

Arista

Arista DCS-7150S-64-CL-F

Datasheet



Product Overview

- The Arista 7150 Series sets the standard for ultra low latency, high performance data center switches in compact 1RU form factors.
- With deterministic latency from just 350ns, it is purpose-built for high-frequency trading, HPC clusters, and modern cloud-native data centers.
- The DCS-7150S-64-CL-F features 48 × 1/10GbE SFP+ ports, 4 × 10/40GbE QSFP+ uplinks, and delivers up to 1.28Tbps switching.
- Advanced monitoring tools, support for IEEE 1588 PTP, and flexible mirroring provide deep network visibility and fine-grained control.
- Zero Touch Provisioning, automation, and resilient control plane architecture simplify population in both small and large-scale deployments.
- For networks demanding always-on, ultra-low latency switching with scale, the 7150S-64-CL-F ensures reliable, future-proof performance.

Product Highlights

- **Ultra Low Latency Switching:** Deterministic latency as low as 350 nanoseconds optimizes performance for time-sensitive and high-speed environments.
- **Extensive Port Flexibility:** 48 × 1/10GbE SFP+ and 4 × 10/40GbE QSFP+ uplinks provide scalable connectivity for rapid expansion and diverse needs.
- **Advanced Network Control:** Features like CloudVision, LANZ Microburst Analysis, and IEEE 1588 PTP enable real-time insights and high-precision timing.
- **Resilient Design & Zero Touch Provisioning:** 1+1 redundant power, N+1 fans, and ZTP reduce downtime, simplify scaling, and streamline maintenance tasks.

Detailed Features



Arista DCS-7150S-64-CL-F

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Component	Specification
Downlink Ports	48 x 10G SFP+
Uplink Ports	4 x 40G QSFP+
Switching Capacity	1.28 Tbps
Forwarding Rate	960 Mpps
Power	1+1 AC redundant



Arista EOS Modular Architecture

Arista EOS uses a unique state-sharing architecture built on a standard Linux kernel. Each process runs in its own protected memory space, exchanging state through a high-speed in-memory database. This separation enables robust handling of errors, isolated process restarts, and supports self-healing, offering reliability for mission-critical network operations and seamless in-service-software updates.

Enhanced Network Automation

The platform natively supports advanced automation capabilities. Tools like Zero Touch Provisioning (ZTP) and VMTracer, integrated with the EOS multi-core x86 subsystem, reduce manual configuration and speed up provisioning. Users benefit from faster setup, simplified ongoing maintenance, and the agility to rapidly scale network resources in dynamic environments.

Integrated Advanced Monitoring

7150 Series switches provide granular visibility with real-time monitoring features such as sFlow, LANZ Microburst Analysis, and DANZ for advanced mirroring and tap aggregation. These functionalities empower administrators to swiftly detect microbursts, analyze traffic, and maintain optimal network performance even in highly volatile traffic conditions.

Resilient Multi-Core Processing

A multi-core x86 CPU paired with large DRAM and flash resources powers EOS, enabling the execution of user applications inside virtual machines on the switch. This allows for unprecedented on-box analytics, toolkit flexibility, and future expansion of monitoring or custom service modules without impacting critical control or data plane operations.

Independent State and Logic Separation

With strict decoupling of protocol logic and system state, Arista EOS minimizes software faults and allows for more predictable upgrades. This architecture paves the way for smooth and interruption-free network maintenance, reducing downtime and supporting continuous service delivery.

Comprehensive Linux Ecosystem Access

Operators get unrestricted access to Linux shell and toolsets, extending EOSs flexibility. This means familiar scripting, advanced diagnostics, and powerful native troubleshooting can be harnessed directly on production switches without the limitations found in closed systems.

Purpose-Built for Data Center & Cloud

The 7150S-64-CL-F design supports modern data center demands, from advanced multicast handling and ultra low latency NAT to high-precision timing with IEEE 1588 PTP. These capabilities are ideal for environments such as financial ECNs, hyperscale clouds, and scientific HPC clusters requiring consistent, deterministic performance.

Environmental and Regulatory Leadership

Models with SC control planes comply with updated ROHS directives. Energy-efficient design is further reflected in low typical power draw per port and support for 1+1 redundant, hot-swappable power supplies and N+1 fans enabling robust, sustainable, and safe deployments in regulated markets.

Technical Specifications

Product Specifications

Feature	Value
Network Ports	48 x 10 Gigabit Ethernet SFP+
Uplink Ports	4 x 40 Gigabit Ethernet QSFP+
Management Ports	1 x Gigabit Management, 1 x RS-232 Serial RJ45, 1 x USB
Product Family	7150S Series
High Precision Clock	Yes
CPU	Dual-Core x86
VLAN IDs	4096
Packet Buffer	9.5 MB
Airflow Direction	Front-to-Back



Feature	Value
Fan Module Options	4 x FAN-7000-F (N+1 redundant) Fan Modules included
Power Supplies Included	2 x PWR-460AC-F (1+1 redundant)
Switching Capacity	1.28 Tbps
Forwarding Rate	960 Mpps
MAC Address Table Size	64,000
DRAM	4 GB
Flash	2 GB
Part Number	DCS-7150S-64-CL-F
Minimum Number of Redundant Fans	N+1
Control Plane	Multi-core x86 CPU
Solid State Drive Option	Yes (*D models)

Product Comparison

Feature	Arista DCS-7150S-64-CL-F	Arista DCS-7050CX3-32S-R	Arista DCS-7280QR-C72M-F
Fixed Downlink Ports	48 x 10G SFP+	32 x 40G QSFP+	72 x 40G QSFP+
Uplink Ports	4 x 40G QSFP+	0	0
Switching Capacity	1.28 Tbps	6.4 Tbps	5.76 Tbps
Forwarding Rate	960 Mpps	4.8 Bpps	4.32 Bpps
Latency	350 ns	<800 ns	<800 ns
Redundant Power	1+1 Redundant	2 (1+1 redundant)	2 (1+1 redundant)
Fan Redundancy	N+1	N+1	N+1
Management Port	1 x RJ-45, USB, Serial	1 x RJ-45, USB, Serial	1 x RJ-45, USB, Serial
Layer 3 Support	Yes	Yes	Yes
Ideal Application	Ultra-low latency, financial/HPC	High bandwidth aggregation	Large scale DC/core aggregation



Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- Power Cords- Rack Mount Kit- Console Cable
Optional Accessories	<ul style="list-style-type: none">- SFP+ Transceivers- QSFP+ Modules- Additional Fan Units



Support & Warranty



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Service



3-Year Premium
Warranty



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References

[1] Arista Networks. (2023). 7150S Series Datasheet. Retrieved from https://www.arista.com/assets/data/pdf/Datasheets/7150S_Datasheet.pdf