TFTP Simple Network Management Protocol (SNMP) Network Configuration Protocol (NETCONF) gRPC (Remote Procedure Calls) YANG models (OpenConfig, IETF) Model/event-Driven Telemetry (MDT) RPM-based software infrastructure Embedded Event Manager (EEM) Zero-Touch Provisioning (ZTP) Secure Zero-Touch Provisioning (sZTP)

**Note:** Some features are not supported at FCS.

## Supported transceiver modules

Please refer to the [Transceiver Module Group \(TMG\) Compatibility Matrix](#) for the transceivers supported by the 8010 Series.

## Regulatory standards compliance

**Table 3.** Regulatory standards compliance: Safety and EMC

Specification	Product: 8011-4G24Y4H-I
<b>Regulatory compliance</b>	Products comply with CE Markings according to directives 2014/30/EU and 2014/35/EU
<b>Network Equipment Building Standards (NEBS)</b>	Designed to meet GR-63-CORE, GR-1089-CORE, and GR-3108 Class-2
<b>ATIS TEER certification</b>	ATIS-0600015.03.2009
<b>Safety</b>	ANSI / UL 60950-1 CAN/CSA C22.2 No. 60950-1 ANSI / UL 62368-1 CAN/CSA C22.2 No. 62368-1 EN / IEC 62368-1



Specification	Product: 8011-4G24Y4H-I
<b>EMC standards (Emissions)</b>	47 CFR Part 15:2016 CISPR32:2012:Ed:1 CISPR32:2015:Ed:2 CNS 15936:2016 EN 55032:2012 EN 55032:2015 EN 61000-3-3:2013+A1:2019 EN IEC 61000-3-2:2019+A1:2020 EN300 386:2012:V1.6.1 EN300 386:2021:V2.1.23 ICES-003:2020:Iss:7 KS C 9610-3-2:2020 KS C 9610-3-3:2020 KS C 9832:2019 VCCI-CISPR 32:2016 1TR9:2016 EN50121-4:2016 EN50121-4:2016:A1:2019 IEC62236-4:2018:Ed:3.0 TEC 11016:2016_TEC/SD/DD/EMC-221/05/OCT16 EN 301 489-1:2019:V2.2.3 EN 301 489-19:2022:V:2.2.1
<b>EMC standards (Immunity)</b>	CISPR24:2010+A1:2015 CISPR35:2016:Ed:1 EN 55035:2017 EN IEC61000-6-1:2019 EN300 386:2012:V1.6.1 EN300 386:2021:V2.1.23 EN61000-6-1:2007 EN61000-6-2:2005 EN61000-6-2:2019 IEC61000-6-1:2016:Ed:3 IEC61000-6-2:2016:Ed:3 KS C 9835:2019 1TR9:2005 1TR9:2016 EN50121-4:2016 EN50121-4:2016:A1:2019

Specification	Product: 8011-4G24Y4H-I
	IEC62236-4:2018:Ed:3.0 TEC 11016:2016_TEC/SD/DD/EMC-221/05/OCT16 EN 301 489-1:2019:V2.2.3 EN 301 489-19:2022:V:2.2.1
<b>ETSI</b>	ETS/EN 300 119 Part 4 ETS/EN 300 019 – Storage: Class 1.2, Transportation: Class 2.3, In-Use/Operational: Class 3.2 ETS/EN 300 753
<b>RoHS</b>	The product is RoHS-6 compliant with exceptions for leaded-Ball Grid-Array (BGA) balls and lead press-fit connectors.

## Ordering information

**Table 4.** Ordering information

Router product ID	8011-4G24Y4H-I
<b>Description</b>	Cisco 8010 4x1G Cu, 24x1/10/25G SFP28, 4x100G QSFP28
<b>Power supply for AC variant</b>	PWR-400-AC
<b>Power supply for DC variant</b>	PWR-400-DC
<b>Timing card</b>	8000-TIC 8000-TIC-GNSS (optional)
<b>FCS software</b>	Cisco IOS XR 25.1.1

**Table 5.** Accessory kit for 8011-4G24Y4H-I

Accessories	Description
<b>CBL-BRKT-V1</b>	Cable Management Bracket for 8010 Series
<b>RCKMT-19-V1</b>	19-inch Rack Mounting Kit for 8010 Series
<b>RCKMT-ETSI-V1</b>	21-inch (ETSI) Rack Mounting Kit for 8010 Series
<b>RCKMT-23-V1</b>	23-inch Rack Mounting Kit for 8010 Series

**Table 6.** Ordering information for software licenses available on Cisco 8010 Series.

Product ID	Description
ESS-NGA-10G-RTU	Access Network SW&Autom Ess 1.0 Perp RTU (per 10G)
ADN-NGA-10G-RTU	Access Network SW&Autom Adn 1.0 Perp RTU (per 10G)
PRM-NGA-10G-RTU	Access Network SW&Autom Prm 1.0 Perp RTU (per 10G)
NGA-L-SIA-3	SIA per system for 3 years - Large
NGA-L-SIA-5	SIA per system for 5 years - Large

**Table 7.** Ordering information for power cables supported

Part number	Description
CAB-AC-SA	Power Cord - South Africa, 16/10A, 250V, 1830mm, -40C to +85C
CAB-AC-ARG	Power Cord - Argentina, 10A, 250V, 2500mm, -40C to +85C
CAB-AC-ISR	Power Cord - Israel, 16/10A, 250V, 2500mm, -40C to +85C
CAB-AC-TAI	Power Cord - Taiwan, 15/10A, 125V, 2500mm, -40C to +85C
CAB-AC-CHI	Power Cord - China, 10A, 250V, 2500mm, -40C to +85C
CAB-AC-KOR	Power Cord - Korea, 16/10A, 125V, 2500mm, -40C to +85C
CAB-AC-EUR	Power Cord - Europe, 16/10A, 250V, 2500mm, -40C to +85C
CAB-AC-ITL	Power Cord - Italy, 10A, 250V, 2500mm, -40C to +85C
CAB-AC-UK	Power Cord - UK, 13/10A, 250V, 2500mm, -40C to +85C
CAB-AC-AUS	Power Cord - Australia, 10A, 250V, 2500mm, -40C to +85C
CAB-AC-US	Power Cord - US, 15A, 125V, 2500mm, -40C to +85C
CAB-AC-BRA	Power Cord - Brazil, 10A, 250V, 2500mm, -40C to +85C
CAB-AC-IND	Power Cord - India, 16/10A, 250V, 2500mm, -40C to +85C
CAB-AC-SUI	Power Cord - Swiss, 10A, 250V, 2500mm, -40C to +85C

## Service and support

Cisco offers a wide range of services to help accelerate your success in deploying and optimizing the Cisco 8010 Series. These innovative [Cisco Customer Experience \(CX\)](#) offerings are delivered through a unique combination of people, processes, tools, and partners, and they are focused on helping you increase operating efficiency and improve your network operation. Cisco CX helps you resolve mission-critical problems with direct access at any time to Cisco network experts and award-winning resources. Spanning the entire network lifecycle, Cisco CX offerings help increase investment protection, optimize network operations, support migration operations, and strengthen your IT expertise.

## Warranty information

The Cisco 8010 Series Large Density Fixed Routers has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA).

## Product sustainability

Information about Cisco's Environmental, Social, and Governance (ESG) initiatives and performance is provided in Cisco's CSR and sustainability [reporting](#).

**Table 8.** Cisco environmental sustainability information

Sustainability Topic		Reference
General	Information on product-material-content laws and regulations	<a href="#">Materials</a>
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	<a href="#">WEEE Compliance</a>
	Information on product takeback and reuse program	<a href="#">Cisco Takeback and Reuse Program</a>
	Sustainability inquiries	Contact: <a href="mailto:csr_inquiries@cisco.com">csr_inquiries@cisco.com</a>
Material	Product packaging weight and materials	Contact: <a href="mailto:environment@cisco.com">environment@cisco.com</a>

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