



HARDENED



FLEXIBILITY



UPLINKS



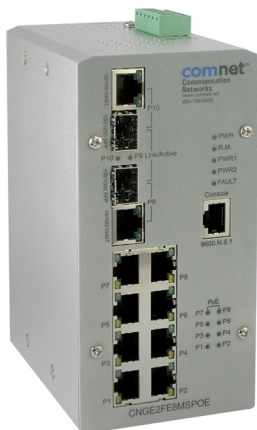
802.3af



2



8



The ComNet™ CNGE2FE8MSPOE Managed Ethernet Switch provides eight (8) 10/100 BASE-TX ports and two (2) 10/100/1000TX or 100/1000FX combo ports. The CNGE2FE8MSPOE is environmentally hardened and designed for use in difficult environments, and is available for use with CAT-5e copper or optical transmission media. The 8 electrical ports support the 10/100 Mbps IEEE 802.3 protocol. It features auto-negotiating and auto-MDI/MDIX to assist installation. All 8 ports support IEEE 802.3af Class 1 - 3 based Power over Ethernet (PoE). Two ports are 10/100/1000 configurable for copper or fiber media by selected by optional SFP modules. These network managed layer 2 switches are optically (100/1000 BASE-FX) and electrically compatible with any IEEE 802.3 compliant Ethernet devices.

FEATURES

- › Environmentally hardened for direct deployment in difficult unconditioned out-of-plant and roadside installations
- › Tested and certified by an independent laboratory for full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and CALTRANS Traffic Signal Control Equipment Specifications
- › Extended ambient operating temperature range: -40° C to +75° C (Functional to 85°C)
- › 10/100 BASE-TX and 100/1000 BASE-FX compatible
- › Uses SFP modules for fiber and connector type and distance
- › Redundant power supply compatibility reduces possibility of single-point-of-failure for highest possible reliability
- › IGMP Snooping V1/V2 for multicast filtering and IGMP Query V1/V2
- › Port based VLAN (IEEE 802.1Q)
- › IEEE 802.3af Class 1 - 3 PoE
- › Rapid Spanning Tree protocol (IEEE 802.1W)
- › Port Based Security
- › Bi-color LED status indicators confirm operating status
- › Power Supply Sold Separately
- › Lifetime warranty

APPLICATIONS

- › ITS Traffic Signalization & Surveillance/Incident Detection Networks
- › Industrial and Factory Automation
- › Integrated IP-Video and Data Transmission Networks
- › Industrial Security Access Control Systems

* Small Form-Factor Pluggable Module. Sold separately.

BENEFITS

System Interface/Performance

- RJ45 port support Auto MDI/MDI-X function
- Embedded 8-port PoE inject function
- SFP supports 100/1000 Dual Mode
- Store-and-Forward Switching Architecture
- Back-plane (Switching Fabric): 5.6Gbps
- 1Mbits Packet Buffer
- 8K MAC Address Table
- Redundant Power Supply Design

VLAN

- Port Based VLAN
- Support 802.1 Q Tag VLAN
- GVRP

Port Trunk with LACP

QoS (Quality of Service)

- Support IEEE 802.1p Class of Service
- Per port provides 4 priority queues
- Port Base, Tag Base and Type of Service Priority

Port Mirror: Monitor traffic in switched networks

- TX packet only
- RX packet only
- Both TX and RX packet

Security

- Port Security: MAC address entries/filter, MAC violation port shutdown
- IP Security: IP address security management to prevent unauthorized intruder
- Login Security: IEEE 802.1X/RADIUS

IGMP

- Query mode for Multi Media Application
- Support multicast filter

X-Ring

- X-Ring, Dual Homing, Couple Ring and Dual Ring Topology
- Provide redundant backup feature and the recovery time below 20ms

Provides EFT protection 4KV for power line

Spanning Tree

- Support IEEE 802.1d Spanning Tree
- Support IEEE 802.1w Rapid Spanning Tree

Support IEEE 802.1ab LLDP

Bandwidth Control

- Ingress Packet Filter and Egress Rate Limit
- Broadcast/Multicast Packet Filter Control

System Event Log

- System Log Server/Client
- SMTP e-mail Alert
- Relay Alarm Output System Events

SNMP Trap

- Device cold start
- Authentication failure
- X-ring topology change
- Port Link Up/ Link Down
- PoE port events

TFTP Firmware Update / System Configure Restore & Backup

Supports 6000 VDC Ethernet ESD protection

Standard Compliance

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX/100Base-FX
- IEEE 802.3z Gigabit fiber
- IEEE 802.3ab 1000Base-T
- IEEE 802.3x Flow Control and Back Pressure
- IEEE 802.3ad Port trunk with LACP
- IEEE 802.1d Spanning Tree/ IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1p Class of Service
- IEEE 802.1q VLAN Tag
- IEEE 802.1x User Authentication (Radius)
- IEEE 802.3af Class 1 – 3 Power over Ethernet
- IEEE 802.1ab LLDP

SOFTWARE FEATURES

Management

SNMP v1, v2c, v3/ Web/Telnet/CLI

SNMP MIB

RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB

VLAN

Port Based VLAN
IEEE 802.1Q Tag VLAN (256 entries)/VLAN ID (UP to 4K, can be assigned from 1 to 4096) GVRP (256 Groups)

Port Trunk w/ LACP

LACP Port Trunk: 4 Trunk groups/ Maximum 4 Trunk members

LLDP

Supports LLDP to allow switch to advise its identification and capability on the LAN

Spanning Tree

Supports IEEE 802.1d Spanning Tree and IEEE 802.1w Rapid Spanning Tree

X-Ring

Supports X-Ring, Dual Homing, Couple Ring and Dual Ring Topology. Provides redundant backup feature and the recovery time below 20ms.

QoS

Quality of Service is determined by port, Tag and IPv4 Type of Service, IPv4 Different Service

Class of Service

Supports IEEE 802.1p class of service, per port provides 4 priority queues

Port Security

Supports 100 entries of MAC address for static MAC and another 100 for MAC filter; MAC violation port shut down

Port Mirror

Supports 3 mirroring types: RX, TX and Both packet

IGMP

Supports IGMP snooping V1/V2; 256 multicast groups and IGMP query

IP Security

Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.

Login Security

Supports IEEE 802.1X Authentication/RADIUS

Bandwidth Control

Supports ingress packet filter and egress packet limit. The egress rate control all of the packet types and the limit rates are 100K-102400Kbps(10/100), 100K-256000Kbps(1000). Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set from 100K-102400Kbps(10/100), 100K-256000Kbps(1000).

Flow Control

Supports Flow Control for Full-duplex and Back Pressure from Half-duplex

System Log

Supports System log record and remote system log server

SMTP

Supports SMTP Server and 6 e-mail accounts for receiving event alert

Relay Alarm

Provides one relay output for port breakdown, power fail and alarm. Alarm Relay current carry ability: 1A @ DC24V

SNMP Trap

Cold start, Port link up, Port link down, Authentication Failure, PD disconnect trap-PoE port event.

DHCP

Provides DHCP Client/ DHCP Server/ Port and IP Binding

DNS

Provides DNS client feature and support Primary and Secondary DNS server

SNTP

Supports SNTP to synchronize system clock in Internet

Firmware Update, configuration backup and restore

Supports TFTP firmware update, system configure backup and restore

If Alias

Each port allows importing 128 bit of alphabetic string of words on SNMP and CLI interface.

HARDWARE SPECIFICATIONS

Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port
Packet Buffer	1Mbits
Mac Address	8K MAC address table
Flash ROM	4Mbytes
DRAM	32Mbytes
Connectors¹	10/100TX: 8 × RJ45 10/100/1000T and 100/1000FX Combo: 2 × RJ45 + 2 × SFP sockets RS232 connector: RJ45 type
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable. EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/5E cable. EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5e or 6 cable. EIA/TIA-568 100-ohm (100m)
Optical Fiber¹	Requires selection of sold-separately SFP Modules. See ComNet data sheet "SFP Small Form-Factor Pluggable Modules" for number and description of SFP modules.
PoE pin assignment	RJ45 port #1 - #8 support IEEE 802.3af End-point, Alternative A mode. Per port provides 15.4 W ability Positive (VCC+): RJ45 pin 1, 2 Negative (VCC-): RJ45 pin 3, 6
Protocol	CSMA/CD
Indicating LEDs	10/100TX, Giga Copper, Speed, SFP, Power, Fault, Master, FWD

Power	
Power Supply ²	PoE: 48VDC, Redundant power and connective removable terminal block for local and remote power Non-PoE: 12 - 48 VDC
Power Consumption	136 Watts (Full load), 12 Watts without PoE

Electrical & Mechanical	
Cooling	Natural convection.
Case	Metal case. IP-30,
Size (W × D × H)	2.84 × 4.13 × 5.98 in (7.2 × 10.5 × 15.2 cm)
Shipping Weight:	<5 lbs / 2.3 kg

Environmental	
MTBF	>100,000 hours
Operating Humidity	5% to 95% (Non-condensing)
Operating Temperature	-40°C to 75°C (Functional to 85°C)
Storage Temperature	-40°C to 85°C

[1] Multimode fiber needs to meet or exceed fiber standard ITU-T G.651. Single mode fiber needs to meet or exceed fiber standard ITU-T G.652

[2] Power supply not included. See Ordering Information below.



ORDERING INFORMATION

Part Number	Description
CNGE2FE8MSPOE	Environmentally Hardened Managed Ethernet Switch with (8) 10/100TX + (2) 10/100/1000TX RJ45 or 100/1000 FX SFP Ports
Options	[2] ComNet™ PS48VDC-5ADIN Recommended Power Supply (Not Included)

Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J. In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

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