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Communication Networks

QUICK START GUIDE

CNGE2+2SMS[POE][HO]

10/100/1000 MBPS INTELLIGENT REDUNDANT RING GIGABIT SWITCH WITH OPTIONAL POE+

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The ComNet CNGE2+2SMS[POE][HO] is a four port intelligent switch with light management functionality. It provides two 10/100/1000Base-T(X) copper ports and two 100/1000Base-FX SFP ports. The CNGE2+2SMS[POE][HO] 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 when used in a linear or star topology. Ports 1 and 2 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 and 2. This product is fully compatible with the ComNet exclusive Copperline SFP modules for operation over extended distance UTP or Coax cable.

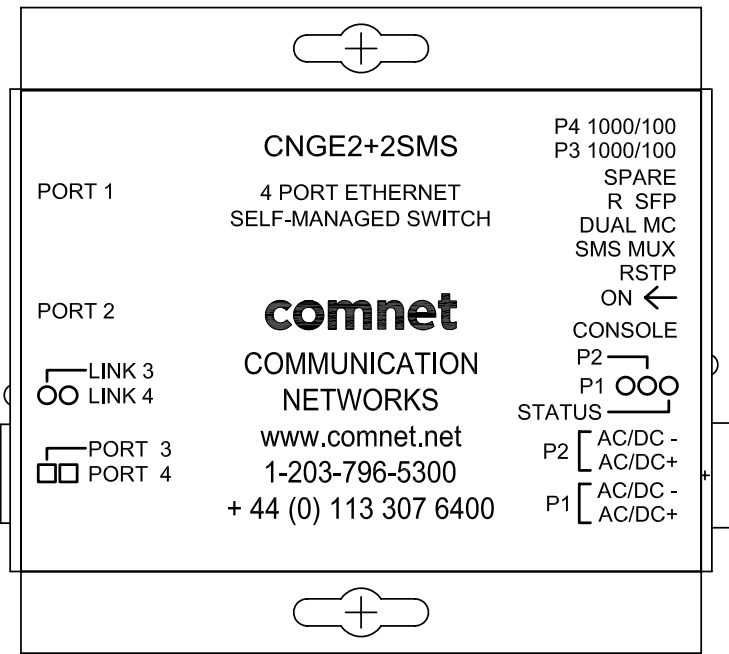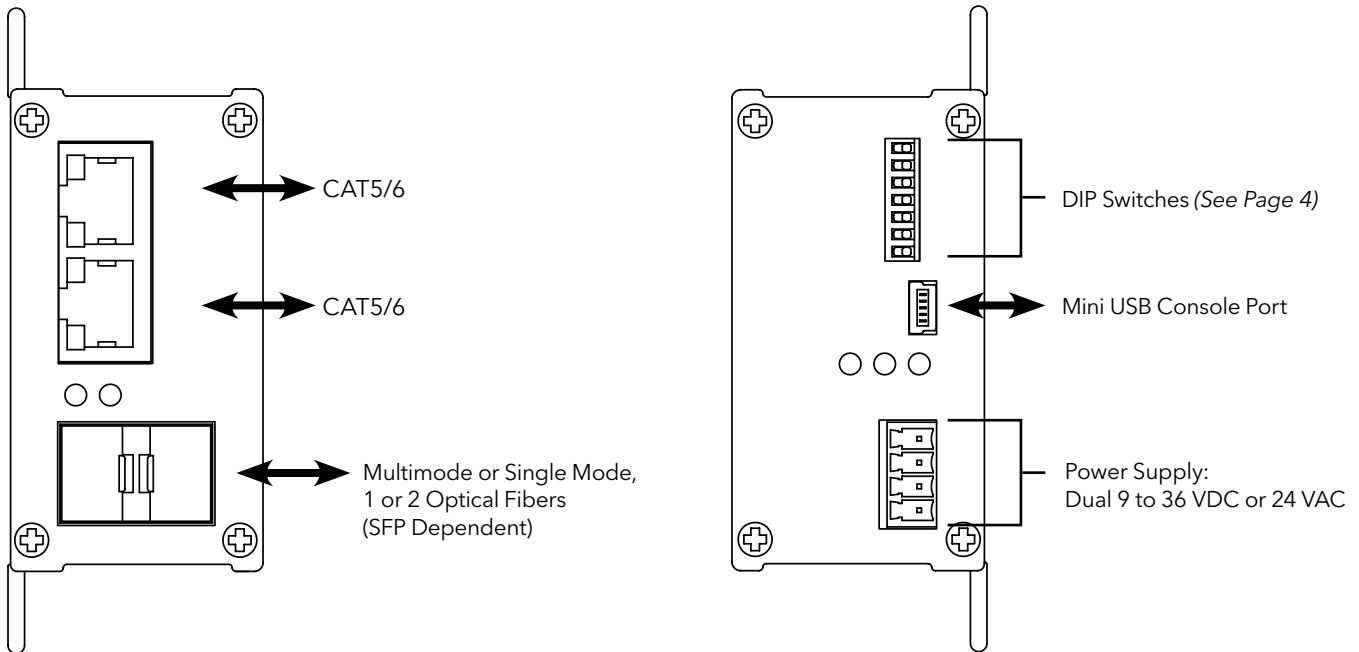## FIGURE 1 – Mini AC/DC Power Light Managed Switch (Non-PoE Models)

FIGURE 4 – Mini AC/DC Power Light Managed Switch (Non-PoE Models)

FRONT PANEL

REAR PANEL

CAT5/6

CAT5/6

Multimode or Single Mode,
1 or 2 Optical Fibers
(SFP Dependent)

DIP Switches *(See Page 4)*

Mini USB Console Port

Power Supply:
Dual 9 to 36 VDC or 24 VAC

Software Features

» Supports SNMPv1/v2c

» Event notification by SNMP trap and Relay Output (Relay Output for PoE models only)

» Web-based USB Console CLI configuration

» Enable/disable ports

» LLDP (Link Layer Discovery Protocol) support (802.1AB)

» PoE status monitoring and health check

» RSTP (802.1w)

Hardware Features

» 7 × DIP Switches for quick feature selection

» 2 × Redundant DC power inputs

» Operating Temperature: -40 – 75°C

» Storage Temperature: -40 – 85°C

» Operating Humidity: 5% – 95%, non-condensing

» 2 × 10/100/1000Base-T(X) Gigabit Ethernet port

» 2 × 100/1000Base-X SFP

» USB Console Port

» Dimensions: 4.1 × 3.7 × 1.46 in (10.4 × 9.4 × 3.7 cm)

DIP Switches

The DIP Switches are numbered from left to right when viewing the side of the Switch with the backplate on the bottom and the power connections on the left. If "Web Management Enable" is selected in the management software under System Settings, the DIP switch settings will be overridden by any settings made in the browser interface.

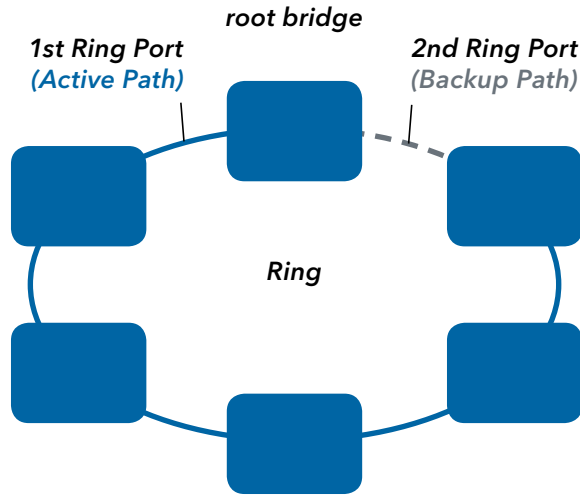| DIP Switch Position	Description
1	RSTP enable (down = disabled, up enabled)
2	Port SMS Mux
3	Dual Media Converter
4	Redundant SFP mode
5	Reserved for Future Use
6	SFP Port 3 speed. Up: 1000M/Down: 100M
7	SFP Port 4 speed. Up: 1000M/Down: 100M

Switch Function Listing

The switch functions may be combined in the following order to perform enhanced functions above the individual operation. The table below describes the operation of the switch functions. This same table is also available in the help menu of the system webpage.
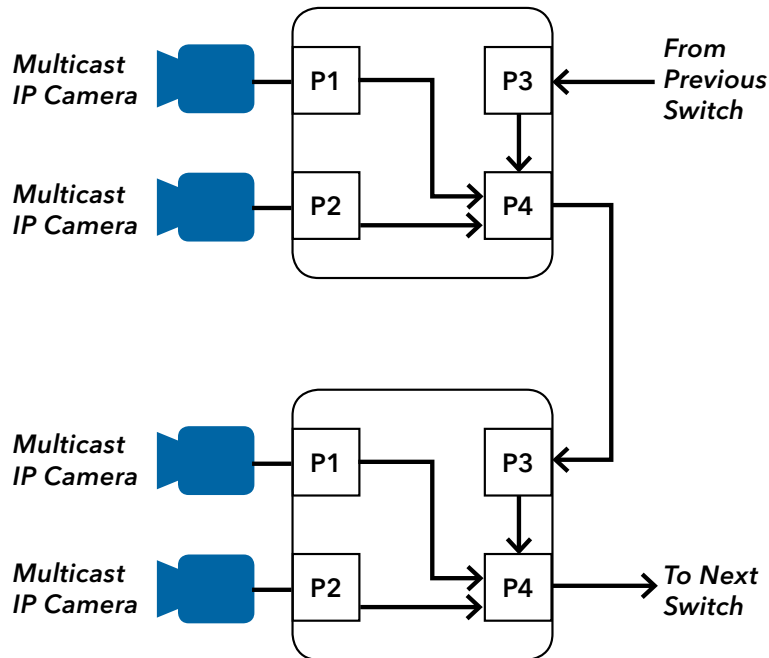
Summary of the switch configurations (in order of switch priority)

| RSTP (Switch 1)	SMS MUX (Switch 2)	DUAL MC (Switch 3)	R SFP (Switch 4)	Resulting Mode	Comment
ON	OFF	OFF	OFF	RSTP	All ring configurations
OFF	ON	OFF	OFF	SMS	Port4 is uplink (traffic from ports 1-3 is sent only to port 4)
OFF	ON	OFF	ON	SMS with Redundant SFP	Fiber fail over with Port1 and Port2 isolation
OFF	OFF	ON	OFF	Dual Media Converter	Port1->Port3; Port2->Port4
OFF	OFF	ON	ON	Dual Media Converter w/ Redundant SFP	Port1->Port3; Port2->Port4 (with fiber fail over)
OFF	OFF	OFF	ON	Redundant SFP	Fiber fail over Port 4 is primary port

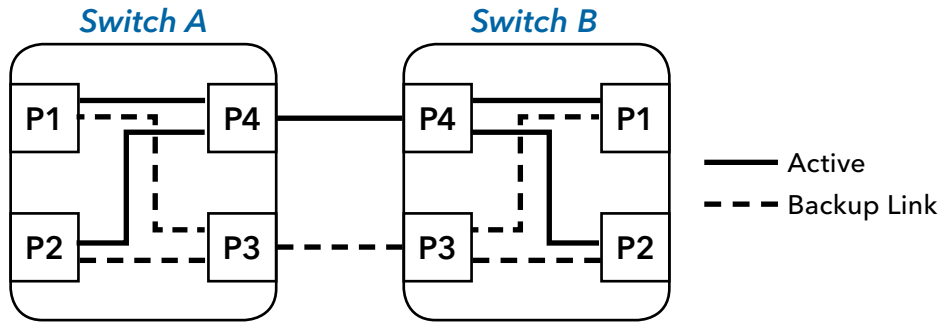## Typical network configuration with RSTP enabled via DIP Switch 1

root bridge

1st Ring Port
(Active Path)

2nd Ring Port
(Backup Path)

Ring

Typical network configuration with SMS Mux enabled via DIP Switch 2

*Multicast
IP Camera* — P1   P3 ← *From
Previous
Switch*

*Multicast
IP Camera* — P2   P4

*Multicast
IP Camera* — P1   P3

*Multicast
IP Camera* — P2   P4 → *To Next
Switch*

Typical network configuration with Dual Media Converter Mode enabled via DIP Switch 3

Switch A   *Switch B*

P1   P3   P3   P1   Channel 1

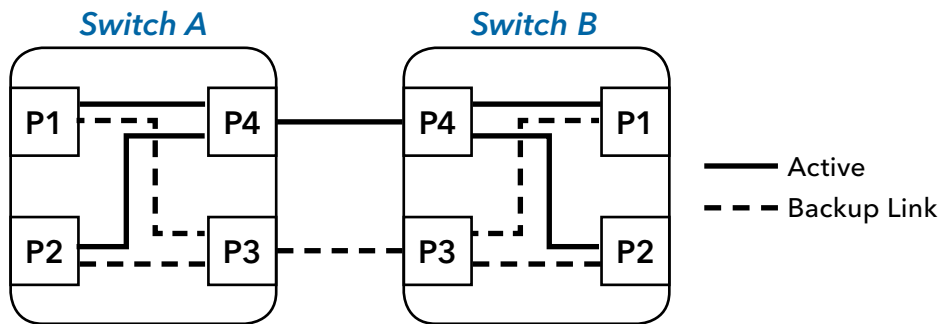P2   P4   P4   P2   Channel 2

QSG_CNGE2+2SMS_REV-
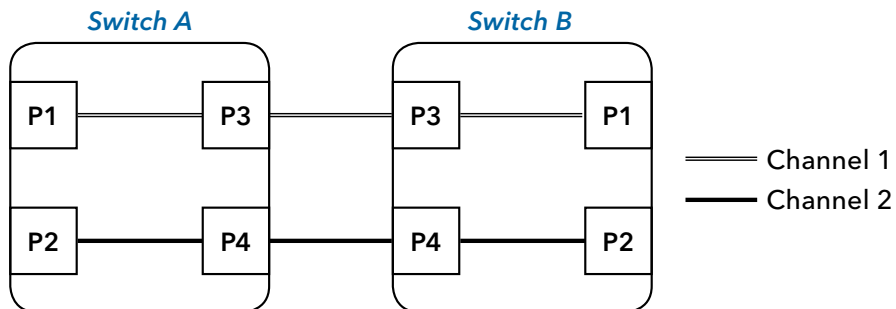
Typical network configuration with Redundant SFP Mode enabled via DIP Switch 4
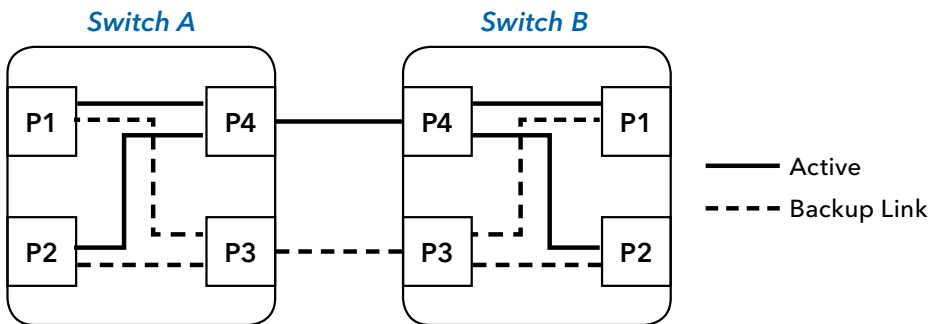
Traffic always forwards to the link that's active.

Typical network configuration with Redundant SMS SFP Mode enabled via DIP Switches 2 & 4

Traffic always forwards to the link that's active.

Typical network configuration with Redundant Dual Media Converter Mode enabled via DIP Switches 3 & 4

Traffic always forwards to the link that's active.

WEB Management

Attention: While installing and upgrading firmware, please remove physical loop connection first. DO NOT power off equipment while the firmware is upgrading!

About Web-based Management

The Web-Based Management function supports Internet Explorer 5.0 or later. It utilizes Java Applets with an aim to reduce network bandwidth consumption, enhance access speed and present an easy viewing screen.

Note: By default, IE5.0 or later version does not allow Java Applets to open sockets. You need to explicitly modify the browser setting in order to enable Java Applets to use network ports.

Preparing for Web Management

The default value is as below:

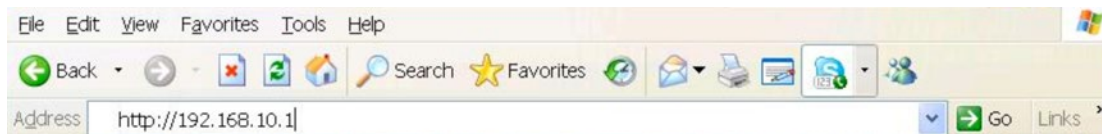IP Address: **192.168.10.1**
Subnet Mask: **255.255.255.0**
Default Gateway: **192.168.10.254**
User Name: **admin**
Password: **admin**

System Login

1. Launch your Web Browser.

2. Type **http://192.168.10.1**. Press **Enter.**

3. When the login screen appears, enter your username and password. The default for both is **admin**.

For further details of the web management options please refer to the products installation manual which can be found on the product CD or can be downloaded from the website.

MECHANICAL INSTALLATION INSTRUCTIONS

INSTALLATION CONSIDERATIONS

This product is supplied as Standalone/Surface Mount modules. Units should be installed in dry locations protected from extremes of temperature and humidity.

CAUTION: Take care not to press on any of the LEDs.

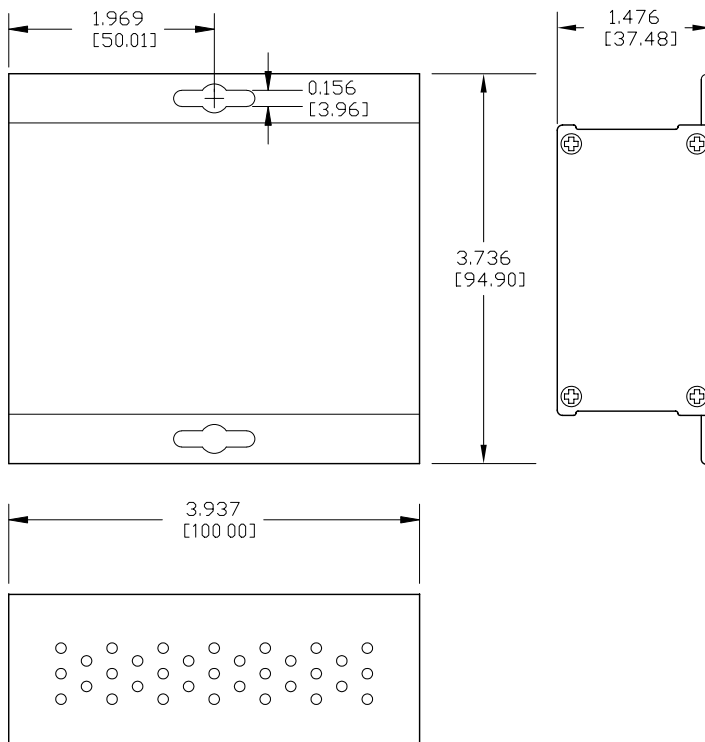**WARNING**: Unit is to be used with a Listed Class 2 power supply.

IMPORTANT SAFEGUARDS:

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

MADE IN THE USA

FIGURE A

Dimensions are for a stand alone CNGE2+2SMS[POE][HO] ComNet module