![comnet Communication Networks]

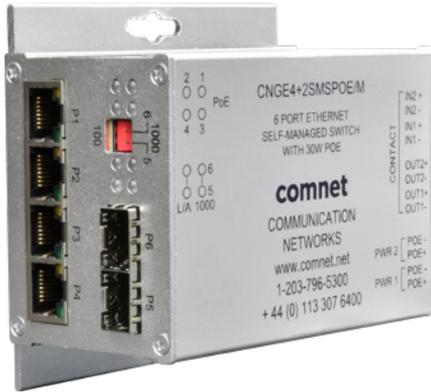| HARDENED	SFP FLEXIBILITY	PORT GUARDIAN	1G GIGABIT ALL GIGABIT	PoE 30W PoE+ 30W†	PoE 60W PoE++ 60W†	CONTACT CLOSURE 2	GIGABIT ETHERNET 4 + 2
-40˚ TO +75˚ C							

The ComNet CNGE4+2SMS[POE][HO]/M is a six port intelligent switch with light management functionality. It provides four 10/100/1000Base-T(X) copper ports and two 100/1000Base-FX SFP* ports. The CNGE4+2SMS[POE][HO]/M provides exclusive functionality for easy field deployment including DIP switch based operation of RSTP for creating redundant network topologies as well as preventing network video flooding of multicast traffic using IGMP snooping. Ports 1 through 4 can optionally supply up to thirty (30) watts of power per port based on the IEEE 802.3at standard. An optional High Output (HO) version is also available that can supply up to sixty (60) watts of PoE from ports 1 through 4. This product is fully compatible with the ComNet exclusive CopperLine® SFP modules for operation over extended distance UTP or Coax cable. The ComNet exclusive Port Guardian feature provides additional cyber security protection by enabling physical port lockout in the event that an existing cable is disconnected and prevents a potential network incursion using common spoofing techniques. The intrusion event is reported back to the operator using SNMP.

FEATURES

› Several features can be enabled with no programming required:
  - RSTP (Rapid Spanning Tree Protocol)
  - SMS Multicast Flooding Prevention (Star/Linear topologies only)
  - Dual Redundant SFP Mode
  - IGMP Snooping

› 10/100/1000 Mbps Ethernet
  • 4 × 10/100/1000 BASE-T/TX electrical ports
  • 2 × 100/1000 BASE-FX SFP ports (individually DIP switch selectable)

› Electrical ports support Auto-Negotiation for 10Mbps, 100Mbps or 1000Mbps, full duplex or half duplex data.

› SFP Ports support 100 or 1000 Mbps full duplex data

› SFP Ports compatible with CopperLine CL-SFP modules

› IEEE802.3at Power over Ethernet (PoE+)†

› 30W or 60W PoE+ on Ports 1-4†

› 2 Duplex contact closures (available on all models)

› Automatic MDI/MDI-X crossover

› 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.

› PoE status monitoring & automatic reboot function†

› Event notification through SNMP traps and Relay Output

› Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.

› RSTP supported

› IGMP v2 snooping supported

› Redundant AC/DC inputs for uninterrupted operation in the event of a loss of operating power or a power supply failure

› SNMP v1/v2c for network management

› May be DIN-rail mounted by the addition of ComNet model DINBKT2 or DINBKT4 adaptors.

› Port Guardian prevents network intrusion through intelligent physical port lockout

› Lifetime Warranty

› Made in the USA

APPLICATIONS

› 10/100/1000 Mbps Ethernet

› Perimeter Protection Surveillance Systems

› IP Video

* SFP = Small Form-Factor Pluggable Module

† CNGE4+2SMSPOE/M or CNGE4+2SMSPOEHO/M models only

SPECIFICATIONS

Data

Data Interface	Ethernet
Data Rate	10/100/1000 Mbps
	IEEE 802.3 Compliant
	Full Duplex or Half Duplex Electrical Ports/Full Duplex Optical Port
Electrical	CNGE4+2SMSPOE/M Ports 1-4: 30 W Max
	CNGE4+2SMSPOEHO/M Ports 1-4: 60 W Max

Connectors

Optical[1]	Requires selection of sold-separately SFP modules. See ComNet data sheet for number and description of SFP modules.
Serial	Mini USB
I/O	Terminal Block
Power	Terminal Block
Data	RJ45

Network Redundancy

STP / RSTP

Management

SNMP	SNMP V1/2c
HTTP	Web GUI Configuration Interface
CLI	Serial Command Line Interface

Switch Properties

Switching Latency	7 µs
Switching Bandwidth	12 Gbps
MAC Table	1K
Processing	Store-and-Forward

Contacts

Response Time	25ms typical (network dependent)
Input/Output Channels	2
Inputs	2 × Fault Relay
Outputs	2 × Form A contacts (Rated 1A @ 24 VDC, non-resistive loads)

Power

Operating Voltage	Dual 48 to 56 VDC PoE, 9 to 36 VDC or 24 VAC non PoE
Current Draw	246 W max with PoE, 6W max w/out PoE
Current Protection	Automatic Resettable Solid-State Current Limiters

PoE Pin Assignment

RJ45 port supports IEEE802.3at
End-point Positive (VCC+): RJ45 pin 1, 2
(RJ45 pin 1,2 and 4,5 on 60W ports)
Negative (VCC-): RJ45 pin 3, 6
(RJ45 pin 3,6 and 7,8 on 60W ports)

Electrical & Mechanical

Indicating LEDs	Optical Link/Data Activity
	Electrical Link/Data Activity
	Power PoE Status
Circuit Board	Meets IPC Standard
Size	4.1 × 3.7 × 2.2 in (10.4 × 9.4 × 5.6 cm)
Surface Mount	Wall or Flat Surface Screw Attachment
Shipping Weight	<2 lb / 0.9 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40˚ C to +75˚ C
Storage Temp	-40˚ C to +85˚ C
Relative Humidity	0% to 95% (non-condensing)[2]

Software Features

STP/RSTP (IEEE 802.1D/w)
Port Configuration, Status, Statistics
PoE Configuration, Status, Health Check
SNMP
Enable/Disable Ports
IGMP v2 Snooping

Ethernet Standards

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 802.1D for STP (Spanning Tree Protocol)
IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)
IEEE 802.3at for Power Sourcing Equipment (PSE) and PoE (≤ 30 W per port)
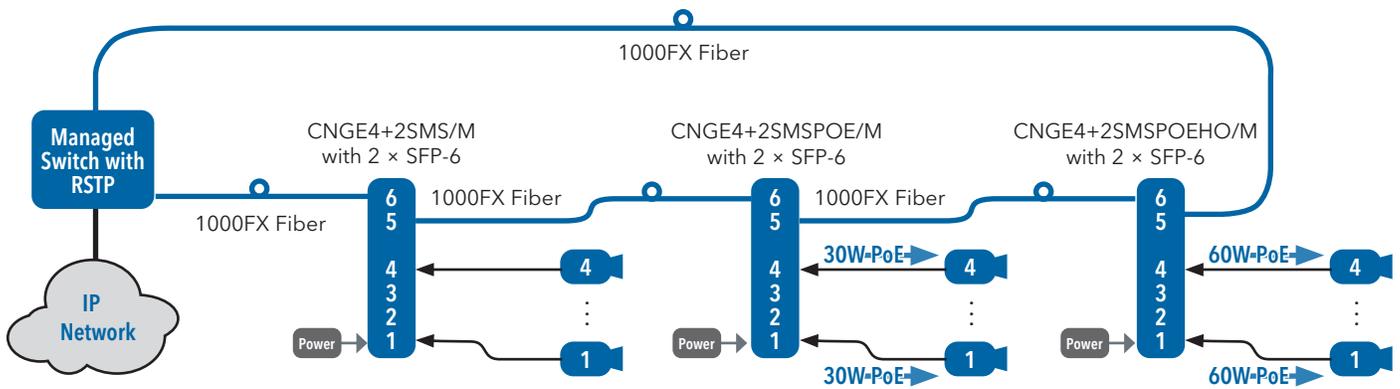IEEE 802.3x Flow Control and Back Pressure

AGENCY COMPLIANCE
FC PART 15 COMPLIANT   CE   c(UL)us   RoHS   MADE IN THE USA

ORDERING INFORMATION

Part Number	Description
CNGE4+2SMS/M	Small Surface Mount 6 Port Gigabit Ethernet Self-managed Switch 2 SFP FX, 4TX, 2 Contact Closure
CNGE4+2SMSPOE/M	Small Surface Mount 6 Port Gigabit Ethernet Self-managed Switch 2 SFP FX, 4TX with 30W of PoE+ power, 2 Contact Closure
CNGE4+2SMSPOEHO/M	Small Surface Mount 6 Port Gigabit Ethernet Self-managed Switch, 2 SFP FX, 4TX with 60W of PoE+ power, 2 Contact Closure
Included Accessories	DC Plug-in Power Supply, 90-264 VAC, 50-60 Hz (included with CNGE4+2SMS only, for benign 0 to 50°C applications only. Hardened power supply available, consult factory)
Options	Power Supply for PoE Models (Extra charge, consult factory) User-selection of SFP or CopperLine CL-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) DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT2 or DINBKT4)

[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.

TYPICAL APPLICATIONS

1 Gbps Fiber Ring Example

100 Mbps Legacy Copper Ring

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Communication Networks

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Low Power Consumption

an ACRE brand