



DIN RAIL



INCLUDED



HARDENED



FLEXIBILITY



3



7

The ComNet™ CNGE3FE7MS3 Managed Ethernet Switch provides robust transmission of seven (7) 10/100BASE-T(X) and three (3) 10/100/1000T(X) or 100/1000FX combo ports, of gigabit Ethernet data. It is available for use with either conventional CAT-5e copper or optical transmission media. The 7 electrical ports support the 10/100Mbps Ethernet IEEE 802.3 protocol, and auto-negotiating and auto-MDI/MDIX features are provided for simplicity and ease of installation. Three ports are 10/100/1000 configurable for copper or fiber media for use with multimode or single mode optical fiber, selected by optional SFP* modules. These network managed layer 2 switches are optically (100/1000BASE-FX) and electrically compatible with any IEEE 802.3 compliant Ethernet devices. The CNGE3FE7MS3 incorporates LED indicators for monitoring the operating status of the managed switch and network. These units are DIN-rail or wall mountable.

FEATURES

- › 7 10/100BASE-T(X) Ports
- › 3 Gigabit combo ports
- › IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- › MSTP/RSTP/STP
- › Fully Compliant with the Environmental Requirements of NEMA TS-1/TS-2 & the Caltrans Specification for Traffic Signal Control Equipment
- › Operating Temperature: -40° C to +75° C (-40° F to +167° F). Functional to +85° C (185° F)
- › Fastest Redundant Ethernet Ring: ComNet C-Ring. Recovery time <10ms, with > 250 switches within the ring
- › Compatible and fully functional when used in a Moxa® Turbo ring topology
- › PTP Client (Precision Time Protocol) for clock synchronization
- › SNMP v1/v2c/v3, RMON & IEEE 802.1Q VLAN for secure network management
- › Redundant DC inputs for uninterrupted operation in the event of a loss of operating power or a power supply failure
- › RMON for traffic monitoring
- › Supports LLDP (Link Layer Discovery Protocol)
- › Multiple Notifications for warning of unexpected events, including relay fault alarm
- › Port lock to prevent access from unauthorized MAC address
- › Windows utility, eConsole, supports centralized management, and is web-based configurable, or by Telnet and console (CLI) ports
- › Rigid aluminum housing design provides for DIN-Rail or wall mounting
- › Lifetime Warranty

APPLICATIONS

- › ITS Traffic Signalization & Surveillance/Incident Detection Networks
- › Industrial and Factory Automation
- › Integrated IP-Video and Data Transmission Networks

* Small Form-Factor Pluggable Module. Sold separately.

SPECIFICATIONS

Ethernet Ports

RJ-45 Ports	(7) 10/100BASE-T(X)
Combo Ports	(3) 10/100/1000BASE-T(X), with Auto MDI/MDIX and (3) 100/1000BASE-FX SFP ¹ Ports

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)

Switch Properties

Switching Latency	7 μs
Switching Bandwidth	7.4 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

- 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
- 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 v2/v3 Snooping for Multicast Filtering
- IP-Based Bandwidth Management
- SNTP for synchronizing of clocks over network
- PTP Client (Precision Time Protocol) clock synchronization
- Port Configuration, Status, Statistics, Monitoring & Security
- DHCP Server / Client support

Network Redundancy

- C-Ring
- Com-Ring
- Legacy Ring
- C-RSTP
- STP
- RSTP
- MSTP

Alarms & Monitoring Systems

Relay Output	For fault event alarming. Relay contacts rated at 1 amp @ 24VDC
Serial Console RJ-45 Port	RS-232 @ 9,600 bps with console cable (included)

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.

[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

SPECIFICATIONS

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, EN61000-4-11, EN61000-4-8
Mechanical Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1

Fault Alarm Relay

Relay Contact Rating	24VDC @ 1 A
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Power

Input	Redundant Input Power, Dual DC Inputs
Operating Voltage Range	12 - 48 VDC
Power Consumption, Typical	12W

Electrical & Mechanical

Current Protection	Overload Current Protected
Polarity Protection	Reverse Polarity Protected
Power Connector	Terminal Block
Size	2.93 × 4.3 × 6.05 in. (7.43 × 10.92 × 15.36 cm)
Shipping Weight	2.29 lbs./1.04 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40° C to +75° C (-40° F to +167° F) Functional to +85° C (185° F)
Storage Temp	-40° C to +85° C (-40 to 185°F)
Relative Humidity	5% to 95% (non-condensing)
Compliance	Fully compliant with the environmental requirements (ambient operating temperature, storage temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions, and voltage transient protection) of NEMA TS-1/TS-2 and the Caltrans specification for Traffic Signal Control Equipment.



ORDERING INFORMATION

Part Number	Description
CNGE3FE7MS3	(7) 10/100BASE-T(X) / (3) 10/100/1000BASE-T(X) or 100/1000BASE-FX SFP Ports
Accessories	24VDC Plug in Power Supply (12VDC in some regions), 90-264VAC, 50/60Hz (Included) PS24-1A - 24VDC DIN Rail Power supply (sold separately)

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.

