

# ENTERPRISE ACCESS SWITCHES

## QN-SW-230-SERIES



*With Redundant Power Supply*

### PRODUCT OVERVIEW

- QN-SW-230 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.
- QN-SW-230-24/48-AD switches have Options of AC and DC power supply.
- 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 4 SFP+ uplink/stacking interfaces with non-blocking switching capabilities.
- PoE budget options to power advanced devices with the option of PoE /PoE+ per port.
- 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.
- **Centralized Network observability.**  
Dashboards and reporting logs for various network events.
- **Reliable Performance.**  
Delivers Stability, Scalability, and Effortless handling of diverse workloads.
  - The switch supports a non-blocking architecture that provides from 128 Gbps to 176 Gbps of wire-speed switching capacity and from 95 to 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).

## KEY SPECIFICATION

### QN-SW-230-Series

Communication Ports	Specifications					
Model	230-48FP	230-48P	230-48	230-24FP	230-24P	230-24
10/100/1000 Mbps RJ45 Downlinks	48	48	48	24	24	24
1G/10G Fiber Uplinks	4 (Expandable up to 8 ports with system upgrade)					
PoE Budget (Watt) <sup>*1</sup>	1480 Watt	740 Watt	--	740 Watt	400 Watt	--
Max PoE (802.3af)	48	48	--	24	24	--
Max PoE+ (802.3at)	48	24	--	24	12	--
Management Ports	48 Ports			24 Ports		
Console (RJ45)	1			1		
Management (OOB)	1			1		
Storage (USB Type A)	1			1		
Capacity	230-48FP	230-48P	230-48	230-24FP	230-24P	230-24
	<b>Standard</b>	<b>+2DSPU Upgrade</b>	<b>+4DSPU Upgrade</b>	<b>Standard</b>	<b>+2DSPU Upgrade</b>	<b>+4DSPU Upgrade</b>
Switching capacity	176 Gbps	216 Gbps	256 Gbps	128 Gbps	168 Gbps	208 Gbps
Forwarding rate	131 Mpps	161 Mpps	190 Mpps	95 Mpps	125 Mpps	155 Mpps
MAC address table	Max 16K			Max 16K		
Packet buffer size	3 MB			3 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			
QoS based on classification (Based on IP, MAC and VLAN)			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)			Flow mirror, 802.1p Support			
Policy map & route MAP to define the action for a set of classified inbound traffic						

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

Security	
RADIUS, TACACS+	MACsec*2
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)	Management ACL
IP source guard	DoS prevention
Protected port	Secure copy (SCP)
ARP inspection (DAI & SAI)	Kerberos, SSL
802.1x authentication (Port Based, MAC Based, Web Based)	
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
<b>High Availability</b>	
Stacking (Up-to 8 members)	Ring Redundancy Protocol (RRP)
Equal-Cost Multi Path (ECMP)	Virtual Router Redundancy Protocol (VRRP)
Storm control (Broadcast, Multicast, Unicast)	
<b>Management</b>	
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	
<b>Standard Compliance</b>	
<b>IEEE Standards Compliance</b>	
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)	
<b>Monitoring and Troubleshooting</b>	
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)
<b>Environment</b>	
Operating temperature	-5°C (23°F) to 65°C (149°F)
Humidity	5% ~ 95% non-condensing
RoHS	Compliant

### Packaging Content

Switch with 2 x type D power cord with rack mounting kit

## CERTIFICATION & COMPLIANCES<sup>\*3</sup>

Regulatory	FCC
	BIS
Environmental	RoHS
	CE

<sup>\*3</sup> For more information, 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-230-48FP</b>	Networking Switch, 48×10/100/1000Base-T ports with 4x10G Fiber uplink ports, 1480 Watts PoE Budget & In-built Redundant Power supply, includes 3 Years online activation warranty.
<b>QN-SW-230-48P</b>	Networking Switch, 48×10/100/1000Base-T ports with 4x10G Fiber uplink ports, 740 Watts PoE Budget & In-built Redundant Power supply, includes 3 Years online activation warranty.
<b>QN-SW-230-48</b>	Networking Switch, 48×10/100/1000Base-T ports with 4x10G Fiber uplink ports, In-built Redundant Power supply, includes 3 Years online activation warranty.
<b>QN-SW-230-24FP</b>	Networking Switch, 24×10/100/1000Base-T ports with 4x10G Fiber uplink ports, 740 Watts PoE Budget & In-built Redundant Power supply, includes 3 Years online activation warranty.
<b>QN-SW-230-24P</b>	Networking Switch, 24×10/100/1000Base-T ports with 4x10G Fiber uplink ports, 400 Watts PoE Budget & In-built Redundant Power supply, includes 3 Years online activation warranty.
<b>QN-SW-230-24</b>	Networking Switch, 24×10/100/1000Base-T ports with 4x10G Fiber uplink ports, In-built Redundant Power supply, includes 3 Years online activation warranty.

## SYSTEM UPGRADE PART CODES (TO BE ORDERED AT THE TIME OF HARDWARE PURCHASE)

Part Number	Description
<b>QN-230-2DSPU</b>	System upgrades to add additional 2x10G SFP+ uplink/dedicated stacking ports.
<b>QN-230-4DSPU</b>	System upgrades to add additional 4x10G SFP+ uplink/dedicated stacking ports.

## HIGH RESILIENCY UPGRADE

Part Number	Description
<b>QN-230-48FPHSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-48FP.
<b>QN-230-48PHSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-48P.
<b>QN-230-48HSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-48.
<b>QN-230-24FPHSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-24FP.
<b>QN-230-24PHSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-24P.
<b>QN-230-24HSR</b>	System upgrade for Hot Swappable Resiliency includes Hot Swappable Power Supplies and Hot Swappable Fans for QN-SW-230-24.

## SECURITY SCALE UPGRADE\*2

Part Number	Description
<b>QN-230-SEC-U</b>	System upgrade for enabling MACsec.

## NETWORKING SCALE UPGRADE

Part Number	Description
<b>QN-230-NSU2</b>	System upgrade for networking scale level 2.

For system Upgrade detail, please refer: [System Upgrade Detail](#)