



Description

Connection Technology System (CTS) HES-5106SFP+ is a CPE switch with 4-Port 10/100/1000Base-T RJ-45, 1-Port 1/2.5/5/10G N-Base-T RJ-45, and 1 additional 1/10Gbps SFP+ fiber slot. It is housed with an eye-catching pearl-white case and supports conversion between 10/100/1000Base-T, 1/2.5/5/10G N-Base-T, and 1/10G Base-X network. Also, HES-5106SFP+ is fully compliant with IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.3an, and 802.3ae standards. The operation status can be monitored through the comprehensive LED display.

HES-5106SFP+ provides user-friendly but advanced IPv4/IPv6 management interface and abundant L2 switching functions. It is the best investment for businesses and SOHOs expanding or upgrading their network infrastructure with cost-effective and high-speed for FTTX solution.

Equipped with the 1/2.5/5/10G RJ-45 port, HES-5106SFP+ can connect to high performance 11ac Wi-Fi AP. And the 10G fiber uplink slot enables HES-5106SFP+ to handle extremely large amounts of data transmission in a high performance environment.

HES-5106SFP+

4 x 10/100/1000Mbps RJ-45 +

1 x 1/2.5/5/10Gbps RJ-45 +

1 x 1/10Gbps SFP+

Fiber Managed Ethernet CPE
Switch

■ IPv4/IPv6 Dual Stack

Support IPv6 management, packet forwarding and MLD v1/v2 snooping.

■ Diagnostic Monitor Interface

Allow administrator to view SFP information and status including speed, distance, vendor ID, vendor S/N, temperature, voltage, TX bias, etc.

■ Functions Facilitating Multimedia Streaming

Support IGMP snooping, IGMP fast leave, and 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 can rapidly detect network fault caused by power outage.

■ 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.

Target Applications

- **SOHO & Residential CPE switch application which requires network management for 10G FTTX service deployment.**

■ Interface

- Front Panel:
- 4 x 10/100/1000Mbps RJ-45
- 1 x 1G/2.5G/5G/10G RJ-45
- Rear Panel:
- 1 x 1G/10Gbps SFP+
- 1 x-Reset Button

■ Standards

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3bz 2.5G/5GBase-T
- IEEE 802.3an 10GBase-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3ae 10GBase-R
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.3x Flow Control

■ H/W Specification

- MAC address table: 16K
- Non-Blocking Switching Fabric: 48Gbps
- Packet Buffer: 12Mbit
- Jumbo Frame: 9K Bytes
- Store and Forward Switching Mechanism
- Flash : 32M Bytes
- RAM : 128M Bytes

■ LED

- Power, Status, WAN, LAN 1~5

■ Forward/Filter Rate

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

■ Layer 2 Switch Features

- VLAN**
- IEEE 802.1q VLAN
- VLAN ID: 4094 IDs
- VLAN Concurrent Groups: 4K VLAN Groups
- Port-Based VLAN
- VLAN Translation (44 entries)
- Q-in-Q Double tag with Configurable Ether Type

Access Control List

- Physical port, Ether Type, MAC address, VID, ToS/DSCP, Protocol Type, L4 Port and IP address
- ACL Entries (IPv4: 64 ; IPv6: 32)

QoS

- QoS 802.1p CoS / DSCP
- Scheduling Algorithm
- Weighted Round Robin (WRR)
- Strict Priority Queuing (SPQ)
- QoS Priority Queues: 8 Queues
- 802.1p P-bit & DSCP Remarking
- Port-based rate limit (ingress/egress)

Multicast

- IGMP snooping v1/v2/v3
- IGMP Fast Leave and Querier
- MLD snooping v1/v2
- MLD Querier
- IGMP/MLD Snooping Group: 512/128 Groups
- IP Multicast Filter with Segment and Profile
- Static Multicast Group

IPv6 Feature

- IPv6 over Ethernet (RFC 2464)
- IPv6 Addressing Architecture (RFC 4291)
- IPv6 Dual Stack (RFC 4213)
- ICMPv6 (RFC 4884)
- Path MTU Discovery for IPv6 (RFC 1981)
- Neighbor Discovery (RFC 4861)
- DHCPv6 Client

Advance

- DHCP Auto-Recycle
- LAN follows WAN

■ Security

- 802.1x RADIUS Authentication
- IP Source Binding
- DHCP Option 82/37 Relay Agent
- DHCP Option 82/37 with configurable circuit and Remote ID
- DHCP Snooping and DHCP server trust port (IPv4 - 256 entries; IPv6 - 256 entries)
- IP Source Guard
- Port Isolation
- Storm Control (Unknown Unicast/Unknown Multicast/Broadcast)
- Port Linkup Delay
- Port Link Flap
- Loop Detection

■ Management

- HTTP/HTTPS/SSHv2/Telnet
- SNMP v1/v2c/v3
- TR-069/181 *
- Text Based CLI Configure file
- Auto Backup Configuration
- Port Configuration
- Speed/Duplex/Flow Control/Description
- NTP with Daylight Saving Time
- Static MAC address Table: 128 Entries
- Software LED control

■ Maintenance

Diagnostic

- Port Mirror (4 entries)
- ICMP Ping
- Event log
- Syslog
- Port Link Flap log (Per port Max. 100 records)
- SFP SFF-8472 DDMI monitor
- CPU Temperature
- CPU and Memory Statistics
- Port counters
- Power Down Trap

Upgrade/Restore

- Firmware Upgrade/Downgrade
- HTTP/HTTPS/FTP/TFTP
- DHCP Auto-provision via DHCP option 60/43
- Configuration Restore/Backup
- HTTP/HTTPS/FTP/TFTP
- DHCP Auto-provision via DHCP option 60/43

■ Power Requirement

- External Power Adaptor
- Input AC: 100V~240V 50/60Hz
- Output DC Rating: 12V/2.1A
- Power Consumption (Max.):
- AC Side: 14.2W
- DC Side: 12.86W

■ Environmental Condition

- Operation Temperature: 0°C ~ 40°C
- Storage Temperature: -20°C ~ 60°C
- Humidity: 5% ~ 90%, Non-condensing

■ Dimension & Weight

- Size: 230 x 149 x 31.1mm (W x D x H)
- Weight: 0.6kg

■ EMC/Safety

- FCC Class B, CE

* Under development function

** Future feature

Application Diagram



Order Information

HES-5106SFP+

Model	Fiber Port			10G TP Port		1G TP Port		Support Power Source
	Speed	Type	Port	Speed	Port	Speed	Port	
HES-5106SFP+	1/10G	SFP+	1	1/2.5/5/10G	1	10/100/1000M	4	External power adapter

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Accessory

SFP-51

Model	Fiber Port					
	Speed	Type	Connector	Distance	Wavelength	Temperature
SFP-51FC	10Gbps	MM	LC	300M	850nm	0°C~70°C
SFP-51FC(SM-10/20)	10Gbps	SM	LC	10/20KM	1310/1310nm	0°C~70°C
SFP-51W2A(SM-10/20)	10Gbps	WDM	LC	10/20KM	TX: 1270/1270nm RX: 1330/1330nm	0°C~70°C
SFP-51W2B(SM-10/20)	10Gbps	WDM	LC	10/20KM	TX: 1330/1330nm RX: 1270/1270nm	0°C~70°C

SFP-31-DR

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

SFP-31

Model	Fiber Port					
	Speed	Type	Connector	Distance	Wavelength	Temperature
SFP-31FC	1000Mbps	MM	LC	550M	850nm	0°C~70°C
SFP-31FC(SM-10/20)	1000Mbps	SM	LC	10/20KM	1310/1310nm	0°C~70°C
SFP-31W2A(SM-10/20)	1000Mbps	WDM	LC	10/20KM	TX: 1310/1310nm RX: 1550/1550nm	0°C~70°C
SFP-31W2B(SM-10/20)	1000Mbps	WDM	LC	10/20KM	TX: 1550/1550nm RX: 1310/1310nm	0°C~70°C

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