



ENTERPRISE SWITCHES

AGGREGATION

DATA SHEET



QN-SW-330

SERIES

PRODUCT OVERVIEW

- QN-SW-330 Switch Series provides robust Layer 2 switching and Layer 3 routing features to meet the diverse needs of enterprise/campus networks.
- 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 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port, non-blocking switching capabilities.
- The 24-port switches support 1 to 8 ports of PoE++, and the 48-port switches support 1 to 16 ports of PoE++.
- On-device management ports include a dedicated console port, an Out-of-Band management port and a USB flash drive port for storage.
- Provides advanced enterprise-class features such as a variety of VLAN types (Data, Private, Guest (802.1x) auto-voice VLAN, Multicast TV VLAN), OSPF v2/v3, ISATAP, VRRP, DHCP server, Storm control and DoS prevention.
- 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.
- **Reliable performance.**
Delivers Stability, Scalability and Effortless handling of diverse workloads.
 - The switch supports a non-blocking architecture that provides 348 Gbps to 396 Gbps of wire-speed switching capacity and 258.9 Mpps to 294.6 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).
- **Centralized network observability.**
Dashboards and reporting logs for various network events.

KEY SPECIFICATION

QN-SW-330-Series

FEATURE	SPECIFICATIONS				
Communication Ports	24P-HP	48-HP	24-HP	48-HPF	24-HPF
1 G RJ45 downlinks	24	48	24	48	24
25G SFP28 uplinks	4+2*	4+2*	4+2*	4+2*	4+2*
25G SFP28 dedicated stacking uplinks	2*	2*	2*	2*	2*
Full Power Budget (Watt)	400	-	-	-	-
Max PoE (802.3af)	24	-	-	-	-
Max PoE+ (802.3at)	12	-	-	-	-
PoE++ (802.3bt) (60W)	6	-	-	-	-
Max PoE++ (802.3bt) (90W)	4	-	-	-	-
RPS	(AC+AC) or (AC+DC)*				
Fans	Built-in	Built-in	Built-in	Hot-Swappable	Hot-Swappable
Management Ports					
Console (RJ45)	1	1	1	1	1
Management (OOB)	1	1	1	1	1
Storage (USB Type-A)	1	1	1	1	1
Capacity	24 Ports		48 Ports		
Switching capacity	348 Gbps		396 Gbps		
Forwarding rate	258.9 Mpps		294.6 Mpps		
MAC address table	32000 Max		32000 Max		
Packet buffer size	12 MB		12 MB		
Active VLANs support	4096		4096		
Maximum jumbo frame size	9,216 bytes		9,216 bytes		
Link aggregation groups	Max 8		Max 8		
Link aggregation ports per group	Max 8		Max 8		
QoS priority queues	8 per port		8 per port		
Quality of Service					
▪ DiffServ (Differentiated services)		▪ Strict priority support			
▪ Priority queue		▪ Traffic shaping/policing			
▪ ACL mapping to priority queue		▪ WRR support			
▪ Flow mirror, 802.1p Support		▪ SP+WRR			
▪ Flow redirection		▪ Rate limiting (Based on per port and per queue)			
▪ Single Rate Three Color Marker (srTCM)		▪ Class map defines traffic flow with ACLs or support for network traffic management			
▪ Two Rate Three Color Marker (trTCM)		▪ Policy map & route MAP to define the action for a set of classified inbound traffic			
▪ QoS based on classification (Based on IP, MAC and VLAN)					

*Dedicated stacking ports can be configured as uplink ports.

Security

- RADIUS, TACACS+
- Port security
- AAA (Authentication, Authorization and Accounting)
- ACL (Based On IP, Port, Protocol, MAC, Time Based)
- IP source guard
- Protected port
- ARP inspection
- MACSec
- Role-based access control
- 802.1x authentication (Port Based, MAC Based, Web Based)
- Management ACL
- DoS prevention
- Secure copy (SCP)
- Kerberos, SSL

Multicast

- Internet Group Management Protocol -IGMP v1/v2/v3
- IGMP snooping
- PIM-SM/SSM
- PIM-SMv6
- Multicast Listener Discovery- MLD v1/V2
- MLD snooping
- Multicast TV VLAN
- MVR (Multicast VLAN registration)

Layer 2

- Port Tagging/untagged
- MAC-based VLANs
- Private VLAN
- Subnet based VLAN
- Auto MDI/MDIX
- Loopback detection
- Port isolation
- Root guard
- Guest VLAN
- Energy Efficient Ethernet (EEE)
- Link flapping detection
- STP/RSTP/MSTP
- QinQ (802.1Q)
- BPDU guard
- GVRP
- LLDP/LLDP MED
- RADIUS assigned VLAN
- Link aggregation (Ether Channel)
- Link Aggregation Control Protocol (LACP)
- Port mirroring (Port, ACL, VLAN Based)
- Default VLAN
- Auto-voice VLAN
- Green Ethernet
- Flow control
- Native VLAN
- Loop guard

Layer 3

- IPv4 and IPv6 dual-stack
- Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)
- Policy-Based Routing (PBR)
- ARP table (Static / Dynamic learning)
- DHCP Client
- ICMP redirect & ICMP unreachable
- IPv6 SLAAC (Stateless Address Auto configuration)
- ARP-Proxy
- IPv6 prefix list
- IP source guard
- DHCP server
- DHCP relay
- IPv6 NDRA (Neighbor Discovery Router Advertisement)
- Duplicate Address Detection (DAD)
- IPv6 ND
- DHCP Option 82, 66, 67

Layer 3 Routing

- Static routing (IPv4, IPv6)
- Routing Information Protocol, version 2 (RIPv2)
- Border Gateway Protocol (BGP)
- Inter-VLAN routing
- OSPFv2/v3 (Open Shortest Path First)

High Availability

- Stacking (Up-to 8 members)
- Equal-Cost Multi Path (ECMP)
- Storm control (Broadcast, Multicast, Unicast)
- Ring Redundancy Protocol (RRP)
- Virtual Router Redundancy Protocol (VRRP)

Management

- Local GUI
- Industrial standard CLI
- Telnet support
- Storage & File management with USB
- TFTP support
- SNMP v1/v2c/v3
- SNTP
- Manual/schedule reboot
- Management: RUDDER (Controller)/Standalone
- SPAN/RSPAN
- SSHv1/v2
- Firmware auto-install support
- Syslog server
- RMON (All 4 Groups 1,2,3,9)
- sFlow

Standard Compliance

IEEE Standards Compliance

- 802.1AB LLDP/ LLDP-MED
- 802.1D MAC bridging
- 802.1p Mapping to priority queue
- 802.1s Multiple Spanning Tree (MST)
- 802.1w Rapid Reconfiguration of Spanning Tree (RSTP)
- 802.1x Port-based Network Access Control (PNAC)
- 802.3 Carrier Sense Multiple Access/Collision Detection (CSMA/CD)
- 802.3ab 1000Base-T
- 802.3 10Base-T
- 802.3ad link aggregation (Dynamic and Static)
- 802.3ae 10 gigabit Ethernet
- 802.3at Power over Ethernet Plus
- 802.3u 100Base-TX
- 802.3x flow control
- 802.3z 1000Base-SX/LX
- 802.3 MAU MIB (RFC 2239)
- 802.1Q VLAN tagging
- 802.3az Energy Efficient Ethernet
- 802.3af Power over Ethernet

Monitoring and Troubleshooting

- Errdisable detection and recovery
- Device temp/PSU/FAN/status display & alarm
- Virtual cable test
- ICMPv4/v6
- Traceroute
- CPU Utilization
- User operation logs
- Management logs, alarms
- DDM (Digital Diagnostic Monitoring)
- UDLD (Unidirectional Link Detection)

Environment

- | | |
|-----------------------|-------------------------------|
| Operating temperature | -5°C (23°F) to 65°C (149°F) |
| Storage temperature | -40°C (-40°F) to 70°C (158°F) |
| Humidity | 5% ~ 95% non-condensing |

Packaging Content

- Switch with type D power cord with rack mounting kit

Certification & Compliances

Regulatory	FCC
Standard	IEC-60950
Environmental	RoHS
	CE

ORDERING INFORMATION

Part Number	Description
QN-SW-330-24P-HP	Networking Switch, 24×1 G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port, Redundant Power supply (AC+AC) or (AC+DC), 400 Watts Full Power Budget, Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-24-HP	Networking Switch, 24×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port, Redundant Power supply (AC+AC) or (AC+DC), Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-48-HP	Networking Switch, 48×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port, Redundant Power supply (AC+AC) or (AC+DC) , Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-48-HPF	Networking Switch, 48×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port ,Redundant Power supply (AC+AC) or (AC+DC), Hot-swappable FANs, Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-24- HPF	Networking Switch, 24×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port, Redundant Power supply (AC+AC) or (AC+DC), Hot-swappable FANs Includes cloud controller license and 3 Years online activation warranty.

* Default power supply: AC + AC. Specify AC + DC preference during order placement.

SYSTEM UPGRADE INFORMATION

Part Number	Description
QN-SU-HFT	System upgrade to provide hot swappable fan trays to all 330 series switches.
QN-FPU-24P	System upgrade to provide PoE+ budget (720 Watt) to 24 port 330 series switches.
QN-FPU-48P	System upgrade to provide PoE+ budget (1440 watt) to 48 port 330 series switches.