



ENTERPRISE SWITCHES

AGGREGATION

DATA SHEET



With Redundant Power Supply

QN-SW-316 SERIES

PRODUCT OVERVIEW

- QN-SW-316 Switch Series provides robust Layer 2 switching and Layer 3 routing features to meet the diverse needs of enterprise/campus networks.
- On-device management ports include a dedicated console port, an Out of Band management port, and a USB flash drive port for storage.
- Centralized device management options –Cloud hosted Quantum Rudder Network and Services Controller (NSC), On premises Rudder NSC, Device GUI/CLI, SNMP.
- Port density of 24/48 Gigabit ports and 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports with non-blocking switching capabilities.
- PoE budget options to power advanced devices with the option of PoE /PoE+ per port.
- Three-year limited liability manufacturer’s warranty from day one.

HIGHLIGHTS

- **Simplified Network Management.**
 Unified management stacks (Rudder Network and Service Controller) to deploy, monitor, and troubleshoot wired as well as wireless networks.
- **Centralized Network observability.**
 Dashboards and reporting logs for various network events.
- **Reliable Performance.**
 Delivers Stability, Scalability, and Effortless handling of diverse workloads.
 - The switch supports a non-blocking architecture that provides 216 Gbps of wire-speed switching capacity and 161 Mpps of forwarding capacity, allowing it to handle a wide range of workloads.
 - For better network security, the switch supports multiple authentication methods, including 802.1x and MAC authentication. The switch provides identity-driven security and controls via granular Access Control Lists (ACLs).

KEY SPECIFICATION

QN-SW-316-Series

Communication Ports		Specifications				
Model	10/100/1000 Mbps RJ45 Downlinks	10G Fiber Uplinks	10G Fiber Dedicated Stacking Uplinks*1	PoE Budget (Watt)*2	Max PoE (802.3af)	Max PoE+ (802.3at)
QN-SW-316-48FP	48	4 + 2*1	2	1480 Watt	48	48
QN-SW-316-48	48	4 + 2*1	2	---	---	---
QN-SW-316-24FP	24	4 + 2*1	2	740 Watt	24	24
QN-SW-316-24	24	4 + 2*1	2	---	---	---
Management Ports	48 Ports			24 Ports		
Console (RJ45)	1			1		
Management (OOB)	1			1		
Storage (USB Type A)	1			1		
Capacity	48 Ports			24 Ports		
Switching capacity	216 Gbps			168 Gbps		
Forwarding rate	161 Mpps			125 Mpps		
MAC address table	Max 32K			Max 32K		
Active VLANs support	4096			4096		
Maximum jumbo frame size	9,216 bytes			9,216 bytes		
Link aggregation groups	Max 32			Max 32		
Link aggregation ports per group	Max 8			Max 8		
QoS priority queues	8 per port			8 per port		
Quality of Service						
DiffServ (Differentiated services)		Two Rate Three Color Marker (trTCM)				
Priority queue		Strict priority support				
ACL mapping to priority queue		Traffic shaping/policing				
Flow mirror, 802.1p Support		WRR support				
Flow redirection		SP+WRR				
Single Rate Three Color Marker (srTCM)		Rate limiting (Based on per port and per queue)				
QoS based on classification (Based on IP, MAC and VLAN)						
Class map defines traffic flow with ACLs or support for network traffic management						
Policy map & route MAP to define the action for a set of classified inbound traffic						
Security						
RADIUS, TACACS+		MACsec				
Port security		Downloadable ACL				
DHCP Snooping		Dynamic ACL				

*1 Dedicated stacking ports can be configured as uplink ports.

*2 The PoE power budget will be -30 or +30 watts, depending on the current power budget.

AAA (Authentication, Authorization, and Accounting)	Role based access control
ACL (Based On IP, Port, Protocol, MAC, Time Based)	802.1x authentication (Port Based, MAC Based, Web Based)
IP source guard	Management ACL
Protected port	DoS prevention
ARP inspection (DAI & SAI)	Secure copy (SCP)
Kerberos, SSL	
Multicast	
Internet Group Management Protocol -IGMP v1/v2/v3	Multicast Listener Discovery- MLD v1/V2
IGMP snooping	MLD snooping
PIM-SM/SSM	Multicast TV VLAN
PIM-SMv6	MVR (Multicast VLAN registration)
Layer 3	
IPv4 and IPv6 dual stack	IPv6 prefix list
Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)	IP source guard
Policy Based Routing (PBR)	DHCP server
ARP, Gratuitous ARP	DHCP relay
DHCP Client	IPv6 NDRA (Neighbor Discovery Router Advertisement)
ICMP redirect & ICMP unreachable	Duplicate Address Detection (DAD)
IPv6 SLAAC (Stateless Address Auto configuration)	IPv6 ND
ARP-Proxy	DHCP Option 82, 66, 67
Layer 3 Routing	
Static routing (IPv4, IPv6)	Inter-VLAN routing
Routing Information Protocol, version 2 (RIPv2)	OSPFv2/v3 (Open Shortest Path First)
Layer 2	
Port Tagging/untagged	BPDU guard
MAC based VLANs	GVRP
Private VLAN	LLDP/LLDP MED
Subnet based VLAN	RADIUS assigned VLAN
Auto MDI/MDIX	Link aggregation (Ether Channel)
Loopback detection	Link Aggregation Control Protocol (LACP)
Port isolation	Port mirroring (Port, ACL, VLAN Based)
Root guard	Default VLAN
Guest VLAN	Auto voice VLAN
Energy Efficient Ethernet (EEE)	Green Ethernet
Link flapping detection	Flow control
STP/RSTP/MSTP	Native VLAN
QinQ (802.1Q)	Loop guard

High Availability	
Stacking (Up-to 8 members)	Ring Redundancy Protocol (RRP)
Equal-Cost Multi Path (ECMP)	Virtual Router Redundancy Protocol (VRRP)
Storm control (Broadcast, Multicast, Unicast)	
Management	
Local GUI	Management: RUDDER (Controller)/Standalone
Industrial standard CLI	SPAN/RSPAN
Telnet support	SSHv1/v2
Storage & File management with USB	Firmware auto-install support
TFTP support	Syslog server
SNMP v1/v2c/v3	RMON (All 4 Groups 1,2,3,9)
SNTP	sFlow
Manual/schedule reboot	
Standard Compliance	
IEEE Standards Compliance	
802.1AB LLDP/ LLDP-MED	802.3ae 10 gigabit Ethernet
802.1D MAC bridging	802.3at Power over Ethernet Plus
802.1p Mapping to priority queue	802.3u 100Base-TX
802.1s Multiple Spanning Tree (MST)	802.3x flow control
802.1w Rapid Reconfiguration of Spanning Tree (RSTP)	802.3z 1000Base-SX/LX
802.1x Port-based Network Access Control (PNAC)	802.3 MAU MIB (RFC 2239)
802.3 Carrier Sense Multiple Access/Collision Detection (CSMA/CD)	802.1Q VLAN tagging
802.3ab 1000Base-T	802.3az Energy Efficient Ethernet
802.3 10Base-T	802.3af Power over Ethernet
802.3ad link aggregation (Dynamic and Static)	
Monitoring and Troubleshooting	
Errdisable detection and recovery	CPU Utilization
Device temp/PSU/FAN/status display & alarm	User operation logs
Virtual cable test	Management logs, alarms
ICMPv4/v6	DDM (Digital Diagnostic Monitoring)
Traceroute	UDLD (Unidirectional Link Detection)
Environment	
Operating temperature: -5°C (23°F) to 65°C (149°F)	
Humidity: 5% ~ 95% non-condensing	
Physical	
MTBF (Mean Time Between Failures)	1,00,000 hrs
Packaging Content	
Switch with type D power cord with rack mounting kit	

ORDERING INFORMATION

Part Number	Description
QN-SW-316-48FP	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 1480 Watts PoE budget & In-built redundant power supply, includes 3-years online activation warranty.
QN-SW-316-48	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, In-built redundant power supply, includes 3-year online activation warranty.
QN-SW-316-24FP	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 740 Watts PoE budget & In-built redundant power supply, includes 3-year online activation warranty.
QN-SW-316-24	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, In-built redundant power supply, includes 3-year online activation warranty.
High Resiliency Upgrade	
QN-SW-316-48FP: HSR	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 1900 Watts PoE budget & Hot-swappable power supply and fans, includes 3-year online activation warranty.
QN-SW-316-48FP: HSP	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 1900 Watts PoE budget & Hot-swappable power supply, includes 3-year online activation warranty.
QN-SW-316-48: HSR	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, Hot-Swapable power supply and fans, includes 3-year online activation warranty.
QN-SW-316-48: HSP	Networking HS Switch, 48×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, Hot-Swapable power supply, includes 3-year online activation warranty.
QN-SW-316-24FP: HSR	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 740 Watts PoE budget & Hot-swappable power supply and fans, includes 3-year online activation warranty.
QN-SW-316-24FP: HSP	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, 740 Watts PoE budget & Hot-swappable power supply, includes 3-year online activation warranty.
QN-SW-316-24: HSR	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, Hot-Swapable power supply and fans, includes 3-year online activation warranty.
QN-SW-316-24: HSP	Networking HS Switch, 24×10/100/1000Base-T ports with 4x10G fiber uplink ports, 2x10G dedicated stacking port/uplink ports, Hot-Swapable power supply, includes 3-year online activation warranty.