

**SICOM4000**

24+4G Port Modular Managed Industrial Ethernet Switch



CE, FCC, UL, RoHS

**Overview**

SICOM4000 series, Gigabit, modular, DIN-Rail industrial Ethernet switches. Offers 4 Gigabit fiber/TP ports, 24 10/100M fiber/TP ports, 10 slots for 16 types of modules. It supports IEEE802.3, 802.3U, 802.3X, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.1W, IEEE802.1S, static routing, RIP v1/v2, OSPFv2, BEIGRP, BGPv4, and PIM-SM, PIM-DM, DVMRP, etc.

SICOM4000 also comes with EMS industrial level 4 design and complies with IP40 protection class. Based on Kyvision3.0, CLI, WEB interface, it offers concentrated management. The state-of-the-art OPC software enables the switch's management embedded in various industrial systems.

**Features**

- Modular design, up to 4 GE (SFP) ports and 24 100Base-TX/FX ports
- DT-Ring, recovery time<50ms
- Support IGMP, TRUNK, Port Mirroring, QoS, VLAN
- Support SNTP (Simple Network Time Protocol), PTP(precision time protocol, IEEE1588)
- Broadcasting storm control
- Hyper terminal (CLI), TELNET, WEB management software, SNMP-based network management, support OPC supervision
- Store and forward switching mode
- Flexible combination of ring, star and tangent network topology
- Backplane switching capacity: 32G
- Able to monitor the flow, status of each port (RMON (statistics, history, alarm, event))
- EMC industrial level 4, complies with IEC61850 standard, Goose message transmission realtime, security, priority and reliability
- Uniform network management software of SICOM3000/3024/6000: Kyvision 3.0
- Wide operating temperature: -40 to 75°C(-40~167°F)
- Ribbed Aluminum housing for heat dissipation (patent), fanless
- IP40 protection class
- DIN-Rail mounting

**Functions****DT-Ring**

Each Ethernet port or fiber port of SICOM4000 series is able to configure as a redundant mode. It allows the formation of different Gigabit or 100M redundant rings easily and flexibly. The recovery time is less than 50ms.

**DT-Ring+**

DT-ring+ enables the ring coupling of a couple of DT-Rings.

**PTP Precision Time Protocol (IEEE1588)**

PTP is Precision Time Protocol and IEEE1588, within synchronous precision of the sub-microsecond range. It's used for limited network requiring the highest precision of time synchronization. No special needs for synchronous communication when distributing control tasks, making it possible to separate communication time mode from program operation time mode.

Being representative and open is another advantage of IEEE1588. Lots of controlling system suppliers have applied this standard in their products. With different devices manufacturers following the same standard, a solid synchronization is sustained among them.

**Broadcast Storm Control**

SICOM4000 series offers broadcast storm protection ensuring the smooth communication platform of the switch network. The switch will filter out the over flow once the bandwidth of broadcast flow exceed the limit.

**VLAN**

VLAN will divide one network into multiple logical subnets. Data packets cannot be transmitted between different VLANs so as to control the broadcast domain and segment flow and improve the reliability, security and manageability. SICOM4000 series supports IEEE802.1q VLAN tag. It can be divided up into 4094 VLANs based on ports. The VLAN section can be realized via WEB, CLI, Kyvision3.0 software.

**QoS Priority**

IEEE 802.1p is the most popular priority solution in the LAN environment. SICOM4000 series supports 802.1p standard, by which you can configure the port-based priority when the terminal does not support 802.1p and different priority for the ports is wanted.

**Alarm Function**

SICOM4000 series offers the alarm functions including power failure, port link and network alarm. Through management software, all the alarm functions can be configured functionally. The alarm information is shown either through alarm contact or from management interface.

**Multiple Port Working Modes**

SICOM4000 series is able to configure the working mode of all ports through management: full/half duplex adaptive, enforced full/half duplex, 10M/100M adaptive, enforced 100M full-duplex for 10M/100M fiber ports, enforced 1000M full-duplex for 1000M fiber/TP ports.

**Port Rate Configuration**

SICOM4000 series is able to configure the rate of all ports through management as any integer multiple of 32kbps.

**RMON Network Monitor**

RMON network management expands to the physical layer, making it possible to collect data of devices independently. The built-in monitor offers the limited ability to analyze the whole flow without occupying network resources (bandwidth). It supports four groups including statistics, history, alarm and event. Meanwhile, it permits the network management station to configure the grouping of multiple variables in the way of expression to enhance the effectiveness of transmitting management messages and to reduce the working load of the network management station, which will definitely satisfy your requirements of network segment monitoring function and enable you to manage a large network easily and effectively.

**Multicasting (IGMP)**

IGMP is Internet Group Multicast Protocol. SICOM4000series offers IGMP monitor and query functions. Data packets can be transmitted to multiple necessary host computers to prevent overloading. This solves the problems of occupied bandwidth when broadcast.

**OPC Uniform Management of Networking Devices**

In the SCADA software of industrial automation, OPC offers a bridge between hardware manufacturer and software developer. By the OPC Server interface of communication devices and other hardware, the software developer does not need to consider the differences of hardware and is able to get the information from hardware, and integrates all the information from the top level software for reference of decision-makers.

**Browser/CLI/SNMP-based Network Management Configuration**

SICOM4000 support WEB browser, CLI (Command-Line Interface) management software, and SNMP-based network management, users could configure the switch flexibly.

**Standard**

IEEE802.3z  
IEEE 802.3u  
IEEE 802.3  
IEEE802.3x  
IEEE802.1D/w  
IEEE802.1p  
IEEE802.1Q  
Store and forward switching mode

**Network**

Ring, chain, star and tangent ring network topology.

**Interface**

100M RJ45 port: up to 24 × 10/100Base-TX, Adaptive, , full/half-duplex, auto MD/MDI-X connection  
100M fiber port: up to 24 × 100Base-FX (FC/SC/ST)  
Gigabit port: up to 4 × 1000Base-X (SFP)  
CONSOLE interface: RS232, RJ45  
Alarm contact: Relay output for power supply

**Power Requirements**

Power input: 24VDC (18-36VDC) dual redundant  
Power consumption: <24W

**Physical Characteristics**

Casing: IP40 protection  
Ribbed Aluminum housing fanless design  
Dimensions(WxHxD): 416x158x170mm (16.38x6.22x6.69 in.)  
Weight: 6000g (13.228 pounds)  
Installation: DIN-Rail mounting

**Environmental Limits**

Operating Temperature: -40 to 75°C (-40 to 167°F)  
Storage Temperature: -45 to 85°C (-49 to 185°F)  
Ambient Relative Humidity: 0 to 95% (non-condensing)

**Approvals**

EMC interference immunity:  
IEC61000-4-2(ESD): ±8KV contact discharge, ±15KV air discharge  
IEC61000-4-3(RS): 10V/M (80-1000MHz)  
IEC61000-4-4(EFT): ±4KV power line, ±4KV data line  
IEC61000-4-5(Surge): ±4KV(line/earth), ±4KV (line/line)power line, ±2KV data line  
IEC61000-4-6(CS): 3V(10KHZ~150KHZ), 10V(150KHZ~80KHZ)

**EMC emitted immunity:**

FCC CFR47 Part15: FCC CFR47 Part 15 Class A  
EN55022: EN55022 Class A  
UL60950,CE,FCC,ROHS

**MTBF**

35 years

**Warranty**

5 Years

**Technical Specifications**

**Ordering Information**

Model	Description
SM4-Backboard	Backboard of SICOM4000 system, offering slots for 1 CPU module, 1 switching module, 1 Gigabit interface module, 1 power supply module and 6 service modules
SM4-SW1	switching module for SICOM4001
SM4-SW2	switching module for SICOM4002
SM4-CPU1	CPU module, managing SM4-SW1/SM4-SW2
SM4-POWER	power supply module, dual 24VDC
SM4-2GX	2 × 1000M Ethernet ports for SFP
SM4-4GX	4 × 1000M Ethernet ports for SFP (only in SICOM4002)
SM4-4TX	Interface module with 4 x 10/100-T/TX ports, RJ45
SM4-4FX-S-ST(SC)	Interface module with 4 x 100FX ports, ST/SC, single mode
SM4-4FX-M-ST(SC)	Interface module with 4 x 100FX ports, ST/SC, multimod
SM4-3TX-1FX-S-ST(SC)	Interface module with 3x10/100-T/TX ports and 1x100FX port ,SC/ST, single mode
SM4-3TX-1FX-M-ST(SC)	Interface module with 3x10/100-T/TX ports and 1x100FX port ,SC/ST, multimode
SM4-2TX-2FX-S-ST(SC)	Interface module with 2x10/100-T/TX ports and 2x100FX ports ,SC/ST, singlemode
SM4-2TX-2FX-M-ST(SC)	Interface module with 2x10/100-T/TX ports and 2x100FX ports ,SC/ST, multimode
SM4-1TX-3FX-S-ST(SC)	Interface module with 1x10/100-T/TX port and 3x100FX ports ,SC/ST, single mode
SM4-1TX-3FX-M-ST(SC)	Interface module with 1x10/100-T/TX port and 3x100FX ports ,SC/ST, multimode
SM-SFP-RJ45	SFP interface module with 1 x 1000M port, RJ45 connector
SM-SFP-LX/LC	SFP interface module with 1 x 1000M port, LC connector 10Km supported
SM-SFP-LH/LC-40	SFP interface module with 1 x 1000M port, LC connector 40Km supported
SM-SFP-LH/LC-80	SFP interface module with 1 x 1000M port, LC connector 80Km supported