



The ComNet™ CNGE5MS is a hardened, industrial five port all gigabit managed Ethernet switch. It has three 10/100/1000Base-TX and two Gigabit combo ports that utilize ComNet SFP\* modules for fiber and connector type and distance. The IEEE 802.3 compliant unit is a redundant switch offering multiple Ethernet redundancy protocols, C-Ring, ComRing, C-RSTP and MSTP/RSTP/STP. This redundancy feature protects your applications from network interruptions or temporary malfunctions by redirecting transmission within the network. The CNGE5MS offers centralized and convenient management through a windows-based utility called eConsole. Redundant DC power inputs provide non-stop operation in case of power supply disruption. The backup power input will take over immediately when the primary DC power input fails. The unit provides relay outputs that can be set up to indicate events and notify in case of potential problems.

## FEATURES

- › 5 Gbps Ports: 3 × 10/100/1000Base-TX  
2 × 10/100/1000Base-TX/  
100/1000Base-FX SFP Combo Ports
- › Environmentally Hardened for use in unconditioned installations
- › Certified for compliance with NEMA TS1/TS2 and CALTRANS environmental specifications
- › Designed for and fully compliant with the EN50155 standard for railroad applications
- › Fast Redundant Ethernet Ring: C-Ring (recovery time <20ms over 250 units of connection)
- › Com-Ring supports proprietary ring technology in open architecture
- › STP/RSTP/MSTP supported
- › Supports PTP Client (Precision Time Protocol) clock synchronization
- › IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- › Port Trunking for easy of bandwidth management
- › Supports LLDP Protocol
- › SNMP v1/v2c/v3 support for secured network management
- › RMON for traffic monitoring
- › Event notification through Syslog, Email, SNMP trap, and Relay Output
- › Windows utility (eConsole) supports centralized management and configurable by Web-based Telnet, and Console (CLI) configurations
- › DIN-Rail and wall mounting
- › Lifetime Warranty

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

## SOFTWARE SPECIFICATIONS

### Network Redundancy

ComRing STP	C-Ring RSTP	C-RSTP MSTP	Legacy Ring
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### Physical Ports

3 × 10/100/1000 Base-T Ports in RJ45, Auto MDI/MDIX  
2 × Gigabit Combo Port with 10/100/1000Base-T(X) and 100/1000Base-X SFP port

### MAC Table

8192 MAC Addresses

### Serial Console Port

RS-232 in RJ45 connector with console cable.  
9600bps, 8, N, 1

### Switch Properties

Switching Latency: 7µs  
Switching Bandwidth: 10Gbps  
Max. Available VLANs: 4096  
IGMP Multicast Groups: 1024  
Port Rate Limitng: User-defined

### Processing

Store-and-Forward

### Priority Queues

4

### 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  
Radius centralized password management  
SNMP v1/v2c/v3 encrypted authentication and access security

### Software Features

STP/RSTP/MSTP (IEEE 802.1D/w/s)  
Redundant Ring (C-Ring) with a recovery time of <20ms over 250 units  
Com-Ring supporting proprietary manufacturer redundancy features  
TOS/Diffserv supported  
Quality of Service (802.1p) for real-time traffic  
VLAN (802.1Q) with VLAN tagging and GVRP supported  
IGMP v2/v3 (IGMP Snooping support) for multicast filtering  
Port configuration, status, statistics, monitoring, security  
PTP Client (Precision Time Protocol) clock synchronization  
DHCP Server / Client support  
Port Trunk support  
MVR (Multicast VLAN Registration) support

### Indicating LEDs

Power Indicator	R.M. Indicator
Ring Indicator	Fault Indicator
10/100/1000Base-T(X) RJ45 Port Indicator	

## HARDWARE SPECIFICATIONS

### Power

Input Power	Redundant +/-12~48VDC on 7-pin terminal block One 12 ~ 45VDC on power jack
Power Consumption	10 Watts (Typ.)
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block

### Mechanical

Size (W × D × H)	2.13 × 4.18 × 5.72 in (5.42 × 10.61 × 14.54 cm)
Weight	820g / 1.8lb
Installation	DIN Rail and Wall Mount Design

### 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
MTBF	>100,000 hours

### 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(X),  
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 Compliance

EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-9, EN61000-4-11
Shock	IEC60068-2-27, EN61373
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6, EN61373
Safety	EN60950-1

AGENCY COMPLIANCE



## ORDERING INFORMATION

Part Number	Description	10/100/1000TX Ports	Combo Ports
CNGE5MS	Environmentally Hardened Managed Ethernet Switch	3	2
Accessories	DC Plug in Power Supply, 90-264VAC, 50/60Hz (Included) for benign 0° - 50°C application PS24-1A - 24VDC DIN Rail Power supply (sold separately)		

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