FOS-5128

24 Port 100/1000X + 4 Port 1/10G SFP+ Managed Fiber Switch

24-port 100/1000Base-X SFP + 4-port 1/10GBase-R SFP+ Managed Fiber Access Switch

Features

- Up to 10Gbps Uplink Speed
  Equipped with four 10G ports to fulfill the demand of higher bandwidth for traditional internet services and over-the-top services.
- IPv4/IPv6 Dual Stack
  Support IPv6 management, packet forwarding and MLD v1/v2 snooping
- Multimedia Streaming Facilitated Functions
  Support IGMP snooping, IGMP fast leave, IGMP filtering to intelligently transmit multicast traffic and deliver IPTV service.
- VLAN Translation
  Allow service providers to implement Metro Ethernet service by translates the original VLAN ID to new VLAN ID with different priority for different customers.
- IEEE 802.3ad Link Aggregation
  A cost-efficient way to increase bandwidth and reliability by grouping multiple links into one.
- Power Supply Redundancy
  By combining two power sources (2AC or 2DC or 1AC + 1DC), power redundancy can be well achieved.

Description

At the course of trends, bandwidth always keeps improving due to heavy workloads. Connection Technology Systems (CTS) FOS-5128 is a Layer 2 access switch equipped with 24 dual-speed SFP slots and 4 x 1/10Gbps SFP+ uplink ports. All SFP slots can accommodate a wide range of SFP transceivers including single-mode, WDM or CWDM transceivers. FOS-5128 is perfect for service providers and enterprises who plan to implement FTTX or Metro Ethernet networks, with further spanning into triple-play service.

FOS-5128 delivers wire-speed throughput for data, voice and IPTV services, using non-blocking 128Gbps switching fabric. 1+1 power supply design can provide seamless power changeover to reach sustainability of power if one of the power supplies failed.

Many services providers are extending their existing data service with triple-play service because it generates higher revenue return by combining data, voice, and IPTV in one box. Advanced features including IGMP snooping, IGMP fast leave, IGMP filtering, various QoS classifications and rate limit control facilitate service providers to deploy and manageable network environment and deliver a successful triple-play service.

In order to provide customers extra security and separation, FOS-5128 has come with Q-in-Q feature. This feature enables service providers to separate different customers at layer 2 level no matter what VLAN setting the end customer has.

With carrier-grade in mind, while keeping user-friendly for administrators, FOS-5128 can be easily managed by web interface, console, telnet CLI, SNMP and DHCP auto-provision.

Target Applications

- FTTX Metro Ethernet Implementations.

Specification

■ Interface
-SFP Slot:
24 x 100/1000Base-X SFP
-SFP+ Slot:
4 x 10GBase-SR/LR SFP+
Compatible with 1000Base-X transceiver
-Console Port:
1 x RS-232 to RJ-45 serial port
-Terminal Block
1 x Digital Input (Dry contact)

■ Standards
IEEE 802.3u 100Base-FX
IEEE 802.3z 1000Base-X
IEEE 802.3 ae 10Gb/s Ethernet
IEEE 802.3ad Link Aggregation (LACP)
IEEE 802.1ab LLDP
IEEE 802.1p Priority
IEEE 802.1q Tag VLAN
IEEE 802.1d STP
IEEE 802.1w RSTP
IEEE 802.1x Port based Network Access Control

■ H/W Specification
MAC Address table: 16K
Non-blocking Switching Fabric: 128Gbps
Throughput @ 64Bytes: 95.2Mpps
Packet Buffer: 12Mbit
Jumbo Frame: 9K Bytes
Store and Forward Switching Mechanism

■ LED
-Power A & B, Status, COM, Speed/Link/Act

■ Forward/Filter Rate
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
-Q-in-Q Double tag with Configurable Ether Type
-Selective Q-in-Q

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)

Network Redundancy
-IEEE 802.1d Spanning Tree Protocol (STP)
-IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
-IEEE 802.3ad Link Aggregation (LACP)
-Static Port Trunking
-Up to 14 Aggregation Groups, 8 Ports per Group

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

IPv6 Feature
-IPv6 over Ethernet (RFC 2464)
-IPv6 Addressing Architecture (RFC 4291)
-IPv6 Dual Stack (RFC4213)
-ICMPv6 (RFC4884)
-Path MTU Discovery for IPv6 (RFC 1981)
-Neighbor Discovery (RFC4861)
-DHCPv6 Client

Layer 2 Protocol Tunneling
-CDP, LLDP, STP, VTP, LACP, PAgP & UDLD

Access Control List
-Physical port, Ether Type, MAC address, VID, ToS/DSCP, Protocol Type, L4 Port and IP address
-96 ACL entries

■ Security
-802.1x Port Base Access Control
-802.1x RADIUS Authentication
-802.1x MAC Authentication Bypass
-RADIUS Based VLAN Assignment
-DHCP Option 82 Relay Agent
-DHCP Option 82 with configurable circuit and Remote ID
-DHCP Snooping and DHCP server trust port
-IP Source Guard
-Port Isolation
-Storm Control
Unknown Unicast/Unknown Multicast/Broadcast
-MAC Limiter
-Loop Detection

■ Management
-SNMP v1,v2c & v3/Web/Telnet/HTTPS/SSHv2/CLI
-Text Base CLI Configure file
-Port Configuration
Speed/duplex/flow control/Description
-NTP with Daylight Saving Time
-Layer 2 Control Protocol filter
-Static MAC address Table
-LLDP

■ Maintenance
Diagnostic
-Port Mirror
-ICMP Ping
-Event log
-Syslog
-SFP SFF-8472 DDMI monitor
-CPU
Temperature/Utilization
-Memory Statistics

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

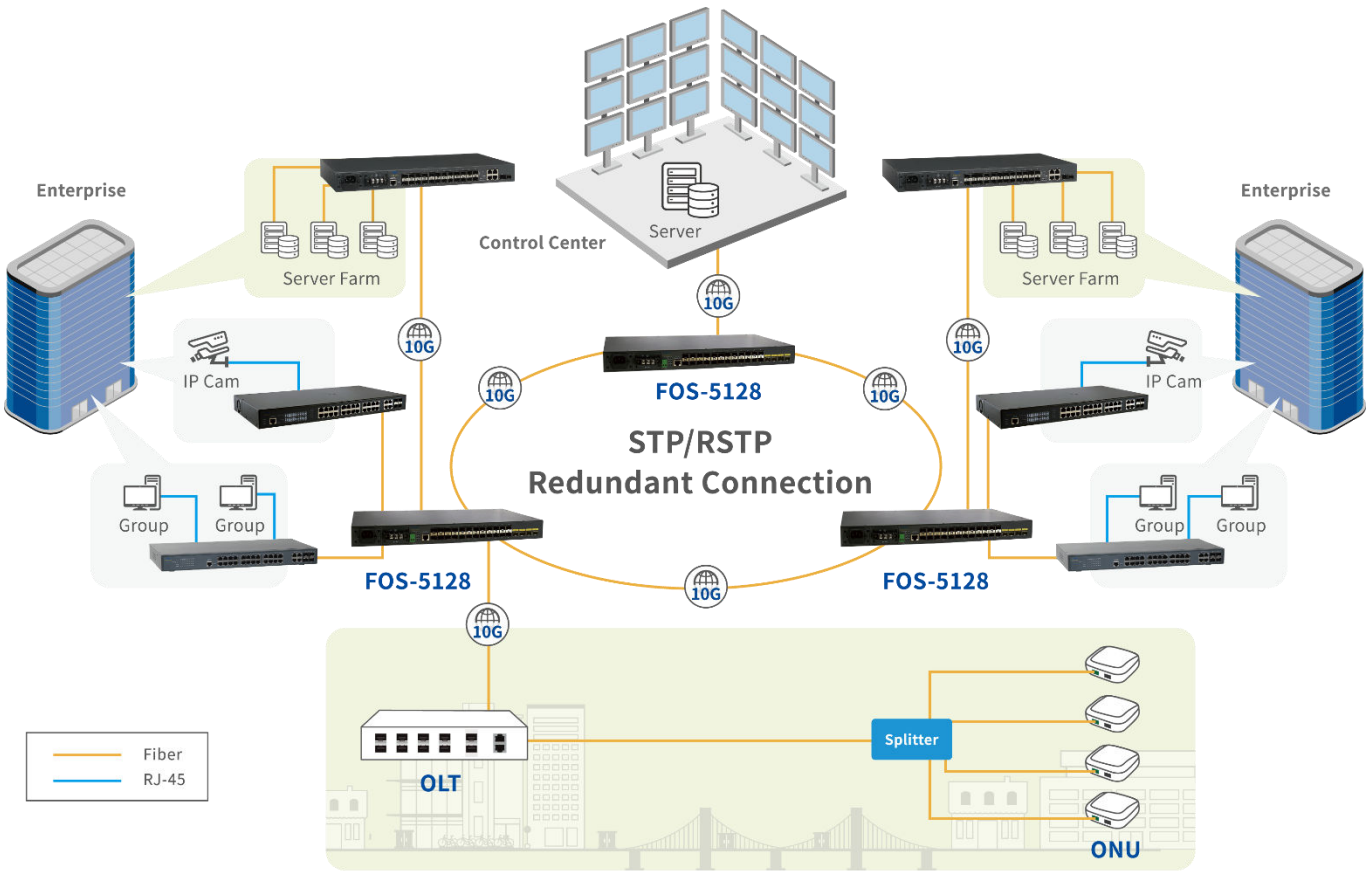
■ Power Requirement
Input AC: 100V ~ 240V 50/60Hz
Input DC: 48V (Range: 44 ~ 52V)
Power Consumption (Max.): 40W

■ Environmental Condition
Operation: 0˚C ~ 50˚C
Storage: -20˚C ~ 60˚C
Humidity: 5% ~ 90%, Non-condensing

■ Dimension & Weight
Size: 440 x 230 x 44 mm (W x D x H)
Weight: 3.32kg

■ EMC/Safety
FCC Class A, CE

Application Diagram



Order Information

FOS-5128

Model	1G Fiber Ports			10G Fiber Ports			Support Power Source
	Speed	Type	Ports	Speed	Type	Ports	
FOS-5128-1A	100/1000Mbps	SFP	24	1/10Gbps	SFP+	4	Fixed 1 Internal AC
FOS-5128-2A	100/1000Mbps	SFP	24	1/10Gbps	SFP+	4	Fixed 2 Internal AC
FOS-5128-1D	100/1000Mbps	SFP	24	1/10Gbps	SFP+	4	Fixed 1 Internal DC
FOS-5128-2D	100/1000Mbps	SFP	24	1/10Gbps	SFP+	4	Fixed 2 Internal DC
FOS-5128-1AD	100/1000Mbps	SFP	24	1/10Gbps	SFP+	4	Fixed 1 Internal AC and 1 Internal DC

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	2KM/550M	1310nm	0 ~ 70˚C
SFP-31FC(SM-10)-DR	100/1000Mbps	SM	LC	10KM	1310nm	0 ~ 70˚C
SFP-31W2A(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1310/1310nm RX: 1550/1550nm	0 ~ 70˚C
SFP-31W2B(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1550/1550nm RX: 1310/1310nm	0 ~ 70˚C

SFP-31

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