comnet

DIN RAIL | **INCLUDED** | **-40° TO 75° C** | **FLEXIBILITY** | **ALL GIGABIT** | **20**

The ComNet CNGE20MS is a 20-port Managed Ethernet Switch designed to reliably operate in harsh, environmentally challenging applications. It features eight 10/100/1000BASE-TX and twelve 100/1000BASE-FX SFP* ports. The SFP ports are 100/1000Mbps configurable for either multimode or single-mode optical fiber by the use of optional ComNet SFPs. Exclusive to ComNet is C-Ring, a feature that protects the network from interruptions or temporary malfunctions with fast recovery technology. Legacy ring allows the switch to be used in an existing ring of ComNet X-Ring enabled switches. Redundant DC inputs are included for uninterrupted operation in the event of a power supply failure. These network-managed layer 2 switches are optically and electrically compatible with any IEEE802.3 compliant Ethernet device.

FEATURES

› Twelve (12) SFP ports support 100/1000 Mbps SFP modules

› Eight (8) electrical ports support 10/100/1000 Mbps Ethernet IEEE802.3 protocol

› IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic

› Supports Jumbo Frame up to 9.6KB for streaming video applications

› MSTP/RSTP/STP

› 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° to +75° C, Functional to +85° C

› SNMP v1/v2c/v3, RMON & IEEE 802.1Q VLAN for secure network management

› Supports IPV6 new Internet protocol version

› Supports ACL, IEEE 802.1x, & TACACS+ for user security authentication

› Provides HTTPS/SSH protocol enhances network security

› 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

› Field Hub or Aggregation Switch

› ITS Streaming Video Networks

› 10/100/1000 Mbps Ethernet

SOFTWARE FEATURES

› STP/RSTP/MSTP (IEEE 802.1D/w/s)

› C-Ring Redundant Ring: Recovery time <30ms, 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

› IGMP Snooping for Multicast Filtering

› IP-Based Bandwidth Management

› Application-Based QoS Management

› DOS/DDOS Auto-Prevention

› Port Configuration, Status, Statistics, Monitoring & Security

› DHCP Server / Client support

› SMTP Client

› Modbus TCP

Small Form-Factor Pluggable Module. Sold separately.

20-port Hardened Managed Gigabit Switch
with (8) 10/100/1000Base-TX & (12) 100/1000Base-FX Ports

SPECIFICATIONS

Connectors

100/1000BASE-X	12 × SFP Ports[1]
10/100/1000BASE-T(X)	8 × RJ-45 Ports, with Auto MDI/MDIX
Serial Console	RS-232 @ 115,200 bps 8,N,1 w/ console cable (incl.)
Power	6 pin Terminal Block

Ethernet Standards Supported

IEEE 802.3 for 10Base-T
IEEE 802.3u for 100Base-TX and 100Base-FX
IEEE 802.3ab for 1000Base-T
IEEE 802.z for 1000Base-X
IEEE 802.3x for Flow control
IEEE 802.3ad for LACP (Link Aggregation Control Protocol)
IEEE 802.1p for COS (Class of Service) Real-Time Traffic
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	40 Gbps, non-blocking wire speed on all ports
	99.999% error free data integrity
Max. VLANs Available	256
IGMP Multicast Groups	128 for each VLAN
Port Rate Limiting	User Defined
MAC Table	8000 MAC addresses available
Priority Queues	8
Processing	Store-and-Forward
Flash Memory	128 Mbits
DRAM Size	1G bit

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
HT TPS/SSH enhanced network security
TACACS+
Supports Secure Copy Protocol SCP for secure file transfer

Network Redundancy

C-Ring: Recovery time < 30ms, with over 250 units	
Com-Ring	Legacy Ring
MRP	MSTP (RSTP/STP Compatible)

Alarms & Monitoring Systems

Relay Output	For fault event alarming.
	Relay contacts rated at 1 A @ 24 VDC

Power

Input Power	Redundant Dual DC Inputs
Operating Voltage Range	12 to 48 VDC
Power Consumption	10 W, Typical
Current Protection	Overload Current Protected
Polarity Protection	Reverse Polarity Protected

Electrical & Mechanical

LED Status Indicators	Power R.M Ring Fault RJ-45 SFP
Size	3.8 × 4.15 × 6.06 in (9.64 × 10.55 × 15.4 cm)
Installation	DIN Rail (35 mm Track) or Wall Mount
Construction	All parts and conductive surfaces are made of Noncorrosive materials.
Shipping Weight	2.67 lb / 1.21 kg

Environmental

MTBF	>100,000 hours calculated using Bellcore// Telcordia SR-332 standard
Operating Temperature	-40˚ C to +75˚ C, Functional to +85˚ C
Storage Temperature	-40˚ C to +85˚ C
Relative Humidity	5% to 95% (non-condensing)

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

AGENCY COMPLIANCE

FC PART 15 COMPLIANT   CE   c UL us   RoHS

Low Power Consumption

ORDERING INFORMATION

Part Number	Description
CNGE20MS	8 × 10/100/1000BASE-T(X) + 12 × 100/1000BASE-FX SFP Ports
Included Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included in US Only, for benign 0 to 50ºC applications only. Hardened power supply available, consult factory) DIN-Rail Kit, Wall Mount Kit, Console cable, Product Support CD

[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. 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.

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