

**SICOM3000**8+2G Port Gigabit Managed
Industrial Ethernet Switch

CE, FCC, UL, RoHS

Overview

The SICOM3000 series, Gigabit managed DIN-Rail industrial Ethernet switch, was developed by Kyland for industrial information layers in transport, power and mining applications. It offers two Gigabit fiber/TP ports, two 100M fiber ports and six 100M TP ports. Its fanless ribbed casing design and ability to handle a wide range of temperatures ensure high reliability in extreme industrial environments. Based on Kyvision3.0, CLI, WEB interface, it offers concentrative management. The state-of-the-art OPC software enables the switch's management embedded in various industrial systems.

Features

- Up to 2 1000Base-FX/TX ports
- Support SNTP(Simple Network Time Protocol), PTP(Precision Time Protocol, IEEE1588)
- Support DT-Ring(recovery time<50ms), DT-Ring+, RSTP protocols
- Support QoS, VLAN, SNMP V1/V2/V3, RMON
- Backplane switching capacity:9.6G
- EMC level 4, complies with IEC61850, Goose message transmission priority and reliability
- CLI, WEB, SNMP-based network management software, SNMP-based OPC management protocol
- Support IGMP-Snooping, TRUNK, Port Mirroring, ACL
- Operating temperature: -40 to 75°C(-40 to 167°F)
- Dual redundant 24VDC power supply, alarm output for power supply
- Ribbed Aluminum housing for heat dissipation, fanless design
- IP40 protection
- DIN-Rail mounting
- CE, FCC, UL, ROHS certificated

Functions**Redundant Ring Network (DT-Ring, RSTP)**

Each Ethernet port can be set as either an ordinary one or a redundant one. Users can freely choose to build a Gigabit or 100M redundant ring network. The recovery time of DT-Ring is less than 50ms.

Multi-Ring Coupling System (DT-Ring+)

The DT-Ring+ protocol is able to realize double ring network redundant backup function and multi-chain network redundant function.

PTP (Precision Time Protocol or 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.

Broadcasting Storm Control

When broadcasts and multicasts in the network reach a certain limitation, the network will be blocked. Our products are capable of eliminating those overfull broadcasts and multicasts.

VLAN

Based on the fact that data packets cannot be transmitted between different VLANs, one network will be divided by VLAN into multiple logical subnets to control the broadcast domain and segment flow as well as improve the reliability, security and manageability of the network. SICOM3000/4000 series supports IEEE802.1q VLAN tag. It can be divided up into 4094 VLANs based on ports, while the VLAN section can be easily realized through Console or WEB Network Management Station.

QoS Priority

IEEE802.1p is the most popular priority scheme in LAN environment. With different port operation distributed with different levels of priorities, this function can configure port-based priority.

Alarm Function

SICOM3000/4000 series offers the alarm functions for power failure, port line and network. Through management software, all the alarm functions can be configured functionally. The alarming information is shown either through alarm contact or from management interface.

Protocol Priority

SICOM3000/4000 serial Industrial Ethernet Switches accord with the standard of IEC61850 protocol. They offer Goose message transmission priority to meet the real-time and reliability requirements of the controlling system.

Various Configurations for Working Mode of Ports

SICOM3000/4000 Series is able to configure the working mode of all TP ports through management: Full/half duplex, adaptive, enforced full/half duplex, 10/100M adaptive, enforced 100M full duplex for 100M fiber ports and enforced 1000M full duplex for 1000M fiber/TP ports.

Port Rate Configuration

SICOM3000/4000 series is able to configure the rate of all ports through management as any integer multiple of 32 kbps.

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.

IGMP to Improve Network Communication Efficiency

IGMP is Internet Group Multicast Protocol. SICOM3000/4000 Series offers IGMP monitoring and querying functions. Data packets can be transmitted only to multiple host computers which need them. This can prevent overloading and therefore solve the problems of occupied bandwidth when broadcasting.

OPC Uniform Management of Network Devices

In the SCADA software of industrial automation, OPC offers a bridge between hardware manufacturers and software developers. With the OPC Server interfaces provided by communication device suppliers and hardware producers, the software developers can get the information from hardware without having to worry about the differences between them and integrate all the information by the top level software for reference of decision-makers.

Technical Specifications**Standard**

IEEE802.3
IEEE802.3U
IEEE802.3Z
IEEE802.3X
IEEE802.1D
IEEE802.1P
IEEE802.1Q
Store and forward switching mode

Protocol

Max VLAN quantity/range: 4096
VLAN: Port-based, 802.1Q tag, GVRP mobile VLAN
Port mirroring: Yes
Redundancy protocol: DT-Ring with recovery time less than 50ms
Spanning tree: IEEE802.1D-1998 spanning tree, link back-up, IEEE802.1w(RSTP)
Link binding: 2 group max
IGMP snooping: Yes
SNMP: V1.0/V2.0

QoS

802.1p: Four transmission queue mapping each port
Queue scheduling: WRR, SP, WRED, WFQ, and FIFO

Service

Diagnostics: LEDs(power, link status, port rate, management status), fault relays(24VDC/1A), RMON(1,2,3, 9RFC1757)
Management: Kyvision
Configuration: WEB, console interface, Telnet, SNMP software
Security: Port security (MAC based and IP based)
Other services: Flow control IEEE 802.3x, OPC, SNTP, PTP(IEEE1588), broadcast storm protection, reverse polarity input protection.
Port status query, port flow statistics.

Network

Ring, chain, star and tangent ring network topology.

Interface

Gigabit port: 2x1000Base-FX/TX
Fiber port: 2x100Base-FX
Copper port: up to 8x10/100Base-TX
Console: RS232, RJ45

Performance

Transfer Rate: 148810bps
MAC Address Table Size: 8K
Backplane switching capacity: 9.6G

Power Requirements

Power input: 24VDC (12-36VDC) dual redundant, alarm output for power supply
Power consumption: <6.5W

Physical Characteristics

Casing: IP40 protection
Ribbed Aluminum housing fanless design
Dimensions(WxHxD): 75x140x123 mm (2.95x5.51x4.84 in.)
Weight: 1000g (2.205 pounds)
Installation: DIN-Rail or wall 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
CE, FCC, UL, ROHS

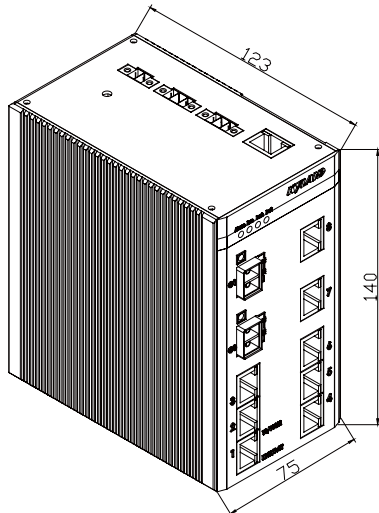
MTBF

35 years

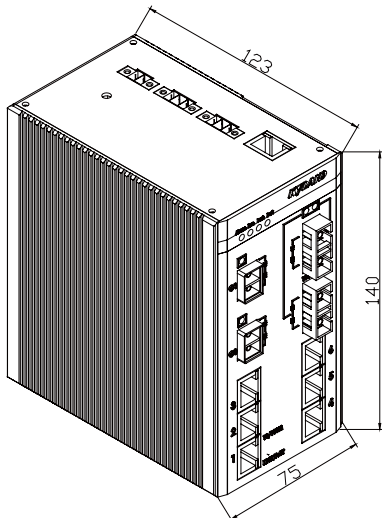
Warranty

5 Years

Mechanical Drawing



SICOM3000-2GX-8T



SICOM3000-2GX-2S(M)-6T

Ordering Information

Model	Description
SICOM3000-2GX-2S-6T	2×1000M port, 2×100Base-FX, SM, 6×10/100Base-TX
SICOM3000-2GX-2M-6T	2×1000M port, 2×100Base-FX, MM, 6×10/100Base-TX, RJ45
SICOM3000-2GX-8T	2 × 1000M port, 8 × 10/100Base-TX, RJ45
SICOM3000-2S-6T	2 × 100Base-FX, SM, 6 × 10/100Base-TX, RJ45
SICOM3000-2M-6T	2 × 100Base-FX, MM, 6 × 10/100Base-TX, RJ45
SICOM3000-8T	8 × 10/100Base-TX, RJ45
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