



PRODUCT OVERVIEW

- The Industrial switch series provides a versatile and robust Layer-2 switching and Layer-3 routing line of industrial-grade switches designed to meet the demands of harsh and challenging environments.
- Choose from remote web-based management (Cloud-Hosted Quantum Rudder Network and Service Controller (NSC)), secure on-site control (On-Premises Rudder NSC), direct configuration access (Device GUI/CLI) or centralized monitoring (SNMP).
- On-device management ports include a dedicated console port and a USB flash drive port for storage. Additionally the switch has a DIN Rail mounting facility.
- Three-year limited liability manufacturer's warranty from day one.
- Industrial switches are designed to operate under extended temperature conditions. They provide continuous uptime, manageability and operational efficiency.
- Switch provides advanced features such as auto-voice VLAN, Multicast TV VLAN, Stacking (Up to 8 Ports), DHCP server, routing, STP/MSTP/RSTP, 802.1x, ACLs, Storm control and DoS prevention.
- PoE budget options to power advanced devices with the option of PoE /PoE+ per port.
- Port density of 4/8x1 Gigabit ports and 2x1/10GbE SFP/SFP+ uplink/stacking interfaces with cut-through, wire speed, non-blocking switching capabilities.

HIGHLIGHTS

- **Simplified network management.**
Industrial Switch provides easy configuration and simplified operational manageability to deliver advanced and secure multi-services over industrial networks.
- **Reliable performance.**
Delivers stability, Scalability and Effortless handling of diverse workloads.
 - The switch supports a non-blocking architecture that provides up to 56 Gbps of wire-speed switching capacity and up to 41.66 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.**
The Network Controller provides configurable reporting and analytics to manage large user populations and expedite troubleshooting. Advanced search and sorting capabilities make network management more efficient.

KEY SPECIFICATION

FEATURE	SPECIFICATIONS			
Communication Ports				
	QN-IS-220-8FP	QN-IS-220-4FP	QN-IS-225-8FP	QN-IS-225-8
Gigabit Ethernet RJ45 downlinks	8	4	8	8
1G SFP Uplinks	2	2	-	-
10G SFP+ Uplinks	-	-	2	2
PoE Budget (Watt)	240	120	240	
Max PoE (802.3af)	8	4	8	-
Max PoE+ (802.3at)	8	4	8	-
Management Ports				
Console RJ45	1	1	1	1
Storage (USB Type A)	1	1	1	1
Capacity				
Switching capacity	20 Gbps	12 Gbps	56 Gbps	56 Gbps
Forwarding rate	14.8Mpps	8.92 Mpps	41.66 Mpps	41.66 Mpps
Packet buffer size	12 Mbit	12 Mbit	12 Mbit	12 Mbit
VLANs	4094	4094	4094	4094
MAC address table	16K Entries	16K Entries	16K Entries	16K Entries
Maximum jumbo frame size	9,216 bytes	9,216 bytes	9,216 bytes	9,216 bytes
Link aggregation groups	Max 8	Max 8	Max 8	Max 8
Link aggregation ports per group	Max 8	Max 8	Max 8	Max 8
QoS priority queues	8 per port	8 per port	8 per port	8 per port
Quality of Service				
▪ ACL mapping to priority queue		▪ Traffic shaping		
▪ WRR support		▪ QoS based on classification		
▪ Strict priority support		▪ 802.1p support		
▪ DSCP Prioritization				
Layer 2				
▪ Forwarding rate		▪ LLDP/LLDP MED		
▪ Switching throughput		▪ RRP (Ring Redundancy Protocol)		
▪ STP, RSTP		▪ Port mirroring (Port, ACL, VLAN-Based)		
▪ MSTP		▪ BPDU filtering		

▪ VLAN(MAC, Protocol, Port based)	▪ Ping/TraceRoute/ICMPv6
▪ Loopback detection	▪ Storm control (Broadcast, Multicast, Unicast)
▪ Auto MDI/MDIX	▪ GVRP
▪ BPDU guard, root guard	▪ Energy Efficient Ethernet, Green Ethernet
▪ IGMP/IGMP snooping v1/v2/v3*	
Layer 3	
▪ ARP table	▪ DHCPv6 client
▪ IPv6 ND	▪ IPv4 Interface
▪ IP source guard	▪ IPv6 Interface
▪ DHCP relay	▪ VRRP
▪ DHCP server	▪ Route-only support
▪ ISATAP	
Layer 3 Routing	
▪ Inter-VLAN routing	▪ IPv4 static routing
▪ RIPv2	▪ IPv4 host routing
▪ OSPFv2/v3	▪ IPv6 static routing
▪ IPv6 host routing	▪ Policy based routing
▪ IPv6 unicast routing	
Security	
▪ ACLs	▪ SSH
▪ DHCP snooping	▪ Secure copy (SCP)
▪ 802.1x authentication	▪ DoS protection
▪ MAC authentication	▪ Local username/password
▪ Radius/Tacacs/Tacacs+	▪ Protected ports
▪ AAA	▪ RA guard
Management	
▪ Cloud management	▪ RMON
▪ Industrial standard CLI	▪ Telnet support
▪ Local management	▪ SNMP
▪ Stacking	▪ Syslog server
▪ SNMP v1/v2c/v3	▪ IPv6 management
▪ SNMP traps	▪ Storage & File management with USB
▪ TFTP support	▪ Firmware auto-install support
▪ SPAN/RSPAN	▪ Password management

▪ 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		
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)		
Physical	QN-IS-220-8FP	QN-IS-220-4FP	QN-IS-225-8FP	QN-IS-225-8
▪ Net Weight	0.62 Kg	0.60 Kg	0.93 Kg	0.87 Kg
▪ Dimensions (L x W x H)	152 x 112 x 48 mm	152 x 112 x 48 mm	170 x 124 x 53 mm	170 x 124 x 53 mm
Environment				
Operating temperature	-40°C to 75°C			
Storage temperature	-40°C to 85°C			
Humidity	5% ~ 95% non-condensing			
RoHS	Compliant			
IP rating	IP40			
Power consumption	10W Max			
Dual redundant power input	DC 24-48V			
Input voltage	PoE DC48-58V (Switch required DC 24-48V)			
Surge protection	Yes			

Certification & Compliances

Regulatory	FCC
	BIS
	TEC
Environmental	CE
	RoHS

ORDERING INFORMATION

Part Number	Description
QN-IS-220-8FP	Quantum Networks QN-IS-220-8FP Industrial Switch, 8×10/100/1000 Base T ports, 2x1G Fiber uplinks, 240 watts power supply, Includes cloud controller license and 3 years online activation warranty.
QN-IS-220-4FP	Quantum Networks QN-IS-220-4FP Industrial Switch, 4×10/100/1000 Base T ports, 2x1G Fiber uplinks, 120 watts power supply, Includes cloud controller license and 3 years online activation warranty.
QN-IS-225-8FP	Quantum Networks QN-IS-225-8FP Industrial Switch, 8×10/100/1000 Base T ports, 2x10G Fiber uplinks, 240 watts power budget, Includes cloud controller license and 3 years online activation warranty.
QN-IS-225-8	Quantum Networks QN-IS-225-8 Industrial Switch, 8×10/100/1000 Base T ports, 2x10G Fiber uplinks, Includes cloud controller license and 3 years online activation warranty.