

SICOM3024

24+4G Port Managed Industrial Ethernet Switch

CE, FCC, UL, RoHS
IEC61850-3 & IEEE1613
IEC61850-8**Overview**

SICOM3024 is a high-performance network-managed industrial Ethernet switch specially designed by KYLAND for industrial applications. Its high-performance switch engine, solid and closed case design, high-efficiency single-rib shape case heat dispersion surface without fans, overcurrent, overvoltage and EMC protection at power input side, and excellent EMC protection of RJ45 port makes SICOM3024 applicable in harsh and dangerous industrial environments. The redundant function of optical fiber network, independent entire network management channel, redundant power input function, and powerful entire network real-time management system provides multiplex guarantee for reliable operation of the system.

Features

- DT-Ring, DT-Ring+, recovery time < 50ms. Support Max 8 100Base-FX fiber ports and 4 1000Base-FX fiber ports
- Support IGMP, TRUNK, Port Mirroring, QoS, VLAN and ACL
- 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 ring 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 priority and reliability
- Uniform network management software of SICOM3000/4000/6000: Kyvision 3.0
- Operating temperature: -40 to 75°C (-40 to 167°F)
- Ribbed Aluminum housing for heat dissipation (patent), fanless
- IP40 protection class
- Rack-mounting (1U)

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 alarm 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**

IEEE802.3Z
IEEE 802.3U
IEEE 802.3
IEEE802.3X
IEEE802.1P
IEEE802.1D
IEEE802.1Q

Store and forward switching mode

Network

Ring, chain, star and tangent ring network topology.

Interface

Gigabit port: Max 4 × 1000Base-X (Fiber or TP cable)
100M fiber port: Max 8 × 100Base-FX (FC/SC/ST connector)
100M RJ45 port: Max 24 × 10/100Base-TX
CONSOLE interface: RS232, RJ45

Performance

Store-and-Forward speed: 1488100 bps
Max. filtering speed: 1488100 bps
MAC Address Table Size: 32K
Backplane switching capacity: 32G

Power Requirements

Power input: 24VDC (18-36VDC) dual redundant, 110VDC, 220VDC, 220VAC
Power consumption: <15W

Physical Characteristics

Casing: IP40 protection
Ribbed Aluminum housing fanless design
Dimensions(WxHxD): 482.6x44x245mm (19x1.73x9.65 in.)
Weight: 4000g (8.818 pounds)
Installation: Rack 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

Ordering Information

Model	Description
SICOM3024-24T	24 × 10/100Base-TX
SICOM3024-2S (M)-16T	16 × 10/100Base-TX, 2 × 100Base-FX
SICOM3024-4S (M)-16T	16 × 100Base-TX, 4 × 100Base-FX
SICOM3024-6S (M)-16T	16 × 100Base-TX, 6 × 100Base-FX
SICOM3024-8S (M)-16T	16 × 100Base-TX, 8 × 100Base-FX
SICOM3024-2GX-24T	24 × 100Base-TX, 2 × 1000M port
SICOM3024-2GX-2S (M)-16T	16 × 100Base-TX, 2 × 1000M port, 2 × 100Base-FX
SICOM3024-2GX-4S (M)-16T	16 × 100Base-TX, 2 × 1000M port, 4 × 100Base-FX
SICOM3024-2GX-6S (M)-16T	16 × 100Base-TX, 2 × 1000M port, 6 × 100Base-FX
SICOM3024-2GX-8S (M)-16T	16 × 100Base-TX, 2 × 1000M port, 8 × 100Base-FX
SICOM3024-4GX-24T	24 × 100Base-TX, 4 × 1000M port
SM-SFP-RJ45	SFP interface module with 1 × 1000M port, RJ45 connector
SM-SFP-LX/LC	SFP interface module with 1 × 1000M port, LC connector 10Km supported
SM-SFP-LH/LC-40	SFP interface module with 1 × 1000M port, LC connector 40Km supported
SM-SFP-LH/LC-80	SFP interface module with 1 × 1000M port, LC connector 80Km supported