QUANTUM NETWORKS

ENTERPRISE SWITCHES

AGGREGATION

DATA SHEET

With Redundant Power Supply

QN-SW-330

SERIES

www.qntmnet.com

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.
- 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

Communication Ports				
Specifications	**QN-SW-330-48FP**	**QN-SW-330-48**	**QN-SW-330-24FP**	**QN-SW-330-24**
10/100/1000 Mbps RJ45 Downlinks	48	48	24	24
25G Fiber Uplinks	4+2*	4+2*	4+2*	4+2*
25G Fiber Dedicated Stacking Uplinks	2*	2*	2*	2*
Full Power Budget	1900 Watt	--	820 Watt	--
Max PoE (802.3af)	48	--	24	--
Max PoE+ (802.3at)	48	--	24	--
PoE++ (802.3bt) (60W)	16	--	8	--
Max PoE++ (802.3bt) (90W)	16	--	8	--
RPS	(AC+AC) or (AC+DC) *			
Fans	Hot-Swappable	Built-in	Hot-Swappable	Built-in

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	396 Gbps	348 Gbps
Forwarding rate	294.6 Mpps	258.9 Mpps
MAC address table	Max 32k	Max 32k
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 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)	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.
Default power supply: AC + AC. Specify AC + DC preference during order placement.

Security	
RADIUS, TACACS+	MACsec***
Port security	Downloadable ACL
DHCP Snooping	Dynamic ACL
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	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 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
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 table (Static / Dynamic learning)	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)
Border Gateway Protocol (BGP)	
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)
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
	BIS
Environmental	RoHS
	CE

** For more information, visit www.qntmnet.com/certification or email us at sales@qntmnet.com.

ORDERING INFORMATION

Part Number	Description
QN-SW-330-48FP	Networking Switch, 48×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port/Uplink Ports ,1-16 PoE++(90W) Ports, 1900 Watts PoE Budget, Redundant Power supply (AC+AC) or (AC+DC), Hot-swappable FANs, Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-48	Networking Switch, 48×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port /Uplink Ports, Redundant Power supply (AC+AC) or (AC+DC), Hot-swappable FANs, Includes cloud controller license and 3 Years online activation warranty.
QN-SW-330-24FP	Networking Switch, 24×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port/Uplink Ports ,1-8 PoE++(90W) Ports, 820 Watts PoE Budget, 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	Networking Switch, 24×1G ports with 4x25G SFP28 Uplink ports and 2x25G SFP28 Dedicated stacking port/Uplink ports, 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 PART CODES***
(TO BE ORDERED AT THE TIME OF HARDWARE PURCHASE)

Part Number	Description
QN-330-NSU2	System upgrade for networking scale level 2.
QN-330-SEC-U	System upgrade for enabling MACsec***.