comnet
Communication Networks

8-Port Managed Gigabit Switch

CNGE8MS

INCLUDED | -40° TO +75° | FLEXIBILITY | ALL GIGABIT | 8 CH

The ComNet CNGE8MS is an 8-port Managed Ethernet Switch designed to reliably operate in harsh, environmentally challenging applications. It features four (4) 1000BASE-TX and four (4) gigabit combo ports. The four combo ports are 10/100/1000Mbps configurable for either Cat5/6 copper, or multimode or single-mode optical fiber by the use of optional ComNet SFPs* for connector type and distance. Exclusive to ComNet is C-Ring, a feature that protects the network from interruptions or temporary malfunctions with fast recovery technology. Legacy ring allows the switch to be used in an existing ring of ComNet X-Ring enabled switches. Redundant DC inputs are included for uninterrupted operation in the event of a power supply failure. The electrical ports support the 10/100/1000Mbps Ethernet IEEE802.3 protocol, and auto-negotiating and auto-MDi/MDiX features are provided. These network-managed layer 2 switches are optically and electrically compatible with any IEEE802.3 compliant Ethernet device. The CNGE8MS is DIN-rail or wall-mountable.

FEATURES

› ›16 Gbps Switching bandwidth:
4 × Combo Gigabit Ports
4 × 10/100/1000T(X) Ports

› IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic & Port Trunking for ease of bandwidth management

› STP/RSTP/MSTP supported

› 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.

› Compatible and fully functional when used in a Moxa® Turbo ring topology

› Operating Temperature: -40˚ C to +75˚ C. Functional to +85˚ C.

› Windows utility, eConsole, supports centralized management, and is web-based configurable, 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

› 10/100/1000 Mbps Ethernet Media Converter

› High Speed Computer Links

SOFTWARE FEATURES

› STP/RSTP/MSTP (IEEE 802.1D/w/s)

› C-Ring Redundant Ring: Recovery time <30ms, with over 250 switches within the ring

› 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

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

SPECIFICATIONS

Connectors

10/100/1000BASE-T(X)	4 × RJ-45 Ports with Auto MDI/MDIX
10/100/1000BASE-T(X)	4 × **RJ-45 Combo Ports**
100/1000BASE-X	4 × SFP Ports[1]
Power Connector	Terminal Block
Serial Console	RS-232 RJ-45 Port @ 9600 bps, with console cable.

Switch Properties

Switching Latency	7 µs
Switching Bandwidth	16 Gbps
Max. VLANs Available	4096
IGMP Multicast Groups	1024
Port Rate Limiting	User Defined
MAC Table	8192 MAC addresses available
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

Alarms & Monitoring Systems

Relay Output	For fault event alarming
Syslog Server / Client	To record and view events
SMTP	For event warning notifications via email
Event Selection Support	

Network Redundancy

C-Ring	Legacy Ring
Moxa® Turbo Ring	C-RSTP
STP	RSTP
MSTP	

Fault Alarm Relay

Relay Contact Rating	24 VDC @ 1 A

Power

Operating Voltage Range	Dual DC Inputs: 12 – 48 VDC
Power Consumption, Typical	25W
Current Protection	Overload Current Protected
Polarity Protection	Reverse Polarity Protected

Electrical & Mechanical

Indicating LEDs	Power Ring Master ComRing Fault RJ-45 Port SFP Port
Size (L×W×H)	2.93 × 4.3 × 6.05 in (7.43 × 10.92 × 15.36 cm)
Shipping Weight:	<3 lbs./1.1 kg

Environmental

MTBF	>100,000 hours
Operating Temperature	-40˚ C to +75˚ C Functional to +85˚ C
Storage Temp	-40˚ C to +85˚ C
Relative Humidity	5% to 95% (non-condensing)[2]

Ethernet Standards Supported

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)

Regulatory Approvals

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

AGENCY COMPLIANCE
PART 15 COMPLIANT E322911 N24621

Low Power Consumption

ORDERING INFORMATION

Part Number	Description
CNGE8MS	(4) 10/100/1000BASE-T(X) + (4) gigabit combo ports
Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included, for benign 0 to 50°C applications only. Hardened power supply available, consult factory)
Options	[2] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)

[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. 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.

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