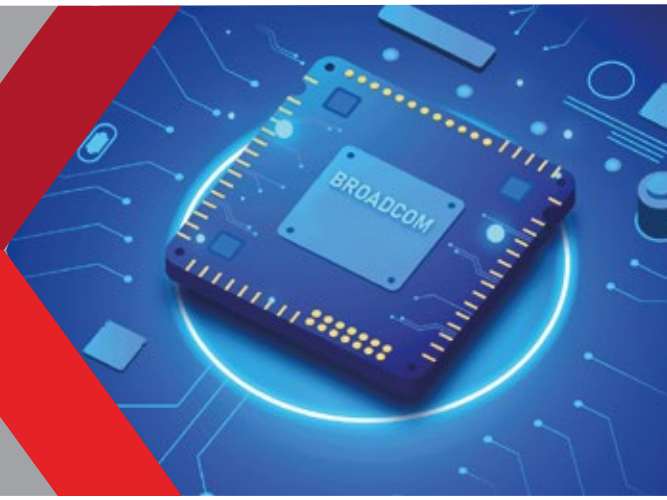
Datasheet

NODEXON®
redefining networks

Access Switch
NX-3510 Series



OVERVIEW

The Nodexon NX-3510 Series is a family of next-generation multiservice switches that deliver exceptional performance and security. The switches include an industry-leading hardware design as well as Nodexon's newest NXOS11.X modular operating system, resulting in increased table capacity, higher hardware processing speed, and simplified user operation.

Nodexon's NX-3510 Series is an advance Gigabit switch created for generating high performance, advance security. It delivers Non-blocking wire-speed and outstanding energy efficiency. NX-3510 Series deliver 4 1G/10GBASE-X SFP+ ports (non-combo) and full Gigabit access and unparalleled scalability to 10G performance.
Nodexon's latest modular operating system, the NX-3510 Series switches offer larger table capacity, faster hardware processing performance and a better operation experience than anything previous.

FEATURES HIGHLIGHTS

- Dynamic Network Protection (CPP and NFPP Technologies)
- Network Virtualization (VSU) Support
- SDN (OpenFlow v1.3) Ready
- Layer 3 Routing Support (RIP, OSPF)
- Advanced Resiliency Features
- Support: ERPS (G.8032), VRRP, REUP
- Anti-Corrosion Coating Protection Against Moisture Environment
- Lightning Protection (Up to 6KV)
- USB Ports For Device Upgrades

NX-3510-52GE

NX-3510-28GE

Datasheet

NODEX•ON
redefining networks

Access Switch
NX-3510 Series

PRODUCT FEATURES

Comprehensive Security Policies

With different inbuilt methods like as anti-DoS assaults, hacker IP scanning, unlawful ARP packets checking, and several hardware ACL regulations, the NX-3510 Series efficiently protects and controls virus propagation and hacker assaults.

› **The CPU Protect Policy:** (CPP) is a leading CPU protection system that offers policies for protecting a switch's CPU. Various attack packets proliferate in network settings, causing excessive CPU consumption on switches, protocol issues, and problems in switch control. The CPU Protect Policy (CPP) is an industry-leading CPU protection system that offers policies for protecting a switch's CPU. Various attack packets proliferate in network settings, causing excessive CPU consumption on switches, protocol issues, and even problems in switch control.

1. CPP can successfully protect the network from malicious assaults while also providing a secure environment for genuine protocol packets.
2. By default, CPP is turned on. It protects switches during their full functioning.

› **IP/MAC binding**: Implement flexible binding of a port or the system to users' IP and MAC addresses, restricting user access to a port or the system as a whole.

› **DHCP snooping**: Allow only trusted ports to respond to DHCP; based on DHCP listening and dynamically monitoring ARP and validating the user IP address, immediately discard unlawful packets inconsistent with binding entries to effectively prevent ARP and source IP address frauds.

› **Secure Shell and SNMPv3**: The cryptographic network protocols Secure Shell (SSH) and Simple Network Management Protocol v3 (SNMPv3) assure the security of management data. To prohibit unwanted users, it offers features such as multi-element binding, port security, time-based ACL, and bandwidth rate limitation.

Network Foundation Protection Policy: Switch guards are provided by NFPP. In the network environment, malicious assaults are constantly there. Causing significant CPU utilization and operational issues. The following are the attacks:

1. Denial of Service (DoS) assaults can deplete a switch's memory, entries, or other resources, resulting in the discontinuation of system services.
2. Massive assault traffic is sent at the CPU, using all of the CPU's bandwidth. In this instance, the CPU is unable to handle typical protocol and management traffic, resulting in protocol flapping or management failure. The data plane forwarding will be impacted as well, and the entire network will become irregular. NFPP can successfully defend the system against these types of assaults. Facing attacks, it maintains the proper running of various system services with a low CPU load, thereby ensuring the stability of the entire network..

Datasheet

NODEXON
redefining networks

Access Switch
NX-3510 Series

Virtual Switch Unit (VSU)

The Virtual Switch Unit technology, or VSU for short, allows many physical devices to be connected by virtualizing them into a single logical unit. The logical device has a single IP address, uses the Telnet protocol, has a command-line interface (CLI), and can do automatic version checking and setup. Multiplied work productivity and improved user experience of several devices functioning at the same time are the benefits from the user's perspective. They also just have to deal with one gadget. The VSU technology also has the following advantages:

- Easy management
- Simplified typology
- 50 to 200 Millisecond Failover

High Reliability

The NX-3510 Series supports the spanning tree protocols 802.1d, 802.1w, and 802.1s to ensure faster convergence, increase fault tolerance, maintain network stability, load balance links, and offer redundant connections.

- Virtual Router Redundant Protocol (VRRP): Effectively ensure network stability.
- Rapid Link Detection Protocol (RLDP): Detects link connectivity and if an optical fiber link is normal on both ends, and enables the loop detection function based on the port to prevent network problems caused by loops created by devices such as hubs connecting to ports.
- On the master device, Ethernet Ring Protection Switching (ERPS) (G.8032) implements loop blocking and link recovery. The master device receives direct connection status reports from other devices. The failover time of loop interruption and recovery is thus faster than STP since it does not travel via additional standby devices. Under optimal conditions, the ERSP's connection failover rate can be accomplished in milliseconds.
- When Spanning Tree Protocol (STP) is deactivated, the Rapid Ethernet Uplink Protection Protocol (REUP) can offer basic link redundancy through the rapid uplink protection function, as well as quicker subsecond-level failure recovery than STP.

Energy Efficiency

The NX-3510 Series has next-generation hardware architecture, as well as a circuit design and component selection that is extremely energy efficient. The gadget reduces energy usage significantly. The NX-3510 Series not only maximizes energy savings, but it also greatly reduces noise pollution. Variable-speed axial fans are used in all models in the series, with adaptive speed modification dependent on the current ambient temperature. All of these qualities allow the switches to operate smoothly while also reducing power consumption and noise pollution. Auto-powerdown mode is also available on the NX-3510 Series. When an interface is not used for a particular amount of time, the system will turn it off automatically to save energy. Another notable feature is the EEE energy-saving mode. An idle port will be automatically switched to energy-saving mode by the system. The system will issue listening streams to the port to resume service when a new packet arrives.

Datasheet

NODEXON
redefining networks

Access Switch
NX-3510 Series

Design for Durability

Electronic products will corrode faster in corrosive gas, high humidity environments, and their reliability and lifetime will be shortened. However, deployment environments for access switches are different, as there may be a lack of temperature and humidity regulation, as well as proximity to pollution sources or the sea. The NX-3510 series switches are designed for endurance and can work reliably in a range of deployment settings.

› Conformal coating is a specific formula coating that is applied to the surface of a PCBA board and cured into a layer of roughly 100um thick clear protective film. Conformal coating has good insulation, moisture, dust, anti-corrosion, anti-mildew, and anti-salt spray properties.

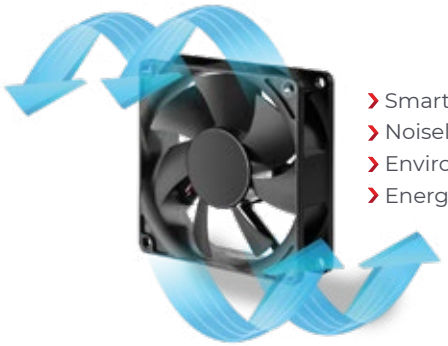
› Fanless design: If the air flow on the surface of an electronic device is too fast, the equipment will experience more gas corrosion and have a shorter service life. Fanless design is the most effective anti-corrosion technique for low-power goods. To decrease corrosive gases and dust infiltration, the NX-3510 has a fanless design.

Software-Defined Networking (SDN)

The NX-3510 Series fully supports OpenFlow 1.3, thanks to its all-new hardware design and Nodexon's newest NXOS11.X modular operating system. When combined with Nodexon's SDN controller, it easily constructs a large-scale Layer 2 networking infrastructure. It is also possible to update the entire network to an SDN network without difficulty. As a result, the switch series conviniently simplifies the network operations and reduces the network setup costs.

Network Maintenance

For diagnostics and maintenance, the series provides features such as SNMP V1/V2/V3, RMON, Syslog, and logs, as well as configuration backup via USB. CLI, online management, Telnet, CWMP(TR069), and more techniques to administrators for simpler management. Offering functions, including network topology display, administration, performance monitoring, configuration & software management, real-time alert, and log & report management, all through a user-friendly interface.



› Smart Speed Adjustment
› Noiseless Fan
› Environmental Friendly
› Energy Saving

Datasheet

NODEXON®
redefining networks

Access Switch
NX-3510 Series

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	NX-3510-28GE	NX-3510-52GE
Ports	24 10/100/1000BASE-T ports 4 1G SFP ports (non-combo)	48 10/100/1000BASE-T ports 4 1G SFP ports (non-combo)
Fans	Fanless	
Management Ports	1 Console Port	
Switching Capacity	Up to 256Gbps	
Packet Forwarding Rate	Up to 96Mpps	Up to 132Mpps
PoE	IEEE 802.3af, IEEE 802.3at and IEEE 802.3bt	
Port Buffer	1.5 MB	
ARP Table	1,000	
MAC Address	16K	
Routing Entries	500	
IP Host Entries (IPv4/IPv6)	500 (IPv4/IPv6)	
ACL	Standard/Extended/Expert ACL, Extended MAC ACL, ACL 80, IPv6 ACL, ACL logging, ACL counter, ACL remark, Global ACL, ACL redirect	
ACL Entries	Up to 1,500	
QoS	802.1p/DSCP/TOS traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WFQ, SP+WRR, SP+DRR; Input port-based speed limit; Port-based traffic recognition; Each port supports 8 queue priorities	
VLAN	4K 802.1q VLANs, Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, Private VLAN, Voice VLAN, QinQ, IP subnet-based VLAN, GVRP	
QinQ	Basic QinQ, Flexible QinQ, 1:1 VLAN switching	
Port Mirroring	Many-to-one mirroring, One-to-Many mirroring, Flow-based mirroring, Over devices mirroring, VLAN-based mirroring, VLAN-filtering mirroring, AP-port mirroring, RSPAN, ERSPAN	
DHCP	DHCP server, DHCP client, DHCP snooping, DHCP relay, IPv6 DHCP snooping, IPv6 DHCP client, IPv6 DHCP relay	
Spanning Tree Protocols	IEEE802.1d STP, IEEE802.1w RSTP, Standard 802.1s MSTP, Port fast, BPDU filter, BPDU guard, TC guard, TC filter, TC protection, LOOP guard, ROOT guard	
MSTP Instances	64	
Link Aggregation	AP, LACP, Flow balance	
Maximum Aggregation Port (AP)	Up to 128	

Datasheet

NODEXON
redefining networks

Access Switch
NX-3510 Series

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	NX-3510-28GE	NX-3510-52GE
Multicast	IGMP v1/v2/v3 snooping, IGMP SGVL/IVGL, IGMP filter, IGMP fast leave, MLD snooping v1/v2	
EEE Format	Support IEEE 802.3az standard	
G.8032	Support	
L2 Features	MAC, EEE, ARP, VLAN, Basic QinQ, Felix QinQ, Link aggregation, Mirroring, STP, RSTP, MSTP, Broadcast storm control, IGMP v1/v2/v3 snooping, IGMP SGVL/IVGL, IGMP filter, IGMP fast leave, DHCP, Jumbo frame, RLDP, LLDP, LLDP-MED, REUP, G.8032 ERPS, Layer 2 protocol tunnel	
Layer 2 Protocols	IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3x, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s	
Layer 3 Features	IPv4 static routing, IPv6 static routing, RIP, RIPng, OSPFv2/v3, ARP proxy, Neighbor Discovery, VRRP	
Basic IPv6 Protocols	IPv6 addressing, Neighbor Discovery (ND), IPv6 ACL, ICMPv6, IPv6 Ping, IPv6 Tracert	
Layer 3 Protocols (IPv4)	Static routing, RIP, RIPng, OSPFv2/v3	
Pv4 Features	Ping, Traceroute	
IPv6 Routing Protocols	Static routing, RIPng, OSPFv3	
IPv6 Features	0-64 any length mask, ICMPv6, Neighbor Discovery, Manually configure local address, Automatically create local address, IPv6 Ping, IPv6 Tracert, IPv6 extender option head, VRRP v3	
Basic IPv6 Protocols	IPv6 addressing, Neighbor Discovery (ND), IPv6 ACL, ICMPv6, IPv6 Ping, IPv6 Tracert	
IPv6 Routing Protocols	Static routing, RIPng, OSPFv3	
VSU (Virtual Switch Unit)	Support (up to 9 stack members, to ensure the effectiveness of the use, 4 members are recommended)	
Security	Binding of the IP address, MAC address, and port address; Binding of the IPv6, MAC address, and port address; Filter illegal MAC addresses; Port-based and MAC-based 802.1x; MAB; Portal and Portal 2.0 authentication; ARP-check; DAI; Restriction on the rate of ARP packets; Gateway anti-ARP spoofing; Broadcast suppression; Hierarchical management by administrators and password protection; RADIUS and TACACS+; AAA security authentication (IPv4/IPv6) in device login management; SSH and SSH V2.0; BPDU guard; IP source guard; CPP, NFPP; Port protection	
Reliability	RAS VSU (virtualization technology for virtualizing multiple devices into 1); GR for RIP/OSPF; ERPS (G.8032); REUP dual-link fast switching technology; RLDP (Rapid Link Detection Protocol)	
Manageability	SNMPv1/v2c/v3, CLI (Telnet/Console), RMON (1, 2, 3, 9), SSH, Syslog/Debug, RSPAN/ERSPAN, NTP/SNTP, FTP, TFTP, Web, SFLOW, support cable detection and port sleep mode	
SDN	OpenFlow 1.0, future support OpenFlow 1.3	
Zero Configuration	CWMP(TR069)	
Smart Temperature Control	Fanless	Auto fan speed adjustment; Fan malfunction alerts; Fan status check

Datasheet

NODEXON
redefining networks

Access Switch
NX-3510 Series

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	NX-3510-28GE	NX-3510-52GE
Weight	≤3.5kg	≤4kg
Power Consumption	≤24W	≤40W
Dimensions (W x D x H) (mm)	440 × 260 × 43.6	
Rack HeighT	1ru	
MTBF	>200K hours	
Power Supply	AC input: Rated voltage range: 100V to 240V AC Maximum voltage range: 90V to 264V AC Frequency: 50 to 60Hz HVDC input: Input voltage range: 192V to 290V DC	
Lightning Protection	6KV	
Temperature	Operating temperature: 0°C to 50°C, Storage temperature: -40°C to 70°C	
Humidity	Operating humidity: 10% to 90%RH, Storage humidity: 5% to 95%RH	
Operating Altitude	500m to 5,000m	
Safety Standards	IEC 60950-1,EN60950-1	
Emission Standards	EN 300 386, EN 55032, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11	

USA
Tel +1-877-6774040
info@nodexon.com
70 East Sunrise Highway Valley Stream,
NY 11581, New York

EUROPE
Tel +44-20-37695558
uk@nodexon.com
4th Floor, 18 St. Cross Street,
London, EC1N 8UN

MIDDLE EAST
Tel +971 4 556 1557
mena@nodexon.com
Boulevard Plaza Tower One, Level 3,
Downtown Dubai, United Arab Emirates