



# MULTIGIGABIT ENTERPRISE SWITCHES DATA SHEET



## QN-SW-425 SERIES

## PRODUCT OVERVIEW

- 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.
- 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.
- 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 420 Gbps to 540 Gbps of wire-speed switching capacity and from 313 Mpps to 402 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-425-Series

Communication Ports		Specifications					
Model	100/1000/2500 Mbps RJ45 Downlinks	Fiber Uplinks / Dedicated Stacking Uplinks	PoE Budget (Watt) <sup>*2</sup>	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 (25G)	1440	48	48	16	16
QN-SW-425-48	48	4+2*1 (25G)	--	--	--	--	--
QN-SW-425-24FP	24	4+2*1 (25G)	740	24	24	8	8
QN-SW-425-24	24	4+2*1 (25G)	--	--	--	--	--
QN-SW-425-8FP	8	2*1 (10G)	240	8	8		
QN-SW-425-8	8	2*1 (10G)	--	--	--	--	--
Management Ports	48 Ports		24 Ports			8 Ports	
Console (RJ45)	1		1			1	
Management (OOB)	1		1			1	
Storage (USB Type A)	1		1			1	
Capacity	48 Ports		24 Ports			8 Ports	
Switching capacity	540 Gbps		420 Gbps			80 Gbps	
Forwarding rate	402 Mpps		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	
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+			MACsec*3				
Port security			DHCP Snooping				

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)
Downloadable ACL and Dynamic ACL by integrating with NAC (Network Access Controller)	Kerberos, SSL
<b>Multicast</b>	
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)
<b>Layer 3</b>	
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
<b>Layer 3 Routing</b>	
Static routing (IPv4, IPv6)	Inter-VLAN routing
Routing Information Protocol (RIPv2, RIPv3)	OSPFv2/v3 (Open Shortest Path First)
Border Gateway Protocol (BGP)	
<b>Layer 2</b>	
Port Tagging/untagged	BPDUGuard
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, SNTP		RMON (All 4 Groups 1,2,3,9)
Manual/schedule reboot		sFlow
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
	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/](http://www.qntmnet.com/certification/) or email us at [sales@qntmnet.com](mailto:sales@qntmnet.com).

## ORDERING INFORMATION

Part Number	Description
<b>QN-SW-425-48FP</b>	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.
<b>QN-SW-425-48</b>	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.
<b>QN-SW-425-24FP</b>	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.
<b>QN-SW-425-24</b>	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.
<b>QN-SW-425-8FP</b>	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.
<b>QN-SW-425-8</b>	Networking Switch, 8×100/1000/2500 Mbps ports with 2x10 GbE SFP+ Uplink ports/stacking port, includes 3-year online activation warranty.
Part Number –With MACsec <sup>*3</sup>	Description
<b>QN-SW-425-48FP:M</b>	Networking Switch, 48×1/2.5 GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port/Uplink Ports, 1-16 PoE++(90W) Ports, 1440 Watts PoE Budget, includes 3-year online activation warranty.
<b>QN-SW-425-48:M</b>	Networking Switch, 48×1/2.5 GbE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated stacking port/Uplink Ports with MACsec, includes 3-year online activation warranty.
<b>QN-SW-425-24FP:M</b>	Networking Switch, 24×1/2.5 GbE PoE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated Stacking Port/Uplink Port, 1-8 PoE++(90W) Ports, 740 Watts PoE Budget with MACsec, includes 3-year online activation warranty.
<b>QN-SW-425-24:M</b>	Networking Switch, 24×1/2.5 GbE ports with 4x25 GbE SFP28 Uplink ports and 2x25 GbE SFP28 Dedicated Stacking Port/Uplink Ports with MACsec, includes 3-year online activation warranty.
<b>QN-SW-425-8FP:M</b>	Networking Switch, 8×1/2.5 GbE PoE ports with 2x10 GbE SFP+ Uplink ports/stacking port, 240 Watts PoE Budget with MACsec, includes 3-year online activation warranty.
<b>QN-SW-425-8:M</b>	Networking Switch, 8×1/2.5 GbE ports with 2x10 GbE SFP+ Uplink ports/stacking port with MACsec, includes 3-year online activation warranty.