



QN-SW-425 SERIES



PRODUCT OVERVIEW

- o QN-SW-425 series offers 8/24/48 Multigigabit (100/1000/2500 Mbps) downlink ports, 4 x 25G (SFP28) Uplink ports and 2 x 25G (SFP 28) dedicated stacking ports.
- The series provides robust Layer 2 switching and Layer 3 routing features to meet the diverse needs of enterprise/campus networks.
- o Centralized device management options -Cloud hosted Quantum Rudder Network and Services Controller (NSC), on premises Rudder NSC, Device GUI/CLI, SNMP.
- Dedicated console port, Dedicated out of Band management port, USB flash drive port for storage.
- PoE budget options to power advanced devices with the option of PoE / PoE+ / PoE++
 (60W/90W) per port. 24 Port switch supports 1 to 8 ports PoE++ and 48 Port switch
 supports 1 to 16 ports PoE++.
- Enhancing security measures, offers Device Protection Profiles for authenticating device management users through centralized AAA/RADIUS services.
- o 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.

o Reliable performance.

Delivers Stability, Scalability and Effortless handling of diverse workloads.

- The switch supports a non-blocking architecture that provides from 80 Gbps to 540 Gbps of wire-speed switching capacity and from 60 Mpps to 402 Mpps of forwarding capacity, allowing it to handle a wide range of workloads.
- o 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-425-Series

Communication Ports	Specifications								
Model	100/1000/ 2500 Mbps RJ45 Downlinks	Fiber Uplinks Dedicated St Uplinks		PoE Budget (Watt)*2	Max PoE (802.3af)	Max PoE+ (802.3at)	Max PoE++ (802.3bt) (60W)	Max PoE++ (802.3bt) (90W)	
QN-SW-425-48FP	48	4+2*1 (1/10/25G)		1440	48	48	16	16	
QN-SW-425-48	48	4+2*1 (1/10/25G)							
QN-SW-425-24FP	24 4+2*1 (1/10/25)		5G)	740	24	24	8	8	
QN-SW-425-24	24 4+2*1 (1/10/250		5G)						
QN-SW-425-8FP	8	2*1 (1/10G)		240	8	8			
QN-SW-425-8	8	2*1 (1/10G)							
Management Ports	48 Ports		24 P	orts		8 Ports	;		
Console (RJ45)	1		1		1	1			
Management (OOB)	1		1			1	1		
Storage (USB Type A)	1		1			1	1		
Capacity	48 Ports		24 P	24 Ports			8 Ports		
Switching capacity	540 Gbps		420 0	420 Gbps			80 Gbps		
Forwarding rate	402 Mpps		313 M	313 Mpps			60 Mpps		
MAC address table	Max 32k		Max 32k		Max 32k				
Active VLAN support	4096		4096		4096				
IPv4 route	29700		29700		29700				
IPv6 route	7400		7400	7400		7400			
Maximum jumbo frame size	9,216 bytes		9,216 bytes		9,216 bytes				
Link Aggregation groups	Max 64		Max 64		Max 64				
Link aggregation ports per group	Max 8		Max 8		Max 8				
Qos Priority queues	8 per port		8 per port			8 per port			
ACL	3000		3000		3000				
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									
Security									
RADIUS, TACACS+			DHCP Snooping						
Port security		AAA (Authentication, Authorization, and Accounting)							
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 $^{^{\}star 1}$ 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.



ACL (Based On IP, Port, Protocol, MAC, Time Based)	Role based access control		
IP source guard	802.1x authentication (Port Based, MAC Based, Web Based)		
Protected port	Management ACL		
ARP inspection (DAI & SAI)	DoS prevention		
Kerberos, SSL	Secure copy (SCP)		
Downloadable ACL and Dynamic ACL by integrating with NA	C (Network Access Controller)		
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 (RIPv2, RIPng)	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)	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			
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.		
Regulatory (IN)	BIS	IS-13252, IEC-60950		
	IEC-62368	Compliance with the IEC 62368-1 standard		
		EMI/EMC (IEC / EN-61000* & CISPR 32)		
	MTCTE (ER)	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/certification/.

ORDERING INFORMATION

Part Number	Description		
QN-SW-425-48FP	Networking Switch, 48×100/1000/2500 Mbps 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-year online activation warranty.		
QN-SW-425-48	Networking Switch, 48×100/1000/2500 Mbps ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port, includes 3-year online activation warranty.		
QN-SW-425-24FP	Networking Switch, 24×100/1000/2500 Mbps 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-year online activation warranty.		
QN-SW-425-24	Networking Switch, 24×100/1000/2500 Mbps ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port, includes 3-year online activation warranty.		
QN-SW-425-8FP	Networking Switch, 8×100/1000/2500 Mbps ports with 2x10 GbE SFP+ Uplink ports/stacking port, 240 Watts PoE Budget, includes 3-year online activation warranty.		
QN-SW-425-8	Networking Switch, 8×100/1000/2500 Mbps ports with 2x10 GbE SFP+ Uplink ports/stacking port, includes 3-year online activation warranty.		