comnet
Communication Networks

Layer 2 Industrially Hardened Managed Ethernet Switch
All Gigabit 24 TX with PoE+ and 4 Combo Ports

CNGE28FX4TX24MSPOE2/48
Replaces CNGE2FE24MSPOE

HARDENED	SFP	PoE 30W PoE+	1G GIGABIT	ETHERNET
-40º TO +75º	FLEXIBILITY	30W POE+	ALL GIGABIT	24 + 4

The ComNet CNGE28FX4TX24MSPOE2/48 Layer 2 Managed 28 Port Ethernet Switch supports twenty-four 10/100/1000 BASE-TX ports and four 10/100/1000 BASE-TX or 100/1000 BASE-FX SFP Combo ports of Ethernet data. PoE+ power is available for distribution across all 24 BASE-TX ports. The four combination ports are 10/100/1000TX or 100/1000FX SFP* configurable for fiber type (multimode or single-mode), connector type and distance. Dual 48 VDC input power design ensures vital network capabilities with minimum downtime. Utilizing RSTP/STP (802.1w/1D) MSTP, and X-Ring redundant ring topologies, a network recovery time of <20 ms is provided for protection from network faults or temporary interruptions. The CNGE28FX4TX24MSPOE2/48 is optically (100/1000BASE-FX) and electrically compatible with any IEEE 802.3 compliant Ethernet device and are hardened for use in harsh operating environments.

FEATURES

› IEEE 802.3at Compliant for PSE. Up to 30W of PoE+ power available per port. 720W total PoE power available.

› 56 Gbps Backplane for layer 2 traffic forwarding

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

› Supports 24 Gigabit Ports, and four combo ports with 100/1000BASE-FX optical ports with optional ComNet SFPs

› Uses SFP modules for fiber and connector type, and distance

› Dual redundant power supply inputs allow for external power supplies with no moving parts (fans) to be used.

› 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

› Low-profile 1-RU (1.75-inch) high rack-mountable chassis mounts within any standard 19-inch equipment rack

› Operating Temperature: -40˚ to +75˚ C

› Event notification through Syslog, E-mail, SNMP trap

› RMON for traffic monitoring

› Lifetime Warranty

APPLICATIONS

› ITS Traffic Signalization & Surveillance/ Incident Detection Networks

› Industrial and Factory Automation

› Integrated IP-Video and Data Transmission Networks

› Industrial Security Access Control Systems

* Small Form-Factor Pluggable Module. Sold separately.

SPECIFICATIONS

Connectors

Electrical	28 × 10/100/1000Base-TX RJ-45 Ports
	10/100/1000 Mbps, Auto-Negotiation
Optical[1]	4 × SFP Ports, 100/1000Base-FX,
	Requires selection of sold-separately SFP modules.
Power	4-pin terminal
Fault Relay	3-pin terminal

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 802.3at for Power Sourcing Equipment (PSE) and PoE (up to 30 watts per port)
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 802.1x for Authentication
IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)
IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)

Switch Properties

Switching Latency	7 µs
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 9216 Bytes

Network Management

Configuration	Web browser, Telnet, Serial console, SNMP v1/v2c/v3, TFTP, Port Speed/Duplex Configuration, IPv6
VLAN	GVRP, Port-based VLAN
Redundancy	X-Ring, STP/RSTP/MSTP
Security	IP Access security, port security, DHCP client, Port and IP Binding, Port Access Control , SSH, HTTPS, 802.1x, DoS
Traffic Control	IGMP Snooping/Query for multicast group management, Port Trunking, Static/802.3ad, LACP Rate limit and storm control, QoS CoS/TOS/DSCP priority queuing, flow control
Diagnostics	Port Mirroring, Real-time traffic statistic, MAC Address Table, SNTP, Syslog, E-Mail Alert, SNMP Trap, RMON, DDM

PoE pin assignment

RJ45 port #1 - #24 support IEEE802.3at End-point, Alternative A mode.
Positive (VCC+): RJ45 pin 1, 2
Negative (VCC-): RJ45 pin 3, 6

Power

Operating Voltage	48 VDC (External PSU Required)
	46-57 VDC for 15W PoE, 53 - 57 VDC for 30 W PoE
Power Consumption, Max	720 W
Fault Output	1 Relay Output

Electrical & Mechanical

Indicator LEDs	10/100T (X)Link/Activity, Duplex/Collision
	Gigabit Copper Link/Activity, Speed (1000 Mbps)
	SFP Link/Activity
Current Protection	Overload Current Protected
Power Reverse	Present
Enclosure	IP30, metal shell with solid mounting kits
	1-RU high, 19-inch rack-mountable
Size (L×W×H)	17.24 × 10.2 x 1.72 in (43.8 × 25.92 × 4.36 cm)
Shipping Weight	<13 lb / 6 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40˚ to +75˚ C
Storage Temp	-40˚ to +85˚ C
Relative Humidity	10% to 95% (non-condensing)[2]

Regulatory Approvals

Safety	IEC EN60950, UL60950, UL508, UL 61010-1, 61010-12, 61010-2-201, and 61010-2-201:14
EMI	CE FCC 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
Railway	EN50121-4
Mechanical Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6

[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. 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.

AGENCY COMPLIANCE

FC PART 15 COMPLIANT   CE   cULus   ⬥   RoHS

ORDERING INFORMATION

Part Number	Description
CNGE28FX4TX24MSPOE2/48	24 × 10/100/1000 BASE-TX + 4 × 10/100/1000 BASE-TX or 100/1000 BASE-FX Managed Switch, 30 W Power over Ethernet (PoE+), 48V Input
Options/Accessories	48 V Power Supply (Extra charge, consult factory)
	User-selection of SFP modules (Extra charge, see SFP data sheets for product numbers and compatibility before ordering)
	[2] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)

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