comnet
Communication Networks

Environmentally Hardened Managed Ethernet Switch with (8) 10/100TX + (2) 10/100/1000TX RJ45 or 100/1000 FX SFP* Ports

CNGE2FE8MSPOE

75° -40°	SFP	1G GIGABIT	⚡PoE 15W PoE	GIGABIT ETHERNET	10/100 ETHERNET
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.

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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.

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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	4 Mbytes
DRAM	32 Mbytes
Connectors[1]	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 Fiber[1]

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: 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

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

Installation

DIN Rail (35mm track) or Wall Mount

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.

AGENCY COMPLIANCE

FC PART 15 COMPLIANT   CE   cULus E322911   RoHS COMPLIANT   N24621

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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Low Power Consumption