comnet
Communication Networks

Managed Ethernet Switch with (8) 10/100 BASE-TX + (2) 10/100/1000 BASE-TX/FX Combo Ports and Power over Ethernet (PoE)

CNGE2FE8MSPOE+

75° -40° **HARDENED**	SFP **FLEXIBILITY**	1G GIGABIT **UPLINKS**	PoE **30W POE**	GIGABIT ETHERNET **2**	10/100 ETHERNET **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 byTelnet 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.

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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 85ºC (–40 to 185ºF)
Operating Temperature	–40 to 75ºC (–40 to 167ºF)
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

FC PART 15 COMPLIANT CE cULus E322911 RoHS COMPLIANT N24621 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)		