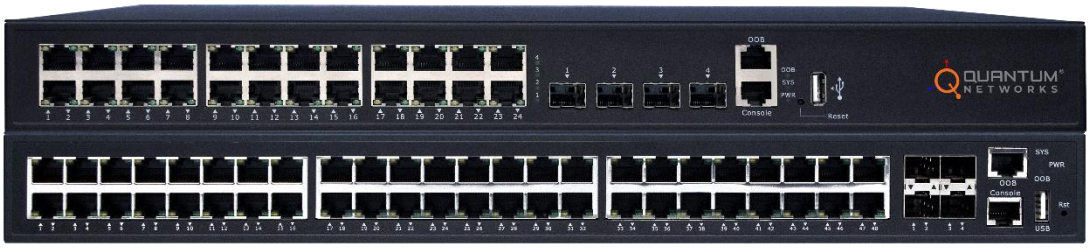
QUANTUM NETWORKS

ENTERPRISE SWITCHES

AGGREGATION

DATA SHEET



QN-SW-305 SERIES

PRODUCT OVERVIEW

- QN-SW-305 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.
- PoE budget options to power advanced devices with the option of PoE / PoE+ / PoE++ (60W/90W) per port.
- This switch provides a flexible range of downlink ports, 24, 48, to accommodate your network needs. It also offers 4x10G SFP+ uplink ports for high-speed connections.
- 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 176 Gbps of wire-speed switching capacity and 131 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-305-Series

FEATURE	SPECIFICATIONS			
Communication Ports	**48FP (Full PoE)**	**48 (Non PoE)**	**24FP (Full PoE)**	**24 (Non PoE)**
10/100/1000 Mbps RJ45 Downlinks	48	48	24	24
10G Fiber Uplinks	4	4	4	4
PoE Budget*1(Watt)	1440	-	740	-
Max PoE (802.3af)	48	-	24	-
Max PoE+ (802.3at)	48	-	24	-
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	176 Gbps		128 Gbps	
Forwarding rate	131 Mpps		95 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)	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)	

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)

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

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	
Packaging Content	
Switch with type D power cord with rack mounting kit	
Physical	
MTBF (Mean Time Between Failures)	1,00,000 hrs

ORDERING INFORMATION

Part Number	Description
QN-SW-305-48FP	Networking HS Switch, 48×10/100/1000 Base-T ports with 4x10G Fiber uplinks, 1440Watts PoE budget includes 3-year online activation warranty.
QN-SW-305-48	Networking HS Switch, 48×10/100/1000 Base-T ports with 4x10G Fiber uplinks, includes 3-year online activation warranty.
QN-SW-305-24FP	Networking HS Switch, 24×10/100/1000 Base-T ports with 4x10G Fiber uplinks, 740 Watts PoE budget, includes 3-year online activation warranty.
QN-SW-305-24	Networking HS Switch, 24×10/100/1000 Base-T ports with 4x10G Fiber uplinks, includes 3-year online activation warranty.