CIG

Ethernet Switch CS4010 Series

Product Datasheet

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Partnership for the Next Generation Broadband Solution

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■ Overview

CS4010-29Q-HPOEF-A and CS4010-29Q-AC are CIG's latest L3+ Gigabit Ethernet Switches: 24-port 2.5GbE, 4-port 10GbE combo and 1-port 40GbE (QSFP+) uplinks stackable. All 2.5GbE ports of CS4010-29Q-HPOEF-AC support 60W UPOE (Universal Power Over Ethernet) and POE output power of up to 740W.

CS4010 series is based on Marvell's High-Performance Packet Processors and CIG's software stack supporting Port Mirroring, VLAN, Link Aggregation, IPv4 / IPv6, QoS and other features. Provides large table sizes and higher hardware processing capabilities.

CS4010 series offers unique and efficient solution for LAN and Wi-Fi 802.11ac Wave2 aggregation with great flexibility at lower complexity and cost. The switches are ideal for access and aggregation in enterprise networks, converged networks and data centers.

CS4010-29Q-HPOEF-AC

CS4010-29Q-AC

■ Key Features

- **Support multi-gigabit BASE-T Port**
  - Multi-gigabit BASE-T port delivers the same 100-meter transmission at 2.5X to 5X over traditional Cat5e / Cat6 cable, also adapts to Gigabit Ethernet and 100Megabit Ethernet.

- **IPv4 / IPv6 dual IP stack support**
  - Dual stack allows IPv4 and IPv6 applications to co-exist, preserving and maximizing existing investments
  - CS4010 series supports IPv4 / IPv6 dual protocol stack, L3 routing protocols, L2 multicasting protocols, IPv4/IPv6 SNMP management and etc..

- **Management**
  - CS4010 series integrates console port, out-of-band management port and USB. CS4010 series support SNMPv1/v2/v3 (Simple Network Management Protocol), CLI command line, Web Management, Telnet, and etc. It also supports SSH2.0 and other encryption methods for security.

- **Comprehensive QoS**
  - CS4010 series supports Layer 2 to Layer 4 packet filtering based on source MAC address, destination MAC address, source IP (IPv4 / IPv6) address, destination IP (IPv4 / IPv6) address, TCP/UDP port, 802.1p, ToS/DSCP, and TCP flag classifications. Flexible queue scheduling algorithms can be set based on port including SP, WDRR, SP+WDRR. CS4010 series supports CAR (Commited Access Rate) per flow and egress rate limit per port or per queue.

- **IPTV service**
  - CS4010 series provides higher Flexibility and efficiency to deploye IPTV service in Access network. The Multicast-VLAN mechniasm can effectively reduce IPTV multicast data replicated in provider network. Combinating the IGMP Snooping Proxy, they saves network bandwidth and reduces the burden on the upstream router.
  - CS4010 series supposes IGMP explicit host tracking and Fast Leave to achive Fast Channel Change.

- **Security**
  - CS4010 is enhanced by Marvell Network Shield Technology (NST). It provides mechanisms for detecting and protecting network devices from a range of attacks and security threats in data plane.
  - Either, the DHCP Snooping and Dynamic ARP Inspection can protect network from malicious user or attacker in control plan

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■ Specification

Features	CS4010-29Q-AC	CS4010-29Q- HPOEF-AC
Dimensions (W × D × H) (mm)	440 × 350 × 43.6	440 × 350 × 43.6
Weight (kg)	4.36	4.80
Fans	2	4
Air duct	From right to left	From right to left
Power Supply	150W AC	915W AC
Input Voltage	Rated voltage range: 100V ~ 240V AC, 50 / 60HZ	
Production Power	Static: 60W Full load: 110W	Static: 60 W Full load: 830W
Operating Temperature	0℃ ~ 45℃	
Operating Humidity (non-condensing) Environmental	5% ~ 95%	
Port	24*2.5GbE + 4*10GbE Combo + 1*40GbE QSFP+	
10GBASE-T SFP+/RJ45 Combo Port	4	4
40GE QSFP+ Port	1	1
2.5GBASE-T Port	24	24
Switching Capacity	170 Gbps	

Features	CS4010-29Q-AC	CS4010-29Q- HPOEF-AC
Forwarding Rate	154.75 Mpps	
Green (Power Efficiency)	Support IEEE (802.3az) Support automatically turn power off on port Support port power off timing	
Layer 2 Features		
Spanning Tree	IEEE 802.1D	
	IEEE 802.1s	
	IEEE 802.1w	
	PVRST+	
	Support for Portfast, Root Guard, BPDU Guard, Loop Guard	
VLAN	Port and Protocol based VLAN MAC based VLAN Subnet based VLAN Port based VLAN	
	GVRP / GARP / GMRP	
	VLAN Stacking	
Port Control	Jumbo Frame	
	Enable / disable Flow Control	
LLDP (v1, v2), LLDP MED	Support	
Uplink Switching	Support	
Strom Control	Broadcast, unknown-unicast and unregistered multicast	
l2 Multicast	IGMP Snooping v1/v2/v3	
	MLD Snooping Mechanism	
	IGMP / MLD Snooping Proxy	
	IGMP Filtering	
	Multicast VLAN	
Layer 3 Features		

Features	CS4010-29Q-AC	CS4010-29Q- HPOEF-AC
Unicast Routing	Dual IP Stack Support	
	RIP v1/v2	
	OSPF v2/v3	
	OSPF Virtual Routing	
	BGP4	
ECMP	Support	
Redundancy	VRRP	
ARP/ND	Support	
QoS Features		
Scheduling	WRR	
	Strict Priority (SP)	
	Hybrid (WRR +SP)	
COS	MAC Address based Priority	
	802.1p based COS	
	IP TOS / IP Precedence based COS	
	IP TOS / DSCP based COS	
	TCP / UDP Port based COS	
Rate Limiting	Ingress Storm Control / Egress Rate Limiting	
	Per Port, Per Flow	
Diffserv	Support	
Security Features		
Port Based Network Access Control (802.1x)	Port-Based Authentication	
	Port based and MAC based Authentication	
	Supplicant Support	
	Support either Local Authentication Server or Remote Authentication Server	
	EAP Pass-Through	

Features	CS4010-29Q-AC	CS4010-29Q- HPOEF-AC
ACL	L2 / L3 ACLs L2 MAC SA / DA L2 802.1p L3 ToS / DSCP ACL Mapping to Priority Queue ACL Mapping to TCP Flags ACL Packet Filtering on TCP Flags	
IP Authorized Manager	Support	
DHCP Snooping	Support	
Dynamic ARP Inspection	Support	
RADIUS authentication	Support	
TACACS+ Authentication	Support	
Management Features		
Web BasedManaement	HTTP / HTTPS / IPv4 / IPv6	
Telnet/SSH/Console CLI		
Telnet Client	IPv4 / IPv6	
SSH Client	RADIUS Client – IPv4 and IPv6; TACACS+ Client – IPv4 and IPv6; Support for Authentication Functionality	
Software image upgrade	TFTP / SFTP	
SNMP	v1/v2c/v3	
RMON	RMONv1 and RMONv2	
Mirroring	Port-based ACL-based	

Features	CS4010-29Q-AC	CS4010-29Q- HPOEF-AC
	MAC Filter-based VLAN-based	
Digital Optical Monitoring and SFP monitoring	Support	
BOOTP	BOOTP Server	
DHCP(IPv4)	Client, Server, Relay Agent for IPv4 Option 82 and RAIO Sub Option 2	
DHCP(IPv6)	Stateless DHCP Server and Client Service for IPv6 for specific options assignment DHCPv6 Relay Agent with prefix delegation	
IPv6 Address Auto Configuration	Support	
System Logs Email Alerts	Remote server	
	System Log Client and Relay	
	SMTP	
DNS Client IPv4/IPv6	Support	
SNTP Client	Support	

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■ Applications

- CIG CS4010 series offers performance, security, efficiency, intelligence and energy-savings in access and enterprise networks. Here are a few applications:
  - Large-scale enterprises that require Gigabit LAN access
  - Access or aggregate layer in provider network
  - Public systemS like government agencies, hospitals, libraries, colleages / schools, convention centers, theaters and etc.
  - WiFi 802.11ac Wave2 Access Point aggregration for IP Phone, WLAN and high-definition camera
  - High performance Gigabit port Server Farm aggragation and 10G/40G uplink in enterprise data center

■ Ordering Information

Type	Product Description
CS4010-29Q-AC	24*2.5GbE + 4*10GbE Combo + 1*40GbE QSFP+, 150W AC
CS4010-29Q-HPOEF-AC	24*2.5GbE + 4*10GbE Combo + 1*40GbE QSFP+, POE+ / UPOE, 915W AC

■ List of supported SFP+ Optical Modules

Factory	Module Name	Center Wavelength	Interface Connector Type	Interface Cable Spec	The Maximum transmission Distance
SUMITOMO	SPP5100CA-H1-51	1310nm	LC	9/125um	10km
JDSU	JSH-01ZWAA1	1310nm	LC	9/125um	10km
FINISAR	FTLX1471D3BCL	1310nm	LC	9/125um	10km
AVAGO	AFBR-707SDZ	1310nm	LC	9/125um	10km
HUAWEI	MTRS-02X13-G	1310nm	LC	9/125um	10km

JDSU	PLRXPL-SC-S43-HW	1310nm	LC	9/125um	10km
OPLINK	TPC1XGKZRCZAB30G	1310nm	LC	9/125um	10km

■ List of supported QSFP+ Optical Modules

Factory	Module Name	Center Wavelength	Interface Connector Type	Interface Cable Spec	The Maximum Transmission Distance
INNOLIGHT	TR-QQ13T-N00	1310nm	LC	9/125um	2km
FINISAR	QSFP-LR4-40G	1310nm	LC	9/125um	10km
HUAWEI	TR-QQ13L-N00	1310nm	LC	9/125um	10km
AVAGO	AFBR-79EQDZ	850nm	MPO	50/125um	100m

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