

# Core Switch

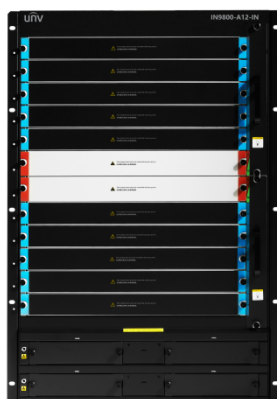
## IN9800-A12-IN

### Overview

With the wide application of new technologies such as cloud computing and Web2.0, the network data transmission capacity has grown exponentially. According to Gilder's law, the bandwidth will double every six months in the next 25 years. Such rapidly growing data services will not only make the network architecture very complex, but also face enormous challenges such as network security, application experience, and continuous service availability.

IN9800 Series adopts the CLOS multi-level switching architecture, the control plane and the forwarding plane are physically separated, and the main control engine and the switch fabric board hardware is independent of each other. The product is designed based on the 100G platform, which meets the expansion requirements of high-density 40G and 100G interfaces, supports a variety of data center features, and realizes the deep integration of network and business, providing enterprises with a high-speed, intelligent and reliable next-generation network infrastructure platform.

IN9800 Series adopts a number of innovative cooling technologies such as dual air duct design, which can reduce equipment power consumption and environmental noise, and save energy and protect the environment. The redundant design of its key components provides multiple technologies such as uninterrupted restart, hot patching, ring network protection, and separation of data/control/monitoring planes to ensure 99.999% carrier-grade reliability.



### Features

- Strong service processing capabilities. It supports perfect Layer 2 and 3 multicast protocols such as PIM SM, PIM DM, PIM SSM, MLD, and IGMP Snooping, and meets the requirements of multi-terminal HD video surveillance and video conferencing access.
- Complete security control policies. IN9800 Series supports MAC address authentication, 802.1x authentication, and PORTAL authentication, and has a built-in authentication server. It supports dynamic or static binding of user identity elements such as user accounts, IPs, MACs, VLANs, and ports, and implements dynamic delivery of user policies.
- Virtualization features. Relying on the self-developed VSM technologies, IN9800 Series can transform multiple similar service modules into "resource pools" that can be flexibly scheduled, realize the "granularization" of service platform resources, and greatly

improve the resource utilization efficiency.

- Comprehensive IPV4/IPV6 dual stack. IN9800 Series hardware supports IPV4/IPV6 dual-stack and IPV6 over IPV4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and supports IPV6 Layer 3 line-speed forwarding, which can be used for pure IPV4 or IPV6 networks, as well as IPV4 to IPV6 coexistence networks.
- Carrier-grade high reliability. IN9800 Series supports technologies such as master control redundancy, fan redundancy, N+1 power supply, uninterrupted reboot, hot patching, and data/control/monitoring plane separation to ensure 99.999% carrier-class reliability. Fast fault detection technologies such as BFD and OAM provide a variety of device-level and network-level fault detection methods.
- Environment-friendly and energy-saving. IN9800 Series adopts a number of innovative heat dissipation technologies such as dual air duct design, and the heat dissipation efficiency is increased by 30%.

## Specifications

Model	IN9800-A12-IN
Hardware Specification	
MPU Slots	2*Half-width slot
SFU Slots	2
Module Slots	10
Switching capacity	9.6Tbps
Forwarding performance	5713.92Mpps
Fan Slots	2
Cooling Fans	12
Air Inlet and outlet direction	Left and right ventilation
Power Slots	4
Power Supply	110V AC to 240V AC, 50/60Hz
Max.Power	650W
Dimensions (W×D×H)	442x480x703mm, 16U
Operating Temperature	0°C to 45°C
Operating Humidity	5% to 95%, non-condensing
MTBF	>200000h
Weight	Empty Frame: ≤49.1kg Fully Loaded: ≤150kg
Software Specification	
Layer-2	VLAN, STP, RSTP, MSTP, QinQ, flexible QinQ, VLAN Mapping, full duplex traffic control, back pressure traffic control, link aggregation (support 128 aggregation groups, with each group consisting of 8 members), cross-board link aggregation, cross-board port/flow mirroring, port broadcast/multicast/unknown unicast forwarding storm suppression, Jumbo Frame, VLAN division based on port/protocol/subnet and MAC, PVLAN, GVRP, CoS priority, etc.
Layer-3	IPv4: Static routing, RIP v1/2, OSPF, ISIS, BGP, policy-go-together, etc. IPv6: IPv6 static routing, RIPng, OSPFv3, ISISv6, BGP4+, transition tunnel technology from IPv4 to IPv6, etc.
Data Center	Support 802.1Qbg and DCB Support mainstream Overlay standards such as VXLAN Support Openflow1.3 protocol

Virtualization	<p>Support VSM (Virtual Switching Matrix) N:1 virtualization technology, which performs virtualization of multiple L2 ~ 7 physical devices into a single L2 ~7 logical device.</p> <p>Support service chain technology, which defines business streams based on L2-7 protocol features, and allows on-demand assignment of physical/logical service modules for traffic passage.</p> <p>Support IP-based unified management between the host and service modules and unified configuration interface</p>
Reliability	<p>Support master control board 1+1 redundancy</p> <p>Support power N+1 redundancy</p> <p>Passive backplane design; all boards support hot-plug</p> <p>Support online status monitoring protocol to perform detection of key components including master control engine, backplane, chip and storage</p>
Multicast	Support IGMPv1/v2/v3, IGMPv1/v2/v3 Snooping, PIM-SM/PIM-DM/PIM-SSM
ACL	Support ACL rules including source IP, source port, destination IP, destination port, protocol number, physical port
Maintenance	<p>Support FTP, TFTP, X-modem</p> <p>Support Web management port, SNMP v1/v2/v3</p> <p>Support RMON, NTP clock, intelligent power management</p>

## Selection Info

FB-IN9800-MPU-A12-IN	UNV,FB-IN9800-MPU-A12-IN,A12 Main Control Module
FB-IN9800-SFU-A12-IN	UNV,FB-IN9800-SFU-A12-IN,A12 Switch Fabric Unit
FB-IN9800-48GT-IN	UNV,FB-IN9800-48GT-IN,48 Gigabit Power Ethernet Interface Module
FB-IN9800-48GP-IN	UNV,FB-IN9800-48GP-IN,48 Gigabit Optical Ethernet Interface Module
B-IN9800-8XP-IN	UNV,FB-IN9800-8XP-IN,8 10Gigabit Optical Ethernet Interface Module
FB-IN9800-24XP-IN	UNV,FB-IN9800-24XP-IN,Ethernet Interface Module(24SFP+)
FB-IN9800-48XP-IN	UNV,FB-IN9800-48XP-IN,48 10 Gigabit Optical Ethernet Interface Module
FB-IN9800-24GT20GP4XP-IN	UNV,FB-IN9800-24GT20GP4XP-IN,24 Gigabit Power 20 Gigabit Optical 4 10 Gigabit Optical Ethernet Interface Module
FB-IN9800-6QP-IN	UNV,FB-IN9800-6QP-IN,Ethernet Interface Module(6 QSFP+)
PWR-IN9800-AC650-A12-IN	UNV,PWR-IN9800-AC650-A12-IN,Alternating A12 Power Adapter

## Ordering Info

Product Model	Description
IN9800-A12-IN	IN9800 A12 Intelligent Switch Gateway

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