

## QUANT 9600 INDUSTRIAL ETHERNET SWITCH SERIES



Q-IE-9600-24P-L3-4G-E-R



Q-IE-9600-48P-L3-4G-E-R

### PRODUCT OVERVIEW

The **Quant 9600 Series** are high-performance Layer 3 managed industrial Ethernet switches engineered for reliable connectivity in harsh environments. They provide Gigabit access and 10G uplinks, featuring 24/48 RJ45 ports and four 1/10G SFP+ uplinks with a 216 Gbps switching capacity and non-blocking architecture.

Powered by a 800MHz/dual-core 1 GHz CPU, the series supports IPv4/IPv6 routing (RIP, OSPF, BGP) and redundancy protocols (STP/RSTP/MSTP, ERPS) for rapid recovery under 20 ms. Built for endurance, it includes a fanless IP40-rated galvanized steel enclosure, -40°C to +75°C operating range, 6 kV surge protection, and dual AC+DC power inputs.

Advanced security features include 802.1X authentication, ACLs, DoS protection, and RADIUS/AAA integration, with multiple management options via Web GUI, CLI, SNMP, HTTPS, and Quant NMS/LLDP tools.

Quant 9600 Series delivers carrier-grade reliability, intelligent routing, and industrial-grade resilience for mission-critical networks.

### PRODUCT FEATURE

- **High-Performance Hardware** – 24 or 48 Gigabit RJ45 ports + 4 × 1/10 G SFP+ uplinks; non-blocking switching fabric (128/216 Gbps).
- **Layer 3 Routing** – IPv4/IPv6 dual-stack support with RIP, OSPF, BGP, VRRP (up to 255 groups).
- **Industrial Reliability** – Operating range -40 °C to +75 °C; IP40 protection; 6 kV surge protection; fanless design.
- **Redundant Power Inputs** – Dual AC (100–240 V) and DC (12–48 V) inputs with automatic failover.
- **Comprehensive Security** – 802.1X, MAC/IP binding, DHCP Snooping, ARP Inspection, DoS prevention.
- **Advanced QoS and Multicast** – 802.1p/DSCP prioritization, WRR/SP scheduling, IGMP/MLD snooping for HD video and VoIP.
- **Resilient Topology** – STP/RSTP/MSTP and ERPS (G.8032) for sub-20 ms failover redundancy.
- **Smart Management** – Web, CLI, SNMP v1/v2/v3, HTTPS/SSH, LLDP discovery, Quant NMS integration.

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### TECHNICAL SPECIFICATION

Model	Downlink PoE Ports	Uplink Ports	CPU	Network Protocol	DRAM	FLASH
<b>Connectivity</b>						
<b>Q-IE-9600-24P-L3-4G-E-R</b>	24 × 10/100/1000 Base-T RJ45	4 × 1/10 G SFP+	800 MHz	IEEE 802.3af/at	1GB	128 MB
<b>Q-IE-9600-48P-L3-4G-E-R</b>	48 × 10/100/1000 Base-T RJ45	4 × 1/10 G SFP+	Dual-core 1 GHz	IEEE 802.3af/at	2GB	256MB

Model	Switching Capacity	Forwarding Rate	MAC Address Table	Buffer Memory	Jumbo Frame	Forwarding Mode	Input Voltage
<b>Performance and Efficiency</b>							
<b>Q-IE-9600-24P-L3-4G-E-R</b>	128 Gbps	95.23 Mpps	16 K	12M	12K	Store-and-forward	45 W
<b>Q-IE-9600-48P-L3-4G-E-R</b>	216 Gbps	131Mpps	32 K	16M	12K	Store-and-forward	60 W

- Dual AC + DC redundant inputs with automatic switch-over.
- ERPS (G.8032) ring redundancy < 20 ms.
- MSTP/STP/RSTP loop protection for network stability.
- 6 kV lightning protection, IP40 enclosure, IEC industrial certifications.
- Operating Temperature: -40 °C to +75 °C | Humidity: 5 – 90 % RH.
- Fanless design ensures silent, low-maintenance operation.

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### TECHNICAL SPECIFICATION



Model	Q-IE-9600-24P-L3-4G-E-R	Q-IE-9600-48P-L3-4G-E-R
<b>Interface Characteristics</b>		
<b>Fixed Port</b>	1*Console port (115200,N,8,1) Power-off alarm switch (FAULT) 2*AC100-240V power input ports 4*1/10G uplink SFP+ fiber ports (Data) 24*10/100/1000Base-T RJ45 ports (Data) 2*DC12-48V power input ports (support anti-reverse protection)	1*Console port (115200,N,8,1) Power-off alarm switch (FAULT) 2*AC100-240V power input ports 4*1/10G uplink SFP+ fiber ports (Data) 48*10/100/1000Base-T RJ45 ports (Data) 2*DC12-48V power input ports (support anti-reverse protection)
<b>Ethernet Port</b>	Port 1-24 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption	Port 1-48 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
<b>Twisted Pair Transmission</b>	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters)	
<b>Optical Fiber Port Expansion</b>	Turbo overclocking 2.5G optical module expansion and ring network	
<b>Optical Distance</b>	Multi-mode: 850nm/ 0-550m, 850nm/ 0-300m(10G), Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km	
<b>Chip Parameter</b>		
<b>Network Management Type</b>	L3	
<b>Forwarding Mode</b>	Store and Forward (Full Wire Speed)	
<b>Switching Capacity</b>	176Gbps (non-blocking)	176Gbps (non-blocking)
<b>Forwarding Rate</b>	95.23Mpps	131Mpps
<b>Power Supply</b>		
<b>Fixed Port</b>	Port 1 to 24	Port 1 to 48
<b>Power Consumption</b>	Standby<35W, Full load<45W	Standby<35W, Full load<60W
<b>Power Supply</b>	Built-in power supply, AC 100~240V 50-60Hz, 0.65A	Built-in power supply, AC 100~240V 50-60Hz, 0.65A

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### TECHNICAL SPECIFICATION

Model	Q-IE-9600-24P-L3-4G-E-R	Q-IE-9600-48P-L3-4G-E-R
<b>Physical Parameter</b>		
Operation Temp/ Humidity	-40~+80°C, 5%~90% RH Non condensing	
Storage Temp/ Humidity	-40~+85°C, 5%~95% RH Non condensing	
Dimension (L*W*H)	440*298*44mm	
Weight	4.7kg	5.1kg
Installation	Desktop, 1U/19" cabinet	
<b>Certification &amp; Warranty</b>		
Lighting Protection	Protection level: IP40 Lightning protection: 6KV 8/20us IEC61000-4-3(RS): 10V/m (80~1000MHz) FCC Part 15/CISPR22 (EN55022): Class B IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m, 1MHz IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV IEC61000-4-4 (EFT): Power cable: ±4kV, Data cable: ±2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m,1000A/m, 1-3s IEC61000-4-5 (Surge): Power cable: CM±4kV/DM±2kV, Data cable: ±4kV	
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS	
Country of Origin	Vietnam	
Warranty	2 Years	

### ORDERING INFORMATION

Model	Description	PoE Budget
Q-IE-9600-24P-L3-4G-E-R	24-Port Gigabit L3 Industrial Ethernet Switch with 4 × 1/10 G SFP+ uplinks	45 W
Q-IE-9600-48P-L3-4G-E-R	48-Port Gigabit L3 Industrial Ethernet Switch with 4 × 1/10 G SFP+ uplinks	60 W