

HES-3109 Managed CPE Switch



8-Port 10/100/1000Base-T with 1-Port
100/1000Base-X or 10/100/1000Base-T Managed
Gigabit CPE Switch

Features

- **IPv4/IPv6 Dual Stack**
Support IPv6 management, packet forwarding and MLD v1/v2 snooping
- **SFF-8472 Diagnostic Monitor Interface**
Allow administrator to view SFP information and status including speed, distance, vendor ID, vendor S/N, temperature, voltage, TX bias, etc.
- **Rich in functions to facilitate multimedia streaming**
Support IGMP snooping, IGMP fast leave, IGMP filtering to intelligently transmit multicast traffic and deliver IPTV service.
- **Q-in-Q VLAN Tagging**
Allow service providers to implement Metro Ethernet service while maintaining the layer-2 separating of different customers.
- **Unique Power Down Trap Technology**
Built-in CTS unique SNMP power down trap function and detect network fault caused by power outage rapidly.
- **Optional Cable Tray**
This is a flexible option for FTTH installation. Users can keep excessive fiber inside the cable tray to have extra protection for the sensitive fiber.
- **DHCP Auto-Provision with Text Based Config File**
Fulfill the deployment requirement and reduce the OPEX of device maintenance for service providers or operators.

Description

Connection Technology Systems (CTS) HES-3109 is a Gigabit Ethernet 10/100/1000Base-T to 100/1000Base-X CPE Switch within an eye-catching pearl-white box. Often, the fiber is intentionally left longer than it actually needs. Optional cable tray allows users to enclose the excessive fiber within the box, providing extra protection for the sensitive fiber.

HES-3109 switches the traditional twisted-pair RJ-45 cable into various fiber media including multi-mode, single-mode, or bi-directional WDM. The traditional transmission distance of 100m over RJ-45 copper can be greatly extended using fiber.

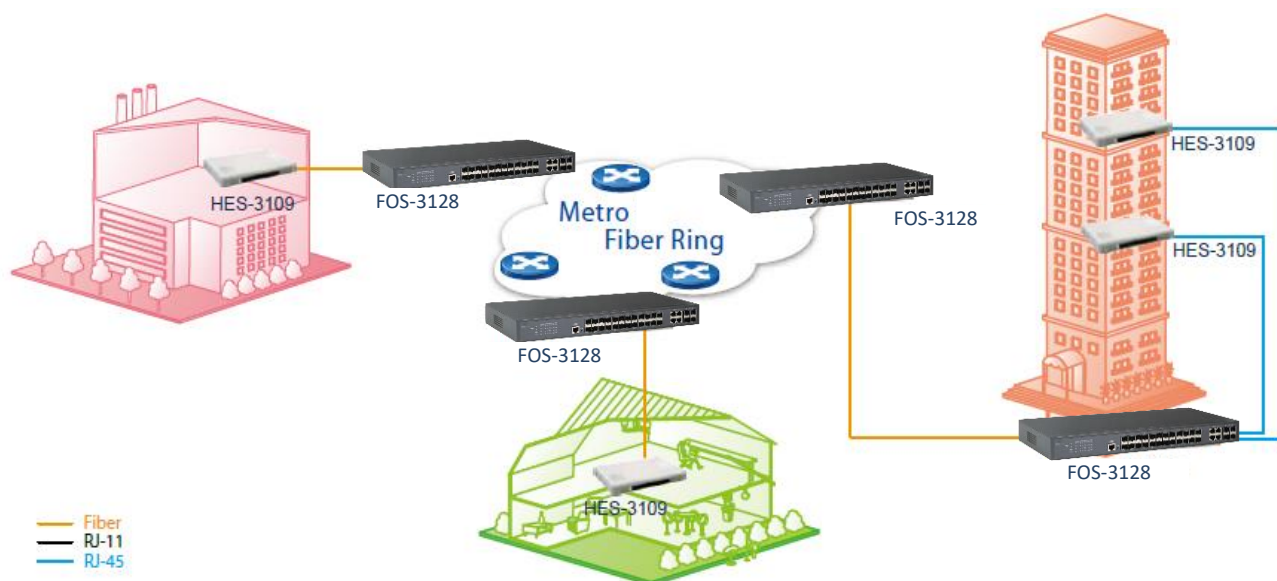
HES-3109 is fully compliant with IEEE 802.3, 802.3u, 802.3ab and 802.3z standards. You can connect to another switch or NIC through RJ-45 ports without crossover cables and monitor the status through comprehensive LED display.

HES-3109 can be easily managed by Web interface, CLI, Telnet, SNMP, and DHCP auto-provision. With CTS unique Power Down Trap feature, HES-3109 is able to send out a SNMP trap message when unexpected power outage occurs.

Target Applications

- **SOHO & Residential CPE switch application**
which requires network management for FTTH service deployment.

Application Diagram



Specification

Interface

TP Port:
8 x 10/100/1000Base-T RJ-45
Fiber Port:
1 x 100/1000Base-X fiber port

Standards

IEEE 802.3 10Base-T
IEEE 802.3u 100Base-T/FX
IEEE 802.3ab 1000Base-T
IEEE 802.3z 1000Base-X
IEEE 802.1p Priority
IEEE 802.1q Tag VLAN
IEEE 802.3x Flow Control

H/W Specification

Store and Forward Switching Mechanism
Auto-Cross Over for MDI/MDI-X in TP Port
Auto-Negotiation in TP Port
Half/Full Duplex Mode Operation
MAC address Table: 8K
Non-Blocking Switching Fabric: 18Gbps
Memory Buffer: 128K Bytes
Jumbo Frame up to: 9K Bytes

Forward / Filter Rate

10M : 14,880/14,880pps
100M : 148,800/148,800pps
1000M : 1,488,000/1,488,000pps

LED

Power, Port Link/Act, Status
LED ON/OFF Control Button

Switch Feature

IEEE 802.1q Tag VLAN
Q-in-Q VLAN Tag
QoS based P-bit, VLAN & DSCP
Priority Queues : 4 Queues
Bandwidth Control
Storm Control
IGMP Snooping v1/v2
VLAN ID: 4K
VLAN Group: 128
Loop Detection
DHCP-Option60-Based VLAN
Port Mirroring
DHCP Snooping
DHCP Relay Agent with Option 82/37
DHCP Server Trust Port

Network Management

IPv4/IPv6 dual stack
Stateless Address Autoconfiguration (SLAAC)
Power Down Trap
Network Time Protocol (NTP)
WEB/SNMP/CLI/Telnet Interface
Support SNMP v1/v2c
DHCP Client
DHCP Auto Provision
DHCPv6
Text Based Config
FTP, TFTP Firmware & Configuration Upgrade
SFP SFF-8472 DDMI (Digital Diagnostic Management Interface)
Layer Link Discovery Protocol (LLDP)
Event Log, Syslog

Power Requirement

External Power Adaptor:
AC Input: 100VAC~240VAC
Frequency Range: 50~60Hz
DC Output: 12V
Power Max. Consumption:
-AC Side: 11.8W
-DC Side: 8.3W

Environmental Condition

Operation: 0°C ~ 50°C
Storage Temperature: -20°C ~ 60°C
Humidity: 5% ~ 90%, non-condensing

Dimension & Weight

Main Unit:
Size: 228 x 148 x 33mm (W x D x H)
Weight: 0.7KG
Main Unit with Cable Tray
Size: 228 x 191.5 x 46mm (W x D x H)

EMC/Safety

FCC Class A, CE

Order Information

HES-3109 / HES-3109-DR

Model	Fiber Ports					TP Ports		CATV RF Receiver	Power Type
	Speed(Mbps)	Type	Connector	Distance	Ports	Speed(Mbps)	Ports		
HES-3109FC	1000	MM	SC	550M	1	10/100/1000	8	-	External Power Adapter
HES-3109FC (SM-10/20/30/50/80)	1000	SM	SC	10/20/30/ 50/80KM	1	10/100/1000	8	-	External Power Adapter
HES-3109W2A (SM-10/20/40)	1000	WDM	SC	10/20/40KM	1	10/100/1000	8	-	External Power Adapter
HES-3109W2B (SM-10/20/40)	1000	WDM	SC	10/20/40KM	1	10/100/1000	8	-	External Power Adapter
HES-3109W2A(SM-10)-DR	100/1000	WDM	SC	10KM	1	10/100/1000	8	-	External Power Adapter
HES-3109W2B(SM-10)-DR	100/1000	WDM	SC	10KM	1	10/100/1000	8	-	External Power Adapter
HES-3109SFP-DR	100/1000	SFP	-	-	1	10/100/1000	8	-	External Power Adapter
HES-3109TP	-	-	-	-	-	10/100/1000	9	-	External Power Adapter
HES-FCT	Fiber Cable Management Tray Unit								

SFP-31-DR

Model	Fiber Port					
	Speed(Mbps)	Type	Connector	Distance	Wavelength (nm)	Temperature
SFP-31FC-DR	100/1000	MM	LC	2KM/550M	1310	0°C to 70°C
SFP-31FC(SM-10)-DR	100/1000	SM	LC	10KM	1310	0°C to 70°C
SFP-31W2A(SM-10/20)-DR	100/1000	WDM	LC	10/20KM	TX:1310/1310	0°C to 70°C
					RX:1550/1550	
SFP-31W2B(SM-10/20)-DR	100/1000	WDM	LC	10/20KM	TX:1550/1550	0°C to 70°C
					RX:1310/1310	

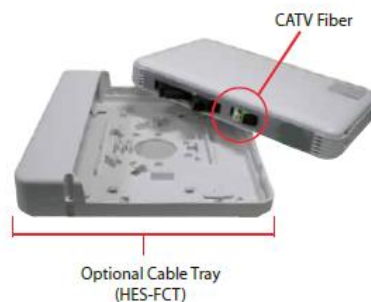
SFP-31

Model	Fiber Port					
	Speed(Mbps)	Type	Connector	Distance	Wavelength (nm)	Temperature
SFP-31FC	1000	MM	LC	550M	850	0~70°C
SFP-31FC (SM-10/20/40/50/80/120)	1000	SM	LC	10/20/40/50/ 80/120KM	1310/1310/1310/1550/1550/1550	0~70°C
SFP-31W2A (SM-10/20/40/60/80)	1000	WDM	LC	10/20/40/ 60/80KM	TX:1310/1310/1310/1310/1510	0~70°C
					RX:1550/1550/1550/1550/1570	
SFP-31W2B(SM- 10/20/40/60/80)	1000	WDM	LC	10/20/40/ 60/80KM	TX:1550/1550/1550/1550/1570	0~70°C
					RX:1310/1310/1310/1310/1510	
SFP-31FC-C11	1000	CWDM	LC	80KM	1470	0~70°C
SFP-31FC-C12	1000	CWDM	LC	80KM	1490	0~70°C
SFP-31FC-C13	1000	CWDM	LC	80KM	1510	0~70°C
SFP-31FC-C14	1000	CWDM	LC	80KM	1530	0~70°C
SFP-31FC-C15	1000	CWDM	LC	80KM	1550	0~70°C
SFP-31FC-C16	1000	CWDM	LC	80KM	1570	0~70°C
SFP-31FC-C17	1000	CWDM	LC	80KM	1590	0~70°C
SFP-31FC-C18	1000	CWDM	LC	80KM	1610	0~70°C

With Optional Cable Tray (HES-FCT)



Without Cable Tray



* This is an overview of CTS HES series and does not represent specific product details.