



The ComNet™ CNGE28FX4TX24MS Layer 2 Managed 28 Port Ethernet Switch supports twenty-four (24) 10/100/1000BASE-TX ports and four (4) 1000BASE-FX ports of Ethernet data. The four 1000BASE-FX ports are SFP* configurable for fiber type (multimode or single-mode), connector type and distance. The exclusive C-Ring redundant ring feature protects networks from interruptions or temporary malfunctions with its fast recovery technology. The electrical ports support the 10/100/1000 Mbps Ethernet IEEE 802.3 protocol, and auto-negotiating and auto-MDI/MDIX features are included. The CNGE28FX4TX24MS are optically (1000BASE-FX) and electrically compatible with any IEEE 802.3 compliant Ethernet device.

FEATURES

- › 56 Gbps Backplane
- › IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- › Port Trunking for ease of bandwidth management
- › Supports 24 Gigabit Ports, and four 1000BASE-FX optical ports with optional ComNet SFPs
- › Power supply for switch operation is completely self-contained within the switch
- › 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.
- › STP/RSTP/MSTP supported
- › Windows utility, eConsole, supports centralized management, and is web-based configurable, or by Telnet and console (CLI) ports
- › Port lock to prevent access from unauthorized MAC address
- › SNMP V1/V2c/V3 for secure network management
- › Fastest Redundant Ethernet Ring: C-Ring. Recovery time <30ms, with > 250 switches within the ring
- › Narrow depth for tight cabinets
- › SSH/SSL (128-bit Encryption)
- › Supports Jumbo Frames up to 9K bytes
- › Legacy ring allows the switch to be used in an existing ring of ComNet X-Ring enabled switches
- › Low-profile 1-RU (1.75-inch) high rack-mountable chassis mounts within any standard 19-inch equipment rack
- › Operating Temperature: -40° to +74° C
- › Lifetime Warranty
- › Event notification through Syslog, E-mail, SNMP trap
- › PTP Client (Precision Time Protocol) for clock synchronization

APPLICATIONS

- › HD Surveillance
- › High-Port Count Ethernet Hub Locations for Industrial Automation, Industrial Security and Transportation Networks

* Small Form-Factor Pluggable Module. Sold separately.

SPECIFICATIONS

Ethernet Ports

RJ-45 Ports (24) 10/100/1000Base-TX, with Auto MDI/MDIX

SFP Ports (4) 1000Base-FX

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 μ s
 Switching Bandwidth 56 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 4
 Processing Store-and-Forward
 Jumbo Frame Up to 9600 Bytes

Security Features

Device Binding Security
 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
 SSH
 TACACS+

Software Features

STP/RSTP/MSTP (IEEE 802.1D/w/s)
 C-Ring Redundant Ring: Recovery time <30ms, with over 250 switches within ring network
 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
 IP-Based Bandwidth Management
 Application-Based QoS Management
 DOS/DDOS Auto Prevention

Network Redundancy

C-Ring
 Legacy Ring
 RSTP
 STP
 MSTP

Alarms & Monitoring Systems

Syslog Server / Client To record and view events
 SMTP For event warning notifications via email
 Event Selection Support
 RS-232 Serial
 Console DB-9 Port: RS-232 @ 115,200 bps, with console cable (included).

LED Status Indicators

Power For AC operating power
 System Ready Indicates switch is in the "ready" mode, or switch is upgrading firmware
 Ring Master Indicates switch is operating in the C-Ring Master mode
 C-Ring (Ring) Indicates switch is operating in the C-Ring mode. A flashing LED in this mode indicates the network ring has broken or faulty.
 System Running Switch is operating continuously
 Supervisor Log-In Switch is being accessed remotely
 Reset to Default (DEF) Switch is reset to the default configuration
 Ping Command to the Switch Switch is processing a Ping request
 RJ-45 Port Bi-color LED indicates 1000 Mbps or 10/100 Mbps port/link activity
 SFP Port Port/link activity

Regulatory Approvals

EMI FCC 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

SPECIFICATIONS

Power

Operating Voltage Range	100 to 240 VAC, 50-60 Hz
Power Consumption, Typical	36 Watts

Electrical & Mechanical

Current Protection	Overload Current Protected
Enclosure	1-RU high, 19-inch rack-mountable
Size (L×W×H)	17.47 × 7.88 × 1.73 in (44.37 × 20.00 × 4.4 cm)
Shipping Weight	<13 lbs./6 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40° to +75° C (-40° to +167° F)
Storage Temp	-40° to +85° C (-40 to +185°F)
Relative Humidity	5% to 95% (non-condensing) ¹

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.

AGENCY COMPLIANCE



ORDERING INFORMATION

Part Number	Description
CNGE28FX4TX24MS	(24) 10/100/1000 BASE-TX + (4) 1000BASE-FX Managed Switch
Options/Accessories	[1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) Rack-mount installation kit (Included) Console cable (Included) AC Power cable (Included)

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.

