DZS

M1100

Ultra-low Latency Carrier Ethernet Switch

The M1100 is carrier Ethernet switch designed for mobile backhaul networks with 10 Gigabit capacity and rigid quality-of-service and security needs.

Features & Benefits

+ Two 10GE Ethernet ports

+ Optional 10GE, XGS-PON or GPON

+ Ethernet OAM 802.1ag and Y.1731

+ SNMPv1/v2/v3 with RMO, Alarms

+ Improved QoS and differentiated traffic service

+ RADIUS, TACACS+ Authentication•

+ TWAMP Reflection function

+ IEEE1588v2TC/BC, Synchronous Ethernet

+ IP65 with fan-less design

The M1100 is a compact L2 switch for mobile backhaul environment which supports four 10/100/1000Base-T (RJ45) ports, four 1000Base-X (SFP) ports and two 10GBase-R (SFP+). The M1100 can be used for a variety of new, revenue-generating applications, such as a L2 Ethernet LAN switch in high rise buildings or as a datacenter application and aggregation switch. It can be used for various application scenarios as a mobile AnyHaul switch for the mobile, business, and residential markets (2G, 3G, 4G, LTE and/or IP/ MPLS). With low power consumption and high service scale, the M1100 is optimized for small aggregation and remote point-of-presence (POP) applications providing amazing deployment flexibility and efficiency.

This switch has two optional slots for uplink interface unit and clock synchronization unit. The M1100 supports optional uplink modules including 1-port 10GBase-R, 1-port GPON, or 1-port XGS-PON interface module. The unit also supports an optional Clock Interface Module.

The M1100 has forward facing interfaces with management and console ports located on the front panel. The M1100 provides fixed DC power which is fed to the M1100 via DC type of power connectors on the front panel

Extraordinary Capacity and Flexibility

The M1100 provides the capacity and flexibility needed to support the transport requirements of next generation mobile networks, as well as a wide range of network architectures. With 10Gigbit switching capacity and fixed 8-port 100/1000Base-T (RJ45) interfaces, 8-port 100/1000Base-X (SFP) interfaces and 1-slot IU (Interface Unit) supporting 8-port 1GbE or 2-port 10GbE interfaces per slot, the M1100 system provides Layer 2 switching, Ethernet switching and carrier-class functionalities. Applications include Virtual local area network (VLAN) and Link Aggregation Control Protocol (LACP) in compliance with IEEE 802.3ad.

Network Timing and QoS

Using the optional Clock Module interface the M1100 offers timing services allowing mobile clocking synchronization from the core of the network. For the M1100, QoS-based forwarding prioritizes traffic into a number of classes and marks the packets accordingly. Different quality of service settings can be provided to each class The rich QoS capabilities enable network managers to protect mission-critical applications and support differentiated level of bandwidth for managing traffic.

Enhanced Security Features

The M1100 supports client authentication protocol, RADIUS (Remote Authentication Dial-In User Service) and TACACS+ (Terminal Access Controller Access Control System Plus). Not only is the user IP and password registered in switch but also authentication through RADIUS server and TACACS+ server enhancing the security of the system and network management. Other security features include storm control for broadcast, multicast and unknown unicast packets, out-of-band management, and Secure Shell (SSH) support.

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Product Specifications

Capacity

+ 512MByte Flash
+ 512MByte DDR3 SDRAM
+ Max. 76Gbps switching capacity base on full duplex
+ Main switching block in Base board with fixed I/O Interface

Interfaces

+ 2-port 10GBase-R optical Interfaces
+ Slot for interface units (IUs):
    > 10Gigabit Ethernet Interface
    > GPON optical Interface
    > XGS-PON optical Interface
+ Slot for clock module for network synchronization
+ 4-port 10/100/1000Base-T (RJ45)
+ 4-port 1000Base-X optical Interfaces
+ 1-port of RS-232 Interface for Console Debug mode
+ 1-port of 10/100Base-TX Management

Multicast

+ IGMPv1/v2/v3
+ IGMP snooping

Layer 2 Capabilities

+ Standard Ethernet Bridging
+ 802.1Q VLAN
+ 802.1ad Q-in-Q over Ethernet OAM
+ VLAN stacking/translation
+ 16K MAC address entries
+ Spanning tree: STP, RSTP, MSTP
+ 802.3ad Link aggregation
+ Jumbo frame 9k
+ Port mirroring
+ IEEE 802.1ag (Except LM/DM)
+ ITU-T Y.1731 (Except LM/DM/PM)Rule/QoS
+ Serial/Telnet (CLI)

QoS

+ IP ACL, MAC ACL
+ Scheduling mode – SP, WRR, DWRR
+ DSCP and Cos marking
+ SrTCM / TrTCM

Clock Synchronization

+ IEEE 1588v2 Transparent Clock (TC) and Boundary Clock (BC)

Security

+ Storm control
+ DoS attack protection
+ RADIUS/TACACS+ authentication
+ CPU traffic protection
+ Outband management
+ Secure Shell (SSH)

Traffic Management

+ Serial/Telnet (CLI)
+ SNMPv1/v2/v3
+ DHCP client, relay
+ Single IP management
+ RMON
+ Syslog

Regulation and Compliance

+ IEC/EN 62368-1
+ UL 62368-1
+ CE Mark
+ CISPR 32
+ FCC Part 15B / + ICES-003

Physical & Environmental Specifications

Dimensions ((W x H x D)	300 x 44 x 190 mm
Weight	1.9 kg (without IU and CM)
Operating temperature	-20°C ~ 50°C (XGSPON) -40°C ~ 65°C (GPON or Ethernet)
Storage temperature	-40~158°F (-40~70°C)
Operating humidity	0 to 90 % (non-condensing)
DC power	48VDC

Maximum power consumption	23.2W (without IU and CM) 29W (with IU_GPON and CM)
Service i/f	4 x 10/100/1000Base-T (RJ45) 4 x 1000Base-X (SFP) 2 x 10GBase-R (SFP+)
Uplink i/f	1 x 10GBase-R (SFP+) 1 x GPON (SC/UPC) 1 x XGS-PON (SFP+)
Serial i/f, CLI	RS232 (RJ45)
Ethernet i/f for MGMT	10/100/1000Base-T (RJ45)

Ordering Information

Base Unit	
M1100	2-Port 10GBase-R, 4-Port 1000Base-X, 4-Port 10/100/1000Base-T
	10/100Base-T Management interface
	Clock Module (for BC mode*applied in the future)
	-48VDC Input Power – 2-pin Molex Connector
IU_10GE	1-Port 10GBase-R interface
IU_GPON	1-Port GPON interface
IU_XGSPON	1-Port XGS-PON interface
CM	Clock Module
IU_BLANK	Blank panel

SFP/SFP+ Modules	
1GE Optical Module	
SFP-GE-SX	Wavelength: 850 nm / Distance: 550 m / Mode: Multimode
SFP-GE-LX10	Wavelength: 1310 nm / Distance: 10 km / Mode: Singlemode
SFP-GE-LX20	Wavelength: 1310 nm / Distance: 20 km / Mode: Singlemode
SFP-GE-BX17AH	Wavelength: 1310 nm FP Tx / Distance: 10km with 9/125 8m Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
SFP-GE-BX17BH	Wavelength: 1490 nm DFB Tx /Distance: 10km with 9/125 8m Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
SFP-GE-BX21AH	Wavelength: 1310 nm DFB Tx / Distance: 40km with 9/125 8m SMF Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
SFP-GE-BX21BH	Wavelength: 1490 nm DFB Tx / Distance: 40km with 9/125 8m SMF Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
SFP-GE-BX22AH	Wavelength: 1490 nm DFB Tx / Distance: 80km with 9/125 8m SMF Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
SFP-GE-BX22BH	Wavelength: 1570 nm DFB Tx / Distance: 80km with 9/125 8m SMF Connector: LC / Data rate: 1.25/1.063 Gbit/s / Core type: Single Core
10GE Optical Module	
SFPP-10GE-SR	Wavelength : 850nm / Distance : 300m / Mode : Multimode Connector : LC / Data rate : 10.3125 Gbit/s / Core type : Dual Core
SFPP-10GE-LR	Wavelength : 1310nm / Distance : 10Km / Mode :Single-mode Connector : LC / Data rate : 10.3125 Gbit/s / Core type : Dual Core
SFPP-10GE-ER	Wavelength : 1550nm / Distance : 40Km / Mode :Single-mode Connector : LC / Data rate : 10.3125 Gbit/s / Core type : Dual Core
Copper SFP	
Copper SFP	1.25 Gigabit Ethernet over Cat 5 Cable Distane : 100m / Connector : RJ-45
XGS-PON Module	
XGS-PON TSVR	Wavelength : 1270nm / Distance : 20km / Mode : Singlemode Connector : SC / Data rate : 9.953Gbit/s / Core type : Dual Core Tx Power: +4 ~ +9dBm, Rx sensitivity: -28dBm, Saturation Optical Power: -7dBm