

# HES-3106 Series Managed CPE Switch



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Gigabit Ethernet 5-Port 10/100/1000Base-T with 1-Port 1000Base-X or 100/1000Base-X or 10/100/1000Base-T Uplink Managed CPE Switch

## Features

- **IGMP Snooping v1/v2**  
Support popular IGMP snooping v1/v2 to facilitate the IPTV service deployment
- **Support Q-in-Q VLAN**  
With Q-in-Q VLAN stacking, the service providers can transport the encapsulated traffic for different customers without security risk
- **DHCP Auto-Provision with Text Based Config File**  
Fulfill the deployment requirement and reduce the OPEX of device maintenance for service providers or operators
- **SNMP Power Down Trap**  
Popular SNMP trap message to rapidly identify network fault due to power outage and reduce truck rolls to save OPEX for service providers
- **Dual Rate with Auto-Sensing Function**  
Dual Rate CPE Switch with auto-sensing function can automatically adjust to the speed of the slide-in fiber transceiver. This can save the cost when upgrading the device from 100Mbps to 1000Mbps
- **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.
- **Smart Lighting Control**  
LED indicators for link activities and status can be quickly switched ON/OFF by pressing a control button. This Smart Lighting Control can turn off LED blinking indicators specially at night for household users to prevent light pollution
- **Green Ethernet**  
Comply with IEEE 802.3az standard. It allows HES-3106 to provide high performance with minimum power

## Description


Connection Technology System (CTS) HES-3106 series CPE switch is the Gigabit Ethernet 10/100/1000Base-T to 1000Base-X or 100/1000Base-X CPE switch with eye-catching pearl-white box. It switches the traditional twisted-pair RJ-45 cable into various fiber optics media including multi-mode, single-mode, SC/ST connector, bi-directional WDM fiber transceiver. The fiber optics port of HES-3106 can support connection distance from 550m to 20 Km or even reach 120 KM via multi-mode fiber, single mode fiber or Bi-directional single mode fiber for the deployment to the household, apartment or campus.

The HES-3106 series CPE switch is fully compliant with IEEE 802.3, 802.3u, 802.3ab, and 802.3z standards. The user can connect other switches or NIC through HES-3106 series CPE switch into RJ45 ports without crossover cables and monitor the status through comprehensive LED display.

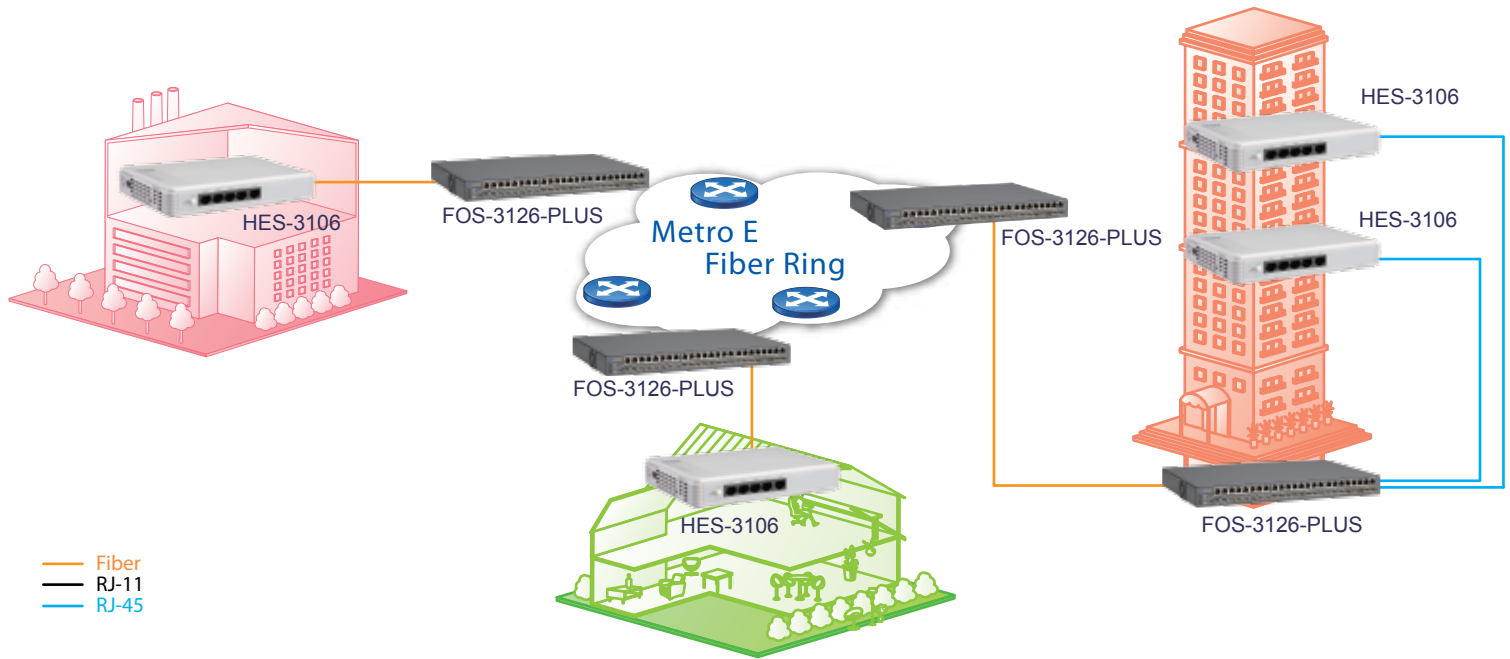
The HES-3106 series CPE switch can be easily managed by Web GUI, telnet CLI, and SNMP. To fulfill the requirement of mass deployment, the device also supports the auto provisioning mechanism to allow the operators or service providers to manage the device automatically and dynamically. Consequently, it can significantly help to save the OPEX (operational cost) for the operators or service providers. With CTS unique power down trap feature, HES-3106 is able to send out a SNMP trap message when unexpected power outage occurs.

## Target Applications

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

\*\*  For Specific Model. Please check Order Information for details.

## Application Diagram



## Specification

### Interface

LAN: 10/100/1000Base-T RJ45 x 5  
 WAN: 1000Base-X F/O or 100/1000Base-X F/O or 10/100/1000Base-T x 1

### Standard

IEEE 802.3 10Base-T  
 IEEE 802.3u 100Base-TX/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 Crossover for MDI/MDI-X in TP port  
 Auto Negotiation in TP port  
 Half/Full Duplex Mode Operation  
 Jumbo Frame: 9K bytes  
 MAC Address Table: 2K  
 VLAN ID: 4K  
 Priority Queues: 4 Queues

### Forward / Filter Rate

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

### LED

Power, LAN, F/O, Status,

### Switch Feature

Port Based VLAN  
 Q-in-Q Double Tag  
 IEEE802.1q Tag Based VLAN  
 Support 128 VLAN Groups  
 QoS Based on P-bit, VLAN & DSCP  
 Bandwidth Control  
 IGMP Snooping v1/v2

### Network Management

Web Management  
 Telnet CLI  
 SNMP Management  
 SNMP v1/v2c  
 DHCP Client  
 DHCP Auto Provision  
 Power Down Trap  
 FTP/TFTP Firmware Upgrade  
 Loop Detection

### Power Requirement

External Power adaptor  
 AC input: 100VAC~240VAC  
 Frequency range: 50~60Hz  
 DC output rating: 12V/1.5A  
 Power Consumption  
 - AC side: 7.08W (MAX.)  
 - DC side: 5.8W (MAX.)

### Environmental Condition

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

### Dimension & Weight

HES-3106  
 - Size: 180x 130 x 30mm (WxDxH)  
 - Shipping Weight: 0.85kg

HES-3106 with Cable Tray  
 - Size: 180x180x42mm (WxDxH)

### EMC/Safety

FCC Class A,  
 CE

For further reports, please contact us for update

## Optional Cable Tray Overview

With optional cable tray (HES-FCT-S )

Without cable tray



Fiber Port



Optional Cable Tray

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

### Order Information

HES-3106 Series

Model	Fiber port					TP port		Power Type
	Speed	Type	Connector	Distance	Port	Speed	Ports	External power adaptor
HES-3106FC	1000M	MM	SC	550m	1	10/100/1000M	5	External power adaptor
HES-3106FC(SM-10/20/30/50/80)	1000M	SM	SC	10/20/30/50/80Km	1	10/100/1000M	5	External power adaptor
HES-3106W2A(SM-10/20)	1000M	WDM	SC	10/20 Km	1	10/100/1000M	5	External power adaptor
HES-3106W2B(SM-10/20)	1000M	WDM	SC	10/20 Km	1	10/100/1000M	5	External power adaptor
HES-3106W2A(SM-10/20)-DR	100/1000	WDM	SC	10/20 Km	1	10/100/1000M	5	External power adaptor
HES-3106W2B(SM-10/20)-DR	100/1000	WDM	SC	10/20 Km	1	10/100/1000M	5	External power adaptor
HES-3106SFP-DR	100/1000	SFP	-	-	1	10/100/1000M	5	External power adaptor
HES-3106TP	-	-	-	-	-	10/100/1000M	6	External power adaptor
HES-FCT-S	Fiber Cable Management Tray Unit For HES Series							

Order Information

SFP-31-DR Series

MODEL	FIBER PORT				
	Speed	Type	Connector	Distance	Wavelength
SFP-31FC-DR	100Mbps/1000Mbps	MM	LC	550M/2KM	1310nm
SFP-31FC(SM-10)-DR	100Mbps/1000Mbps	SM	LC	10KM	1310nm
SFP-31W2A(SM-10/20)-DR	100Mbps/1000Mbps	WDM	LC	10/20KM	TX:1310nm RX:1550nm
SFP-31W2B(SM-10/20)-DR	100Mbps/1000Mbps	WDM	LC	10/20KM	TX:1550nm RX:1310nm

SFP-31 Series

MODEL	FIBER PORT				
	Speed	Type	Connector	Distance	Wavelength
SFP-31FC	1000Mbps	MM	LC	550M	850nm
SFP-31FC(SM-10/20/40/50/80/120)	1000Mbps	SM	LC	10/20/40/50/80/120KM	1310nm/1310nm/1310nm/1550nm/1550nm/1550nm
SFP-31W2A(SM-10/20/40/80)	1000Mbps	WDM	LC	10/20/40/80KM	TX:1310nm/1310nm/1310nm/1490nm RX:1550nm/1550nm/1550nm/1570nm
SFP-31W2B(SM-10/20/40/80)	1000Mbps	WDM	LC	10/20/40/80KM	TX:1550nm/1550nm/1550nm/1570nm RX:1310nm/1310nm/1310nm/1490nm
SFP-31FC-C09	1000Mbps	CWDM	LC	80KM	1430nm
SFP-31FC-C10	1000Mbps	CWDM	LC	80KM	1450nm
SFP-31FC-C11	1000Mbps	CWDM	LC	80KM	1470nm
SFP-31FC-C12	1000Mbps	CWDM	LC	80KM	1490nm
SFP-31FC-C13	1000Mbps	CWDM	LC	80KM	1510nm
SFP-31FC-C14	1000Mbps	CWDM	LC	80KM	1530nm
SFP-31FC-C15	1000Mbps	CWDM	LC	80KM	1550nm
SFP-31FC-C16	1000Mbps	CWDM	LC	80KM	1570nm
SFP-31FC-C17	1000Mbps	CWDM	LC	80KM	1590nm
SFP-31FC-C18	1000Mbps	CWDM	LC	80KM	1610nm

SFP-21 Series

MODEL	FIBER PORT				
	Speed	Type	Connector	Distance	Wavelength
SFP-21FC	100Mbps	MM	LC	2KM	1310nm
SFP-21FC(SM-20/40/80)	100Mbps	SM	LC	20/40/80KM	1310nm/1310nm/1550nm
SFP-21W2A(SM-20/40/80)	100Mbps	WDM	LC	20/40/80KM	TX:1310nm/1310nm/1490nm RX:1510nm/1510nm/1570nm
SFP-21W2B(SM-20/40/80)	100Mbps	WDM	LC	20/40/80KM	TX:1510nm/1510nm/1570nm RX:1310nm/1310nm/1490nm
SFP-21W2A(SM-20)SC	100Mbps	WDM	SC	20KM	TX:1310nm RX:1550nm
SFP-21W2B(SM-20)SC	100Mbps	WDM	SC	20KM	TX:1550nm RX:1310nm
SFP-21FC-C09	100Mbps	CWDM	LC	80KM	1430nm
SFP-21FC-C10	100Mbps	CWDM	LC	80KM	1450nm
SFP-21FC-C11	100Mbps	CWDM	LC	80KM	1470nm
SFP-21FC-C12	100Mbps	CWDM	LC	80KM	1490nm
SFP-21FC-C13	100Mbps	CWDM	LC	80KM	1510nm
SFP-21FC-C14	100Mbps	CWDM	LC	80KM	1530nm
SFP-21FC-C15	100Mbps	CWDM	LC	80KM	1550nm
SFP-21FC-C16	100Mbps	CWDM	LC	80KM	1570nm
SFP-21FC-C17	100Mbps	CWDM	LC	80KM	1590nm
SFP-21FC-C18	100Mbps	CWDM	LC	80KM	1610nm