

SICOM4000

24+4G Port Modular Managed Industrial Ethernet Switch



CE, FCC, RoHS

Overview

SICOM4000 is a DIN-Rail modular managed industrial Ethernet switch supporting up to 4 Gigabit SFP slots, 24 100M copper/fiber ports or 24 RS232/RS485 serial ports. It also comes with EMC 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

1. Modular design, supports 4 Gigabit SFP slots, 24 100M copper/fiber ports or 24 RS232/RS485 serial ports
2. Supports DT-Ring protocols (recovery time < 50ms) and RSTP/STP (IEEE802.1w/d)
3. Flexible network topologies: ring, chain, star and tangent ring
4. Advanced ring topology protocol avoiding broadcast storm
5. Supports IGMP Snooping, Port Trunking, Port Mirroring, QoS, VLAN, ACL and link aggregation
6. Supports port speed limitation and special broadcast storm control
7. Safe MAC and port binding function, static FDB supported
8. Bandwidth configuration controls port bandwidth properly
9. Flexible RS232/485 access
10. Protection circuit at data ports, meeting the industrial level 4 immunity requirement
11. Virtual serial port mapping to fulfill the transmission of serial data over Ethernet
12. Embedded serial server has own IP and can be managed through Telnet, Web and Serial port
13. Improves network monitoring ability through RMON (group 1, 2, 3 and 9)
14. Supports multiple management functions including CLI, TELNET, WEB, SNMP V1/V2/V3 and OPC
15. EMC industrial level 4, specially designed for harsh electromagnetic interference environment
16. Various power supply options, dual redundant DC power inputs
17. Relay alarm output for the loss of power
18. Operating temperature: -40 to 85°C (-40 to 185°F)
19. Ribbed aluminum case for heat dissipation, fanless design
20. DIN-Rail or wall mounting installation
21. IP40 protection class
22. Unified management software for SICOM series: Kyvision3.0

Technical Specifications**Standard**

IEEE802.3
IEEE 802.3u
IEEE 802.3x
IEEE802.3z
IEEE802.3ab
IEEE802.1d
IEEE802.1w
IEEE802.1p
IEEE802.1q
Store and forward switching mode

Network

Ring, chain, star and tangent ring network topology

Interface

Gigabit Ethernet Ports: One Gigabit pluggable module and the module supports 4 Gigabit SFP slots for 1000Base-SX/LX/LH/ZX, LC or 10/100/1000Base-T(X), RJ45 interface modules
Fast Ethernet Ports: 6 100M pluggable modules and each module supports 4 100M copper/fiber ports
Serial Ports: Each module supports 4 RS232/RS485 RJ45 serial ports with the port rate of 38.4kbps
CONSOLE Interface: RS232, RJ45
Alarm Contact: 2-Pin 3.81mm-spacing terminal block, 250VAC/350VDC Max; 120mA Max
LED Indicator: RUN, PWR1, PWR2, ALARM; LINK/ACT (G1-G4); LINK/ACT, 10M/100M (1/1-4, 2/1-4, 3/1-4, 4/1-4, 5/1-4)

Performance

Backplane switching capacity: 12.8G
MAC Address Table Size: 8K

Cable

Serial cable: 15m for RS232; 1200m for RS422/485
Twisted Pair: 0-100m (Standard CAT5, CAT5e network cable)
Multi Mode Fiber: 1310nm, 0-5km (100Mbps); 1310nm 0-2km (1000Mbps)
Single Mode Fiber: 1310nm, 0-40km; 1550nm, 0-80km

Power Requirements

Power input: 24VDC (18-36VDC), 48VDC (36-72VDC), dual redundant power inputs
Power terminal: 3-Pin 3.81mm-spacing plug-in terminal block
Power consumption: <24W (all Ethernet ports), <36W (all serial ports)

Physical Characteristics

Casing: Ribbed aluminum case (fanless)
Protection class: IP40
Installation: DIN-Rail or wall mounting
Dimensions (WxHxD): 416x170x158mm (16.38x6.69 x 6.22 in.)
Weight: 8kg (17.637pound)

Environmental Limits

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

Approvals

IEC61000-4-2 (ESD): $\pm 8\text{KV}$ contact discharge, $\pm 15\text{KV}$ air discharge
IEC61000-4-3 (RS): 10V/M (80-1000MHz)
IEC61000-4-4 (EFT): power line $\pm 4\text{KV}$, data line $\pm 2\text{KV}$
IEC61000-4-5 (Surge): power line $\pm 4\text{KV}$ CM/ $\pm 2\text{KV}$ DM, data line $\pm 2\text{KV}$
IEC61000-4-6 (CS): 3V (10KHZ-150KHZ), 10V (150KHz-80MHz)
IEC61000-4-8 (Power frequency magnetic field): 100A/m cont. 1000A/m , 1s to 3s
IEC61000-4-12/18 (Damped oscillatory wave): 2.5KV CM, 1KV DM
IEC61000-4-10 (Damped oscillatory): 30A/m
IEC61000-4-16 (Common mode conduct): 30V cont. 300V , 1s
FCC CFR47 Part 15/EN55022: Class A&B
IEC61000-6-2 (Industrial Standards), IEC61850-3 (Substations),
IEEE1613 (Electric Power Substations), EN50121-4 (Railway Applications)

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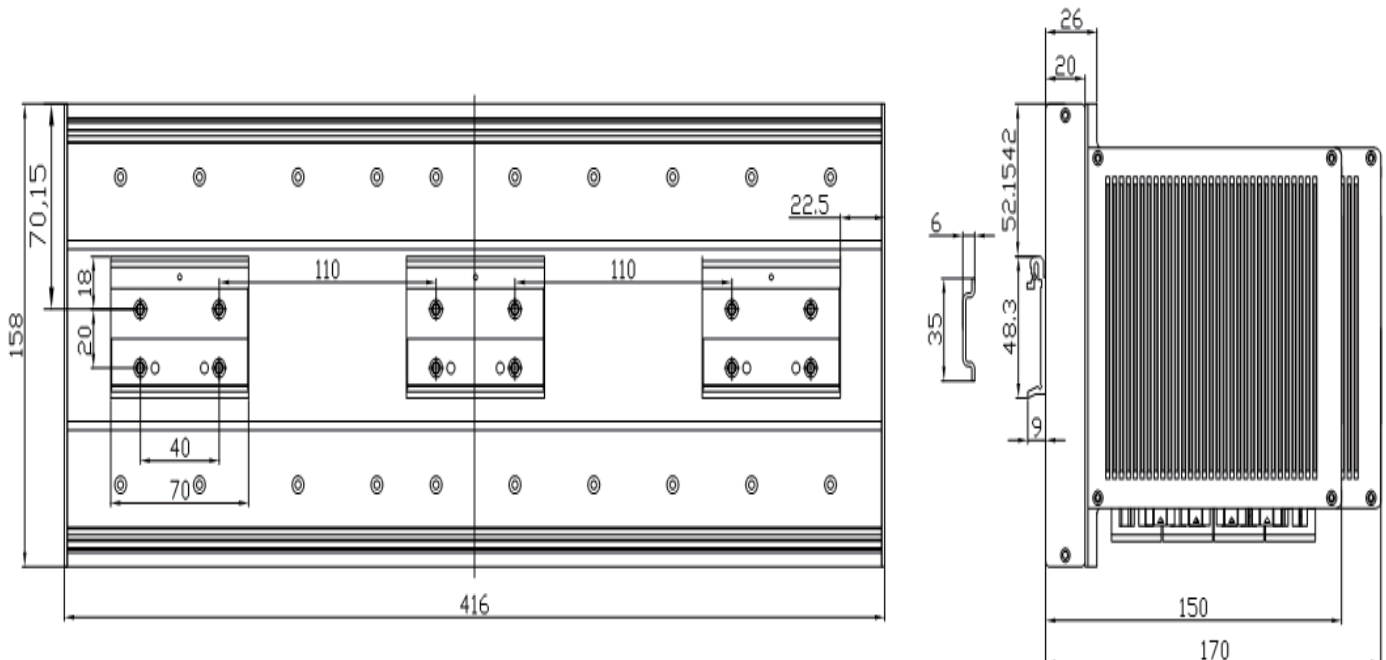
MTBF

35 years

Warranty

5 years

Mechanical Drawing



Ordering Information

Model	Description
SICOM4000-Chassis	Backboard of SICOM4000 system, offering slots for 1 CPU module, 1 Gigabit interface module, 1 power supply module and 6 service modules
SM4.1-SW1	Switching module for SICOM4001 supports maximum 24 100Base-TX/FX and 2 Gigabit SFP slots
SM4.1-SW2	Switching module for SICOM4002 supports maximum 24 100Base-TX/FX and 4 100/1000Base SFP slots
SM4.1-CPU1	CPU module, serving for SM4.1-SW1/SM4.1-SW2
SM4.1-POWER-24	Power supply module of 24VDC, dual redundant power inputs
SM4.1-POWER-48	Power supply module of 48VDC, dual redundant power inputs
SM4.1-2GX	Interface module with 2 x Gigabit SFP slots
SM4.1-4GX	Interface module with 4 x Gigabit SFP slots
SM4.1-4S	Interface module with 4 x 100Base-FX ports, single mode, FC/SC/ST connector
SM4.1-4M	Interface module with 4 x 100Base-FX ports, multi mode, FC/SC/ST connector
SM4.1-3S-T	Interface module with 3 x 100Base-FX ports, single mode, FC/SC/ST connector, 1 x 10/100Base-T(X) port, RJ45 connector
SM4.1-3M-T	Interface module with 3 x 100Base-FX ports, multi mode, FC/SC/ST connector, 1 x 10/100Base-T(X) port, RJ45 connector
SM4.1-2S-2T	Interface module with 2 x 100Base-FX ports, single mode, FC/SC/ST connector, 2 x 10/100Base-T(X) ports, RJ45 connector
SM4.1-2M-2T	Interface module with 2 x 100Base-FX ports, multi mode, FC/SC/ST connector, 2 x 10/100Base-T(X) ports, RJ45 connector
SM4.1-1S-3T	Interface module with 1 x 100Base-FX port, single mode, FC/SC/ST connector, 3 x 10/100Base-T(X) ports, RJ45 connector
SM4.1-1M-3T	Interface module with 1 x 100Base-FX port, multi mode, FC/SC/ST connector, 3 x 10/100Base-T(X) ports, RJ45 connector
SM4.1-4T	Interface module with 4 x 10/100Base-T(X) ports, RJ45 connector
SM4.1-4D-232/485	Interface module with 4 x RS232/RS485 serial ports

Power supply: 24VDC, 48VDC, dual redundant power inputs

SFP Modules

- SM-GSFP-TX/RJ45: SFP module with 1 x 10/100/1000M port, RJ45, 100m
- SM-GSFP-SX/LC-550: SFP module with 1 x 1000M multimode port, LC, 850nm, 550m
- SM-GSFP-LX/LC-550: SFP module with 1 x 1000M multimode port, LC, 1310nm, 550m
- SM-GSFP-LX/LC-10: SFP module with 1 x 1000M single mode port, LC, 1310nm, 10km
- SM-GSFP-LX/LC-15: SFP module with 1 x 1000M single mode port, LC, 1310nm, 15km
- SM-GSFP-LH/LC-40: SFP module with 1 x 1000M single mode port, LC, 1310nm, 40km
- SM-GSFP-ZX/LC-40: SFP module with 1 x 1000M single mode port, LC, 1550nm, 40km
- SM-GSFP-ZX/LC-60: SFP module with 1 x 1000M single mode port, LC, 1550nm, 60km
- SM-GSFP-ZX/LC-80: SFP module with 1 x 1000M single mode port, LC, 1550nm, 80km

Order Codes

SICOM4000 - - - - - - - -

G S1 S2 S3 S4 S5 S6 PS

G: Gigabit Ports

2G= SM4.1-2GX, Interface module with 2 Gigabit SFP ports, please select SICOM4001 chassis

4G= SM4.1-4GX, Interface module with 4 Gigabit SFP ports, please select SICOM4002 chassis

None=No Gigabit port, please select SICOM4001 chassis

S1 to S6: Service Slots

4T= SM4.1-4T, Interface module with 4 x 10/100Base-T(X) ports, RJ45 connector

4MSC= SM4.1-4M, Interface module with 4 100Base fiber ports, multi mode, 1310nm, 5km, SC connector

4MST= SM4.1-4M, Interface module with 4 100Base fiber ports, multi mode, 1310nm, 5km, ST connector

4MFC= SM4.1-4M, Interface module with 4 100Base fiber ports, multi mode, 1310nm, 5km, FC connector

4SSC= SM4.1-4S, Interface module with 4 100Base fiber ports, single mode, 1310nm, 40km, SC connector

4SST= SM4.1-4S, Interface module with 4 100Base fiber ports, single mode, 1310nm, 40km, ST connector

4SFC= SM4.1-4S, Interface module with 4 100Base fiber ports, single mode, 1310nm, 40km, FC connector

4D= SM4.1-4D-232/485, Interface module with 4 x RS232/RS485 serial ports

XX=Empty

(Note: Please contact sales if you need 60km, 80km single mode fiber ports or single bi-direction fiber ports. Interface module also supports other fiber and copper combinations, but will need longer lead time, not recommended.)

PS: Power Supply

24= SM4.1-POWER-24, Power supply module of 24VDC (18-36VDC), dual redundant power inputs

48= SM4.1-POWER-48, Power supply module of 48VDC (36-72VDC), dual redundant power inputs

Example Order Codes

SICOM4000-2G-4MSC-4MSC-4MSC-4MSC-XX-XX-24

SICOM4001 chassis, with 1x SM6.1-2GX supports 2 Gigabit SFP ports, 3x SM4.1-4M supports 12 100Base-FX multi mode 1310nm 5km fiber ports, 1x SM4.1-POWER-24 supports 24VDC dual power inputs.