



HARDENED



FLEXIBILITY



UPLINKS



30W POE



2



8



The ComNet™ CNGE2FE8MSPOE+ is a hardened Managed Ethernet Switch. It provides IEEE 802.3at (30W) PoE+ to eight 10/100BASE-T(X) and has two-gigabit combination SFP or RJ-45 ports. Up to 240 watts of PoE or PoE+ power is available for distribution across all 8 TX ports. All SFP ports utilize ComNet SFP* modules for fiber and connector type and distance. The CNGE2FE8MSPOE+ is a redundant switch offering multiple Ethernet redundancy protocols, C-Ring (recovery time <10ms over 250 units of connection), ComRing, and MSTP/RSTP/STP (IEEE 802.1 s/w/D). This redundancy feature protects your applications from network interruptions or temporary malfunctions by redirecting transmission within the network. Network management is supported by eConsole, a powerful, easy-to-use Windows-based utility, as well as Web-based telnet, and Console (CLI) configurations. This environmentally hardened switch is designed for direct deployment in difficult out-of-plant or roadside operating environments.

FEATURES

- › 5.6 Gbps Switching bandwidth: 2 Combo Gigabit Ports
8 10/100T(X) Ports
- › Designed to meet 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 the Caltrans Specification for Traffic Signal Control Equipment.
- › IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic & Port Trunking for ease of bandwidth management
- › STP/RSTP/MSTP supported
- › Easy implementation of point-to-point, linear add-drop, drop-and-repeat, star, or true self-healing ring and mesh network system architectures
- › Operating Temperature: -40° to +75°C (-40° to +167°F). Functional to +85°C (185°F)
- › Exclusive ComNet C-Ring fast recovery technology protects mission-critical applications from network interruptions or temporary malfunctions. Recovery time <10ms, with > 250 switches within the ring
- › Redundant DC inputs for uninterrupted operation in the event of a loss of operating power or a power supply failure
- › Centralized management via Windows utility, eConsole, configurable via browser, or by Telnet and console (CLI) ports
- › Supports LLDP (Link Layer Discovery Protocol)
- › Event notification through Syslog, E-mail, SNMP trap, and Relay Output
- › Port lock to prevent access from unauthorized MAC address
- › SNMP v1/v2c/v3 for secure network management
- › PTP Client (Precision Time Protocol) for clock synchronization
- › C-RSTP supports network applications with complex topology
- › Rigid aluminum housing design provides for DIN-Rail or wall mounting
- › Lifetime Warranty

APPLICATIONS

- › 10/100/1000Mbps Ethernet
- › ITS Networks with Streaming Video

* Small Form-Factor Pluggable Module. Sold separately.

SOFTWARE SPECIFICATIONS

Network Redundancy	ComRing	C-Ring
	Legacy Ring	C-RSTP
	STP	RSTP
	MSTP	

Switch Properties

Switching Latency	7µs
Switching Bandwidth	5.6Gbps
Max. Available VLANs	4096
IGMP Multicast Groups	1024
Port Rate Limiting	User-defined
MAC Table	8192 MAC Addresses
Priority Queues	4
Processing	Store-and-Forward

Security Features

- Enable/Disable Ports, MAC based port security
- Port-Based Network Access Control: 802.1x
- VLAN (802.1Q): To segregate and secure network traffic
- Supports Q-in-Q VLAN for performance & security to expand the VLAN space
- Radius Centralized Password Management
- SNMPv3 Encrypted Authentication and Access
- Security TACACS

Software Features

- STP/RSTP/MSTP (IEEE 802.1D/w/s)
- C-Ring Redundant Ring: Recovery time <10ms, with over 250 units
- TOS/Diffserv Supported
- Quality of Service (802.1p) for Real-Time Traffic
- VLAN (802.1Q) with VLAN Tagging and GVRP Supported
- IGMP Snooping for Multicast Filtering
- Port Configuration, Status, Statistics, Monitoring & Security
- DHCP Server / Client support
- Port Trunk Support
- MVR (Multicast VLAN Registration) support

Ethernet Standards

- IEEE 802.3 for 10BASE-T
- IEEE 802.3u for 100BASE-TX and 100BASE-FX
- IEEE 802.3z for 1000BASE-X
- IEEE 802.3ab for 1000BASE-T
- IEEE 802.3x for Flow control
- IEEE 802.3ad for LACP (Link Aggregation Control Protocol)
- IEEE 802.1D for STP (Spanning Tree Protocol)
- IEEE 802.1p for COS (Class of Service)
- IEEE 802.1Q for VLAN Tagging
- IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)
- IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)
- IEEE 802.1x for Authentication
- IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
- IEEE 802.3at for Power Sourcing Equipment (PSE) and PoE (up to 30 watts per port)

Connectors

- 8 × 10/100BASE-TX Ports in RJ45 with Auto MDI/MDIX
- Gigabit Combo Ports with 2 × 10/100/1000BASE-T(X) & 2 × 100/1000BASE-X SFP

HARDWARE SPECIFICATIONS

Alarm & Monitoring Systems

Relay Output	For fault event alarming
Syslog Server / Client	To record and view events
SMTP	For event warning notifications via email
Serial Console Port	RS-232 @ 9600bps in RJ45 connector with console cable.

Indicating LEDs

- 3 × Power Indicators
- Ring Master Indicator
- C-Ring Indicator
- Fault Indicator
- 10/100BASE-TX RJ45 Port Indicator
- 100/1000BASE-X SFP Port Indicator
- PSE Power Output Indicator

PoE pin assignment

- RJ45 port #1 - #8 support IEEE802.3at End-point Alternative A mode.
- Positive (VCC+): RJ45 pin 1, 2
- Negative (VCC-): RJ45 pin 3, 6

Power

Redundant Input Power	Dual 48 - 57VDC input terminal block
Power Consumption (Typ.)	249W Max with PoE+ on all ports; 9W Max w/o PoE+
Overload Current Protection	Present
Polarity Protection	Not Present

Electrical & Mechanical

Size (W × D × H)	2.84 × 4.13 × 5.98 in (7.2 × 10.5 × 15.2 cm)
Weight	820g / 1.8lb

Installation

DIN Rail (35mm track) or Wall Mount

Environmental

Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 75°C (-40 to 167°F)
Operating Humidity	5% to 95% Non-condensing ¹
MTBF	>100,000 hours
Installation	DIN Rail and Wall Mount Design

Regulatory Compliance

EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1

Fully compliant with the environmental requirements (ambient operating temperature, storage temperature, mechanical shock, vibration, humidity with condensation, high-line/lowline voltage conditions, and voltage transient protection) of NEMA TS-1/TS-2 and the Caltrans specification for Traffic Signal Control Equipment.

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

AGENCY COMPLIANCE



PART 15 COMPLIANT





E322911





HE4621





Low Power Consumption

Order Part Number	Description	10/100BASE-TX Ports	Combo Ports
CNGE2FE8MSPOE+	Environmentally Hardened Managed Ethernet Switch with Power over Ethernet (PoE+)	8	2
Options	ComNet 48V Recommended Power Supply (Not Included, consult factory)		
	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extended humidity with condensation conditions (Extra charge, consult factory)		