



The ComNet CNGE24MSS2-OB is a Managed Ethernet Switch with sixteen 10/100/1000 Mbps TX ports and eight 100/1000 Mbps SFP\* ports that use ComNet SFPs for fiber type, connector type and distance. This switch also includes two sets of bypass ports that ensure network integrity during power loss or maintenance. The CNGE24MSS2-OB is IEEE802.3-compliant and offers multiple Ethernet redundancy protocols (ComRing, C-Ring, and MSTP/RSTP/STP) which protect your applications from network interruptions or temporary malfunctions by redirecting transmission within the network. Unlike most Ethernet switches, these environmentally hardened units are designed for deployment in difficult operating environments, and are available for use with either conventional CAT-5e copper or optical transmission media.

## FEATURES

- › Sixteen (16) 10/100/1000Base-TX ports
- › Eight (8) 100/1000Base-T SFP Ports
- › Supports 100 Mbps / 1Gbps / 10 Gbps optical bypass function on two (duplex) or four (simplex) ports
- › Supports C-Ring (recovery time < 30ms over 250 units of connection)
- › MSTP(RSTP/STP compatible) for Ethernet Redundancy
- › Com-Ring support the other vendor's ring technology in open architecture
- › C-Chain allow multiple redundant network rings
- › Standard IEC 62439-2 MRP (Media Redundancy Protocol) function
- › No Added delay with Bypass
- › IEEE 1588v2 clock synchronization
- › IPV6 new internet protocol version
- › Modbus TCP protocol
- › IEEE 802.3az Energy-Efficient Ethernet technology
- › HTTPS/SSH protocol to enhance network security
- › SMTP client
- › IP-based bandwidth management
- › Application-based QoS management
- › Device Binding security function
- › DOS/DDOS auto prevention
- › IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- › SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management
- › ACL, TACACS+ and 802.1x User Authentication for security
- › 9.6K Bytes Jumbo Frame
- › Multiple notification for warning of unexpected event
- › LLDP Protocol
- › Windows utility, eConsole, supports centralized management, and is web-based configurable, or by Telnet and console (CLI) ports
- › Lifetime Warranty

\* Small Form-Factor Pluggable Module. Sold separately.

## SPECIFICATIONS

### Ethernet Ports

SFP Ports <sup>1</sup>	(8) 100/1000BASE-FX
Electrical Ports	(16) 10/100/1000BASE-T(X), with Auto MDI/MDIX
Optical Bypass	LC Connector 4 duplex singlemode
	Wavelength Single mode 1260/1570 nm Multimode 850nm

### Ethernet Standards Supported

- IEEE 802.3 for 10BASE-T
- IEEE 802.3u for 100BASE-TX and 100BASE-FX
- IEEE 802.3ab for 1000Base-T
- IEEE 802.3az for Energy Efficient Ethernet
- IEEE 802.3z for 1000BASE-X
- IEEE 802.3x for Flow control
- IEEE 802.3ad for LACP (Link Aggregation Control 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)

### Switch Properties

Switching Latency	7 µs
Switching Bandwidth	48 Gbps
Max. VLANs Available	256
IGMP Multicast Groups	128 for each VLAN
Port Rate Limiting	User Defined
MAC Table	8000 MAC addresses available
Priority Queues	8
Processing	Store-and-Forward
Jumbo Frame	Supports 9.6K

### Alarms & Monitoring Systems

Relay Output	Capacity of 1A @ 24VDC
Serial Console RJ-45 Port	RS-232 @ 115,200 bps with console cable

### Software Features

- STP/RSTP/MSTP (IEEE 802.1D/w/s)
- C-Ring Redundant Ring: Recovery time < 30ms, with over 250 units
- TOS/Diffserv Supported
- Media Redundancy Protocol (MRP)
- VLAN (802.1Q) with VLAN Tagging and GVRP Supported
- IGMP Snooping
- IP-Based Bandwidth Management
- DOS/DDOS Auto-Prevention
- Port Configuration, Status, Statistics, Monitoring & Security
- DHCP Server / Client support
- SMTP Client
- Modbus TCP

### Security Features

- Device Binding Security Feature
- Enable/Disable Ports, MAC based port security
- Port-Based Network Access Control: 802.1x
- VLAN (802.1Q): To segregate and secure network traffic
- Radius Centralized Password Management
- SNMPv3 Encrypted Authentication and Access Security
- HTTPS/SSH enhanced network security

### Network Redundancy

C-Ring, Legacy Ring, C-Chain, MRP, Fast Recovery, MSTP (STP / RSTP Compatible)

### LED Status Indicators

Power Indicators	3
R.M. Indicator	Indicates switch is operating in C-Ring master mode
Ring Indicator	Indicates switch is operating in C-Ring mode
Fault Indicator	Indicates a fault/failure event has occurred within the switch and/or network itch
RJ-45 Port Indicator	For port/link activity & 100 Mbps indication
SFP Port Indicator	For port/link activity

### Regulatory Approvals

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

### Fault Alarm Relay

Relay Contact Rating	24 VDC @ 1 A
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### Power

Input Power	Redundant dual inputs in one power socket
Operating Voltage Range	100 to 240 VAC
Power Consumption, Typical	25 W
Current Protection	Overload Current Protected
Power Connector	Terminal Block

### Electrical & Mechanical

Size	11.81 × 6.5 × 3.47 in (30 × 16.5 × 8.8 cm)
Shipping Weight	5.13 lbs / 2.4 kg

### Environmental

MTBF	>100,000 hours
Operating Temperature	-40° to +70° C
Storage Temperature	-40° to +85° C
Relative Humidity	5% to 95% (non-condensing)

[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

## ORDERING INFORMATION

Part Number	Description
CNGE24MSS2-OB	(16) 10/100/1000Base-TX ports & (8) 100/1000Base-T SFP Ports, Single mode LC Connectors
Accessories	Power plug, Console cable, eConsole Tool CD



NOTE: This product requires a fiber installation with a minimum 30 dB connector return loss. The use of Super Polish Connectors is recommended. 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.