



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.
 - 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-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 |
| 25G Fiber Uplinks | 4+2* ¹ | 4+2* ¹ | 4+2* ¹ | 4+2* ¹ | 4+2* ¹ | 4+2* ¹ |
| 25G Fiber Dedicated Stacking Uplinks | 2* ¹ | 2* ¹ | 2* ¹ | 2* ¹ | 2* ¹ | 2* ¹ |
| Full Power Budget (Watt)* ² | 1440 | 740 | - | 740 | 400 | - |
| 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 | | |
| 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) | | | | | | |

*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+ | MACsec* ³ |
| 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 (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) |
| Border Gateway Protocol (BGP) | |
| 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) | Ethernet Ring Protection Switching (ERPS) |
| Storm control (Broadcast, Multicast, Unicast) | Virtual Router Redundancy Protocol (VRRP) |
| 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

CERTIFICATION & COMPLIANCES*⁴

| | |
|---------------|------|
| Regulatory | FCC |
| | BIS |
| Environmental | RoHS |
| | CE |

*⁴ For more information, 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. |

SYSTEM UPGRADE PART CODES*³

(TO BE ORDERED AT THE TIME OF HARDWARE PURCHASE)

| Part Number | Description |
|---------------------|-------------------------------------|
| QN-325-SEC-U | System upgrade for enabling MACsec. |