

## Features



### CMG-2428

#### High Performance Network Switching Technology

- ✓ Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.1p, IEEE 802.1q, IEEE 802.1d, IEEE 802.1w, IEEE 802.1x, IEEE 802.3ad, IEEE 802.3z
- ✓ Provides 24 x 10/100 Mbps Ethernet ports with RJ-45 connector
- ✓ Provides 2 x combo ports
- ✓ Embedded 24 ports PoE injector function classified as PSE
- ✓ Supplies 15.4 watts of power per port full load with PoE
- ✓ RJ-45 port supports auto MDI/MDI-X crossover
- ✓ Redundant X-Ring, Dual Homing & Ring Coupling
- ✓ SNMP for network management
- ✓ IGMP snooping for multicast traffic
- ✓ QoS / ToS for network packet determinism
- ✓ VLAN for easy network planning
- ✓ Event notification by e-mail, SNMP trap, Syslog & Relay output

- ✓ Online Port Mirroring for online debugging
  - ✓ Supports IP security
  - ✓ IntraVUE Network Management software compatible
- #### Robust Industrial Design
- ✓ Robust aluminum case with fan-less design and complying to IP-30 housing standard
  - ✓ Supports operating temperature -10 to 60°C
  - ✓ Rack mount or desktop installation
  - ✓ High level of immunity to electromagnetic interference & power supply surges typically found in industrial plant environments or external curb side enclosures
- #### Reliable Power Design
- ✓ Equipped with redundant power inputs
  - ✓ Supports 48VDC redundant power with polarity reverse protection
  - ✓ Provides EFT protection 3000 VDC for power line
  - ✓ Supports 6000 VDC Ethernet ESD protection
  - ✓ Removable terminal block



## Overview

The Cobra CMG-2428 is a high performance, powerful managed, 26-port Power over Ethernet switch. CMG-2428 is engineered with twenty four 10/100TX RJ-45 ports which provides twenty four PoE injector ports classified as power source equipment (PSE), plus two small form pluggable (SFP) ports that supports Gigabit SX or LC depending on your existing network structure. CMG-2428 supports advanced software features to support mission critical features such as RSTP, STP, X-Ring, Dual Homing, Couple Ring topology, QoS, VLAN, RMON, DHCP, IGMP with Query mode for multimedia application, Port Mirroring, IP security, User Authentication and network management (SNMP/RMON/Telnet/Web/TFTP) to provide stability and interoperability. The SNMP trap monitors PoE port events including AC disconnect trap, DC disconnect trap, disconnect PD off, overloading trap, short circuit trap, over temperature protection trap, power management trap and private traps. CMG-2428 the best choice for high port density Industrial Power over Ethernet managed switch with extreme performance and reliability.

## Hardware Specifications

### Interface

**RJ-45 Ports:** 24 10/100Base-TX auto-negotiation speed, Full/Half duplex, auto MDI/MDI-X

**Fiber Ports:** 2 combo ports

### Console Ports:

Front : RS-232 Female DB9

Rear : RS-232 Male DB9

**LEDs:** System Power(Green)

Gigabit Fiber: Link/Activity (Green) ,

Gigabit Copper: Link/Activity (Green), Full duplex/collision(Yellow),

MINI GBIC (Link/Activity)(Green)

### Alarm:

Relay output for port break and power failure

Alarm Relay current carry ability: 1A @ DC24V

**Power Input:** VDC 48V

Redundant power with removable terminal block

**Power Protection:** ESD (Ethernet): 6000VDC

Surge: 3000VDC

Power reverse polarity

**Power Consumption:** 381.3 watts (full load)

**Dimensions:** IP-30 standard, 440mm (W) x 280mm (H) x 44 mm (D)

**Installation:** Rack mount or desktop installation

### Environmental

**Operating Temp:** -10 to 60°C

**Storage Temp:** -40 to 85°C (-40 to 185°F)

**Operating Humidity:** 5% to 95% RH (non-condensing)

## PoE Specifications

**PoE Compliance:** 100% IEEE 802.3af compliant

**PoE Classification:** Power Sourcing Equipment (PSE)

**PoE Voltage:** 48 VDC

**PoE Power:** Up to 15.4 watts per port

### PoE Protection:

Over-temperature, over-current, over/under-voltage and transient

### PoE Pin Assignment:

RJ-45 port # 1-# 24 support IEEE 802.3af End-point.

Positive (VCC+): RJ-45 pin 4,5.

Negative (VCC-): RJ-45 pin 7,8.

Data(1,2,3,6)

## Technical Specifications

### Standard:

IEEE 802.3 10Base-T Ethernet  
IEEE 802.3u 100Base-TX  
IEEE802.3z Gigabit fiber  
IEEE802.3ab 1000Base-T  
IEEE802.3x Flow Control and Back Pressure  
IEEE802.3ad Port trunk with LACP  
IEEE802.1d Spanning Tree  
IEEE802.1w Rapid Spanning Tree  
IEEE802.1p Class of Service  
IEEE802.1q VLAN Tag  
IEEE 802.1x User Authentication (Radius)  
IEEE802.3af Power over Ethernet  
IEEE802.1ab LLDP\*

### Network Media:

10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/5e cable  
EIA/TIA-568 100-ohm (100m)  
100Base-TX: 2-pair UTP/STP Cat. 5/5e cable  
EIA/TIA-568 100-ohm (100m)  
1000Base-TX: 2-pair UTP/STP Cat. 5/5e cable  
EIA/TIA-568 100-ohm (100m)

**Protocol Technology:** CSMA/CD

**Switching Architecture:** Store and Forward

## Performance

### Data Transfer Rate:

14,880 pps for Ethernet port  
148,800 pps for Fast Ethernet port  
1,488,000pps for Gigabit Fiber Ethernet port

**MAC Address:** 8k

**Memory Buffer:** 4Mbytes

**Port Statistics:** Supported

**Back-plane:** 8.8 Gbps

**Flow Control:** Full-duplex and Back Pressure for Half-duplex

**Packet Filter:** Broadcast/Multi-cast/Unknown Broadcast storm packet filter

**Transfer Packet Throughput:** 13.1Mpps @ 64bytes

## Regulatory Approvals

**EMI:** FCC Class A

### EMS:

EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5,  
EN61000-4-6, EN61000-4-8, EN61000-6-11

**Safety:** UL, cUL, CE/EN60950

**Shock:** IEC60068-2-27

**Vibration:** IEC60068-2-6

**Free Fall:** IEC60068-2-32

**Environmental:** WEEE, RoHS

**MTBF:** 325,000 hrs based on Mil-Hdbk-217F, GB

**Warranty:** 5 years

## Management Specifications

### Redundancy:

STP, RSTP  
Dual Homing, Ring Coupling, Dual Ring\*  
X-Ring with recovery time < 10 ms

### Management Protocols:

SNMP v1/v2c/v3\*, RMON, SMTP, SNTP,  
IGMP v1/v2 & Query mode, DHCP/Client, TFTP

**MIB:** MIB-II, Bridge MIB, Ethernet like MIB, VLAN MIB, Private MIB

### Configuration:

Web interface management

### VLAN:

Support port based VLAN/Tag VLAN (256 entries)  
VLAN ID (Up to 4K)  
GVRP (256 Groups)  
Static VLAN groups up to 256, the VLAN ID can be assigned from 1 to 4094

**Quality of Service:** Tag and IPv4 Type of service, IPv4 Different Service

**IGMP Snooping:** v1 and v2, query mode, multicast group with 256 entries

### MAC IP Security:

Supports ingress and egress MAC address filter and  
static source MAC address lock, Dumping MAC address Table,  
Ingress/Egress MAC address security, per port support learning 50 MAC addresses

### IP Security:

10 IP address accounts for system management security for Web, SNMP and  
Telnet management security to prevent intruder

**LACP Port Trunk:** 13 Trunk groups/Maximum 4 trunk members

### Port Mirror:

Global system supports 3 mirroring types: "RX, TX and Both packet".  
Maximum of 8 entries

**E-mail Warning:** Pre-defined events

**SNMP Trap:** Cold start, link down, link up, authorization failure,  
X-ring topology change, DC disconnect trap-PoE port event, trap station up to 3

**DNS:** Provide DNS client feature and support Primary and Secondary DNS server

**SNTP:** Supports SNTP to synchronize system clock in Internet

**SMTP:** Supports up to 4 e-mail accounts

**Firmware Upgrade:** By TFTP