

## E3226PC



### E3226PC In-building Small Cell switch

E3226PC is a L2+ managed Switch that combines the feature set of Enterprise applications with Mobile Transport and Carrier Ethernet. The E-Series is the ideal solution to complement DZS FiberLAN™ with point-to-point, in-building Small Cell deployments.

#### Features & Benefits

- + High switching capacity
- + Fully Managed solution
- + Feature rich, L2 and L3
- + Synchronization support for Small Cells
- + Ethernet Ring Protection Switching
- + Advanced OAM
- + Green Ethernet
- + Active PoE up to 30W per port

E3226PC delivers 24 Gigabit Ethernet electrical ports (RJ45 10M/100M/1G) with PoE+ support (802.3 at/af with a total budget of 740W) on the subscriber side, and 2 combo (RJ45/SFP) Gigabit Ethernet ports on the network side.

The E3226PC provides high switching capacity and performance for a wide range of applications supporting a mix of enterprise, industrial and carrier grade features.

The comprehensive Management features provide users with an easy-to-use/configure/install/troubleshoot system that supports a wide range of LAN applications including video surveillance, wireless access, small cells, and other carrier applications.

E3226PC is ideal an ideal solution for the interjection of enterprise and mobile applications, with ease of use, outstanding user experience, and lowest total cost of ownership.

# In-building Small Cell switch



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## Feature-rich Specifications to Support Various Applications

The switch delivers extensive industrial and carrier grade functionalities, including linear (LEPS) and ring (ERPS) protection with ITU-T G.8031, ITU-T G.8032 respectively, with quick restoration times.

Mobile coverage for indoor locations where macrocell signal is low requires the deployment of Small Cells. These Mobile Transport applications have tight requirements for synchronization in frequency and phase. The E3226PC supports IEEE 1588v2, Precision Time Protocol (PTP), a timing standard used to synchronize clocks throughout a packet-based network. PTP can be used to achieve clock accuracy in the sub-microsecond range, making it suitable for measurement and control systems and Mobile Transport applications.

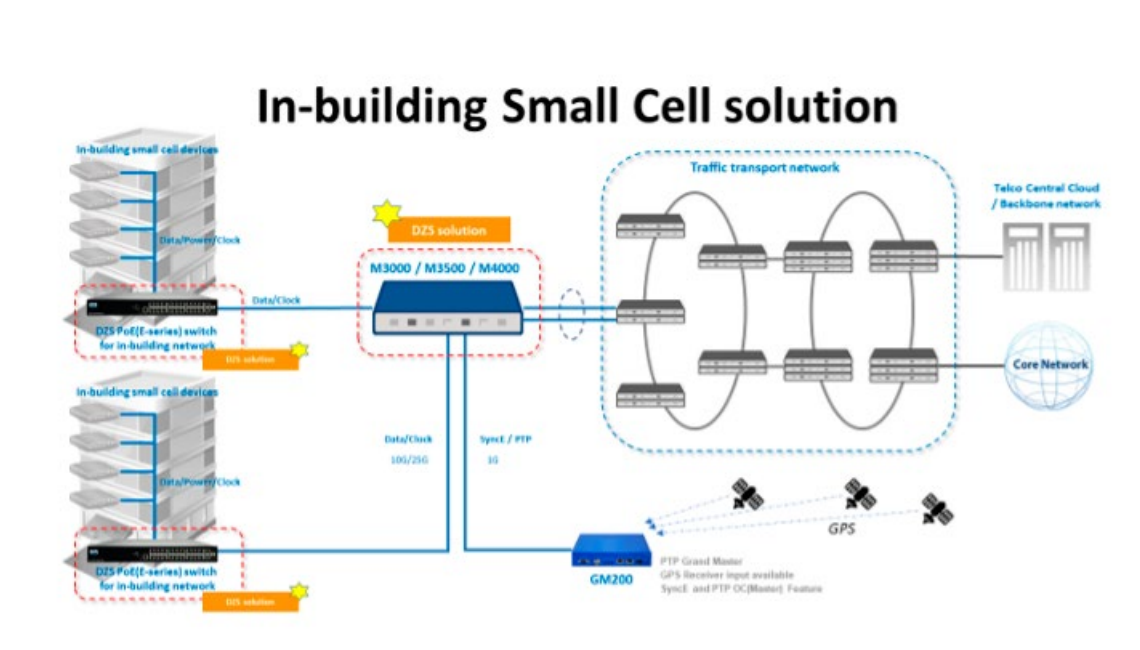
E3226PC provides advanced Active PoE features such as PoE auto-checking, PoE scheduling, and PoE power delay for users to manage the powered devices easily.

## Superior Reliability through OAM and CFM for Service Assurance

The E-Series family of switches provides Operation, Administration and Maintenance (OAM) support according to the industry main standards IEEE 802.1ag/802.3ah & Y.1731. These standards provide the required mechanisms for the network operators to monitor and guarantee that the proper service level requirements are met at all times. A comprehensive set of OAM tools can greatly simplify network management and monitoring resulting in reduced operational expenditures.

## Lowing Total Cost of Ownership (TCO) with Energy-efficient Design

The switches part of the E-Series portfolio are designed to help companies to save power needs and reduce TCO. The E3226PC supports Energy Efficient Ethernet (IEEE 802.3az) standard, which is widely used for in building and campus applications to build a greener packet switched network.



Typical Use Case: E-Series switch provides Small Cell aggregation while M-Series switch implements Mobile backhaul

# E3226PC

## Features, Protocols, Interfaces

### Capacity

- + 38.68 Mpps
- + 52 Gbps
- + MAC Table size 8K
- + Max Frame 9216 Bytes

### Interfaces

- + Fixed 24-port 1G RJ45
- + Fixed 2-port 1G Combo RJ45/SFP
- + 1-port of GE Out of Band MGMT

### Management

- + SNMP 1, 2c, 3
- + HTTP/HTTPS/SSH
- + S-Flow
- + UPnP
- + Dual Firmware bank
- + NTP
- + Syslog
- + IPv6 Management
- + RMON
- + HW/SW Monitoring/Watchdog

### QoS

- + 8 Hardware Queues
- + Scheduling
  - > SP and WRR
- + Queue assignment based on DSCP/CoS Classification
  - > Port based
  - > 802.1p VLAN priority based
  - > IPv4/IPv6 precedence / DSCP based
  - > DiffServ
  - > Classification and re-marking ACLs
- + Rate Limiting
  - > Ingress policer
  - > Egress shaping and rate control
  - > Per port

### Layer 2 Capabilities

- + Standard Spanning Tree 802.1d
- + Rapid Spanning Tree (RSTP) 802.1w
- + Multiple Spanning Tree (MSTP) 802.1s
- + IEEE 802.3ad LACP
- + Up to 5 groups / 4 ports per group
- + Port-based VLAN
- + 802.1Q tag based VLAN
- + MAC-based VLAN
- + Management VLAN
- + Private VLAN Edge (PVE)
- + Q-in-Q (double tag) VLAN
- + Voice VLAN
- + GARP VLAN Registration Protocol (GVRP)
- + DHCP Relay
- + DHCP Option 82
- + IGMP v1/v2/v3 Snooping
- + Supports 1024 multicast groups
- + IGMP Querier
- + IGMP Proxy
- + IGMP snooping with proxy reporting
- + IGMP Report suppression
- + MLD v1/v2 Snooping
- + Multicast VLAN Registration (MVR)
- + LLDP
- + Port Mirroring

### Carrier Ethernet

- + ITU-T G.8031 ELPS
- + ITU-T G.8032 ERPS
- + IEEE 802.3ah OAM
- + IEEE 802.1ag CFM
- + ITU-T Y.1731 PM
- + IEEE 1588v2 PTP

### Layer 3 Capabilities

- + IPv4 Static Routing
- + IPv6 Static Routing
- + DHCP Client/Server
- + DHCPv6 Client

### Security

- + Secure Shell (SSH)
- + Secure Sockets Layer (SSL)
- + IEEE 802.1X RADIUS Authentication
- + IGMP-RADIUS based 802.1X
- + RADIUS Dynamic VLAN assignment
- + Layer 2 Isolation Private VLAN Edge (PVE)
- + Port Security - Fixed MAC
- + IP Source Guard
- + RADIUS/ TACACS+
- + Storm Control
- + DHCP Snooping
- + ACLs (256 entries, drop, rate limit)
- + ACL Classifiers:
  - > S/D MAC addr, S/D IP addr
  - > VLAN ID, Protocol, port, DSCP
  - > IP precedence, S/D TCP/ UDP port
  - > 802.1p, Ethernet type, ICMP, TCP flag
- + Loop Protection

### PoE Support

- + IEEE 802.3af/at
- + PoE Scheduling, Auto-Checking
- + Power Delay

### Regulation and Compliance

- + IEC/EN 62368-1
- + UL 62368-1
- + EN 55032/35 / EN61000
- + AS/NZS CISPR 32
- + FCC Part 15B / + ICES-003

## Physical & Environmental Specifications

Dimensions (W x H x D)	442 mm x 44 mm x 211 mm
Weight	< 4 kg
Operating temperature	-31 to 104°F (0 to 40°C)
Storage temperature	-4~158°F (-20~70°C)
Operating humidity	10 to 90 % (non-condensing)
Altitude	<1000 ft (<3000 m)

AC power	100-240VAC, 50/60Hz
Maximum power consumption	740 W
OOB Management	10/100/1000Base-T (RJ45)
UNI	24 x 10/100/1000 Base TX
NNI	2 x 1G Combo SFP/RJ45
Certifications	CE, CE, UL, FCC, FCC

## Ordering Information

Model	Description
1GE Optical Module	
E3226PC-AC-NA	8XGE POE + 2X1G COMBO PTP SINGLE AC PWR, NA POWER CORD
E3226PC-AC-EU	8XGE POE + 2X1G COMBO PTP SINGLE AC PWR, EU POWER CORD
E3226PC-AC-UK	8XGE POE + 2X1G COMBO PTP SINGLE AC PWR, UK POWER CORD
E3226PC-AC-00	8XGE POE + 2X1G COMBO PTP SINGLE AC PWR, NO POWER CORD

## Interface Unit and Connector Specifications

The following different optical modules are available and can be inserted into the dedicated modules.

Model	Description
1GE Optical Module	
SFP-GE-SX	SFP SFP-GE-SX Wavelength: 850 nm / Distance: 550 m / Mode: multi-mode
SFP-GE-LX10	SFP GE LX10 Wavelength: 1310 nm / Distance: 10 km / Mode: single mode
SFP-GE-LX20	SFP GE LX20 Wavelength: 1310 nm / Distance: 20 km / Mode: single mode
SFP-GE-LX40	SFP GE LX40 Wavelength: 1550 nm / Distance: 40 km / Mode: single mode

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