



HARDENED



FLEXIBILITY



UPLINKS



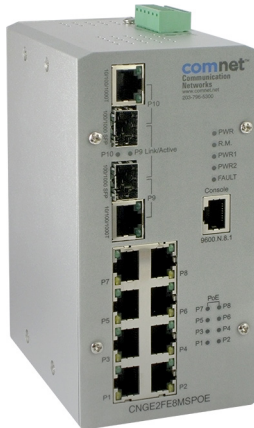
802.3af



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 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 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 AND FEATURES

### 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

### 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

- SSH/SSL: Secure Switch Management
- 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

### X-Ring+

- X-Ring+, Legacy Ring, and Couple Ring Topology
- Provide redundant backup feature and the recovery time <10ms

### Provides EFT protection 4KV for power line

### Spanning Tree

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

### 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

### 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 Power over Ethernet
- IEEE 802.1ab LLDP

### 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

### Class of Service

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

### IGMP

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

### Flow Control

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

### Relay Alarm

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

### 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**

<b>Transfer Rate</b>	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Ethernet port
<b>Packet Buffer</b>	1Mbits
<b>Mac Address</b>	8K MAC address table
<b>Flash ROM</b>	4 Mbytes
<b>DRAM</b>	32 Mbytes
<b>Connectors<sup>1</sup></b>	10/100TX: 8 × RJ45 10/100/1000T and 100/1000FX Combo: 2 × RJ45 + 2 × SFP sockets RS232 connector: RJ45 type
<b>Network Cable</b>	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)
<b>Optical Fiber<sup>1</sup></b>	Requires selection of sold-separately SFP Modules. See ComNet data sheet "SFP Small Form-Factor Pluggable Modules" for number and description of SFP modules.
<b>PoE pin assignment</b>	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
<b>Protocol</b>	CSMA/CD
<b>Indicating LEDs</b>	10/100TX, Giga Copper, Speed, SFP, Power, Fault, Master, FWD

<b>Power</b>	
Power Supply <sup>2</sup>	PoE: 48 to 56 VDC, Redundant power with removable terminal block for local and remote power Non-PoE: 12to- 56 VDC
Power Consumption	136 Watts (Full load), 12 Watts without PoE
<b>Electrical &amp; Mechanical</b>	
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
<b>Installation</b>	DIN Rail (35mm track) or Wall Mount
<b>Environmental</b>	
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-5A 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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