QUANTUM® NETWORKS

ENTERPRISE SWITCHES

AGGREGATION

DATA SHEET



QN-SW-325 SERIES

PRODUCT OVERVIEW

- QN-SW-325 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 PoE++ and 48-Port switches support 1 to 16 ports 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 from 348 Gbps to 396 Gbps of wire-speed switching capacity and from 258.9 Mpps to 294.6 Mpps of forwarding capacity, allowing it to handle a wide range of workloads.
  - The switch supports in-service patch upgrades, allowing software patches to be applied without requiring a system reboot.
  - 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).
  - The stacking architecture supports automatic stack master re-election and stack management plane recovery, providing high-availability and resilient stack operation.
- **Centralized network observability.**
  Dashboards and reporting logs for various network events.

KEY SPECIFICATION

QN-SW-325-Series

FEATURE	SPECIFICATIONS					
Communication Ports	**48FP (Full PoE)**	**48P (PoE)**	**48 (Non PoE)**	**24FP (Full PoE)**	**24P (PoE)**	**24 (Non PoE)**
10/100/1000 Mbps RJ45 Downlinks	48	48	48	24	24	24
1/10/25G Fiber Uplinks	4+2[*1]	4+2[*1]	4+2[*1]	4+2[*1]	4+2[*1]	4+2[*1]
1/10/25G Fiber Dedicated Stacking Uplinks	2[*1]	2[*1]	2[*1]	2[*1]	2[*1]	2[*1]
Full Power Budget (Watt)[*2]	1440 watts	740 watts	-	740 watts	400 watts	-
Max PoE (802.3af)	48	48	-	24	24	-
Max PoE+ (802.3at)	48	24	-	24	12	-
Max PoE++ (802.3bt) (60W)	16	12	-	8	6	-
Max PoE++ (802.3bt) (90W)	16	8	-	8	4	-
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		
Packet Buffer	6 MB			6 MB		
RAM	4 GB			4 GB		
Flash Memory	8 GB			8 GB		
MAC address table	Max 32K			Max 32K		
Active VLAN support	4096			4096		
IPv4 route	29700			29700		
IPv6 route	7400			7400		
Maximum jumbo frame size	9,216 bytes			9,216 bytes		
Link Aggregation groups	Max 64			Max 64		
Link aggregation ports per group	Max 8			Max 8		
Qos Priority queues	8 per port			8 per port		
ACL	3000			3000		
CPU	Multi-Core			Multi-Core		
Quality of Service						
Port and VLAN based QoS (802.1P)			Single Rate Three Color Marker (srTCM)			
QoS based on IP/MAC/Port			Two Rate Three Color Marker (trTCM)			
Traffic shaping			Strict priority support			
DiffServ			Weighted Round Robin (WRR) support			
Class-map & Policy-map			Queue assignment based on DSCP & CoS			
QoS aggregate-policer			Traffic classification based on COS/DSCP			
QoS Mapping on Queue						

[*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.

Security	
RADIUS, TACACS+	Downloadable ACL
Port security	Dynamic ACL
DHCP Snooping	Role based access control
AAA (Authentication, Authorization, and Accounting)	802.1x authentication (Port Based, MAC Based, Web Based)
ACL (Based On IP, Port, Protocol, MAC, Time Based)	Management ACL
IP source guard	DoS prevention
Protected port	Secure copy (SCP)
ARP inspection (DAI & SAI)	Security image integrity check
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	NetConf/RestConf
Industrial standard CLI	NTP authentication
Telnet support	SPAN/RSPAN
Storage & File management with USB	SSHv1/v2
TFTP support	Firmware auto install support
Dual Flash Images OS	Syslog server
SNMP v1/v2c/v3	RMON (All 4 Groups 1,2,3,9)
SNTP	sFlow
Management: RUDDER (Controller)/Standalone	REST API
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	

CERTIFICATION & COMPLIANCES*		
Certifications	**Parameter**	**Standards**
Environmental Compliances	CE, RoHS	EU safety, health, and environmental protection
Regulatory (USA)	FCC	A product has been tested and found to comply with relevant FCC standards.
	MTCTE (ER)	EMI/EMC (IEC / EN-61000* & CISPR 32)
		Safety (IS-13252 & IEC-60950)
		Technical (IPv4 & IPv6)
	IPv6 Ready	Certified for next-generation network compatibility

*For detailed information on certifications apply to each model within the series mentioned in this datasheet, please visit www.qntmnet.com/certification/ or email us at sales@qntmnet.com.

ORDERING INFORMATION

Part Number	Description
QN-SW-325-48FP	Networking Switch, 48×1GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port,1-16 PoE++(90W) Ports, 1440 Watts PoE Budget, includes 3 Years online activation warranty.
QN-SW-325-48P	Networking Switch, 48×1GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port,1-16 PoE++(90W) Ports, 740 Watts PoE Budget, includes 3 Years online activation warranty.
QN-SW-325-48	Networking Switch, 48×1 GbE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port, non-PoE, includes 3 Years online activation warranty.
QN-SW-325-24FP	Networking Switch, 24×1GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port,1-8 PoE++(90W) Ports, 740 Watts PoE Budget, includes 3 Years online activation warranty.
QN-SW-325-24P	Networking Switch, 24×1GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port,1-8 PoE++(90W) Ports, 400 Watts PoE Budget, includes 3 Years online activation warranty.
QN-SW-325-24	Networking Switch, 24×1 GbE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port, non-PoE, includes 3 Years online activation warranty.

For more information, visit system upgrade reference details.