The ComNet CNGE3FE7MS3 Managed Ethernet Switch provides robust transmission of seven (7) 10/100BASE-T(X) and three (3) 10/100/1000TX 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.

**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.

**FEATURES**
- 7 10/100BASE-T(X) Ports
  - 3 Gigabit combo ports
- Designed to meet 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 the Caltrans Specification for Traffic Signal Control Equipment.
- Operating Temperature: -40˚ C to +75˚ C. Functional to +85˚ C.
- Compatible and fully functional when used in a Moxa® Turbo ring topology
- 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 power
- HTTPS/SSH protocol for enhanced network security
- DDM (Digital Diagnostic Monitoring) remotely ascertains the status of the operating voltage, current, and operating temperature of the SFP modules
- 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

**SOFTWARE FEATURES**
- STP/RSTP/MSTP (IEEE 802.1D/w/s)
- C-Ring Redundant Ring: Recovery time <10ms, 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 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
- SFP DDM Monitoring support
Environmentally Hardened Managed Ethernet Switch with
(7) 10/100TX + (3) configurable 10/100/1000TX / 100/1000FX Ports

SPECIFICATIONS

Ethernet Ports
- 10/100BASE-T(X)  7 × RJ-45 Ports
- 10/100/1000BASE-T(X)  3 × Combo Ports, with Auto MDI/MDIX and (3) 100/1000BASE-FX SFP¹ Ports
- Power Connector: Terminal Block

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
- Flash Memory: 32 Mbits
- DRAM Size: 256 Mbits

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
- SNMv3 Encrypted Authentication and Access Security
- TACACS+
- HTTP / SSH enhance network security

Network Redundancy
- C-Ring
- Legacy Ring
- STP
- 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)

Fault Alarm Relay
- Relay Contact Rating: 24VDC @ 1 A

Power
- Input: Redundant Input Power, Dual DC Inputs
- Operating Voltage Range: 12 to 48 VDC
- Power Consumption, Typical: 12 W
- Current Protection: Overload Current Protected
- Polarity Protection: Reverse Polarity Protected

Electrical & Mechanical
- LED Status Indicators: Power, R.M., Ring, Fault
- RJ45 Port: SFP Port
- Size: 2.93 × 4.3 × 6.05 in (7.43 × 10.92 × 15.36 cm)
- Installation: DIN Rail (35 mm Track) or Wall Mount
- Shipping Weight: 2.29 lb / 1.04 kg

Environmental
- MTBF: > 100,000 hours
- Operating Temp: -40˚C to +75˚C (-40˚F to +167˚F)
- Storage Temp: -40˚C to +85˚C (-40 to 185°F)
- Relative Humidity: 5% to 95% (non-condensing)

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

Regulatory Approvals
- EMI: FCC Part 15, EN55022, EN61000-3-2, EN61000-3-3, 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
- Immunity: EN55024
- Mechanical Shock: IEC60068-2-27
- Free Fall: IEC60068-2-32
- Vibration: IEC60068-2-6
- Safety: EN60950-1

ORDERING INFORMATION

Part Number: CNGE3FE7MS3
Description: (7) 10/100BASE-T(X) / (3) 10/100/1000BASE-T(X) or 100/1000BASE-FX SFP Ports

Accessories:
- DC Plug in Power Supply, 90-264VAC, 50/60Hz (Included, for benign 0 to 50˚C applications only. Hardened power supply available, consult factory)
- DIN Rail Power supply (sold separately)

[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
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.