SICOM3000 Series

↗ Overview

2 Gigabit fiber ports, 2 100Base–FX ports and 6 10/100M Ethernet ports

Port Prioritization, port rate setting, broadcasting storm control

IEEE802.3/802.3U/802.3X/IEEE802.1Q/IEEE802.1P/IEEE802.1D/

IEEE802W/IEEE802.1S

Wide operation Temperature: −35℃ ~ 75℃

Power supply: 12V to 36VDC

Management platform of high security

Backplane 5.6G

DT–Ring、DT–Ring + ring network, star/ tangent network

DT–Ring、DT–Ring + (recovery time < 300ms).

↗ Features

Reliable DIN–Rail industrial Ethernet switching system

1. High performance industrial Ethernet switching technology

2. Support IEEE802.3、IEEE 802.3x、IEEE 802.3u

3. Support IEEE802.1Q/IEEE802.1P/IEEE802.1D/IEEE802.1W/IEEE802.1S

4.10/100BaseT(X)(RJ45), 100BaseFX(multimode/single mode), 1000Base–FX(SFP)

5.Broadcasting storm control

6.Hyper terminal, Telnet (CLI), WEB management software, SNMP–based network management.

7.Store and forward switching mode

8.10/100M, full/half duplex, MDI/MDI–X adaptive

SICOM 3000

9.To form complex DT-ring, star, tangent network topology etc.

10.5.6G Backplane switching capacity

11.Able to monitor the flow, status of each port (RNON, statistics, alarm, event)

12.Support online upgrade, SNTP(Simple network time protocol), PTP(precision time protocol, IEEE1588)

13.SNMP-OPC Server software

High reliability at industrial level

1.Wide operation temperature -35℃ ~ 75℃,

2.Redundant power supply supports 12-36VDC, custom 110VDC, 220VDC/VAC

3.Protection against reverse polarity connection

4.Protection against over-current, over voltage, and EMC protection.

5.Alarm and query for all ports link and power supply

6.IP40 protection, fanless ribbed design

7.Easy DIN-Rail installation

8.EMC industrial level 3

↗ Main Functions

Overview

SICOM3000 series, Gigabit managed DIN-Rail industrial Ethernet switch, is newly developed by Kyland for industrial information layer 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 wide range temperature ensure high reliability in extreme industrial environment. 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.

Industrial Design for Power Supply

SICOM3000 provides protections against reverse polarity connection, over-current, and over-voltage as well as of EMC. The power design is the reliable solution for field application and has been qualified by EMC industrial level 3.

Broadcast Storm Control

SICOM3000 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.

QoS Priority

IEEE 802.1p is the most popular priority solution in the LAN environment. SICOM3000 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.

Alarming Function

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

Configuration for Working Mode of Port

SICOM3000 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 TP ports.

www.kyland.cn

Port Rate Configuration

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

Query System of Port

Query is for each device of the network, including the query on port info, port state, port data and port rate.

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. SI-COM3000 series supports IEEE802.1q VLAN tag. It can be divided into up to 4094 VLANs based on ports. The VLAN division can be realized on control station or WEB station easily.

RMON Network Monitor

RMON network management expands to physical layer and able to collect data of devices independently. The build-in monitor offers network resource and won't occupy any bandwidth, with a limited ability to analyze the whole flow. It supports four group including statistics, history, alarm and event. In addition, it permits the working station to configure the grouping of multiple variables in the way of expression to enhance the effectivity of transmitting management messages and reduce the load of working station. All the features enable you to manage the large network easily.

Multicasting（IGMP）

IGMP is Internet Group Multicast Protocol. SICOM3000 series 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 broadcasting.

OPC Integrative 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.

SNTP Simple Network Time Protocol

SNTP is for Simple Network Time Protocol. Only the clock in the PC is not enough for the synchronous applications requiring precision time such as power communication, accounting, distributed network counting, transport control, factory process control etc. So SNTP protocol is an effective way to provide precision time service.

PTP Precision Time Protocol（IEEE1588）

PTP is for precision time protocol (IEEE1588), and makes IEEE1588 standard within synchronous precise of sub-microsecond range. It is used for synchronous limited network requiring high-precision distributed time. Synchronous communication is not a special must to distribute control tasks and make it possible to separate communication time mode and program operation time mode. Being representative and open is another advantage of IEEE1588. A lot of system integrators use this standard in their products and different devices manufacturers follow the same standard to ensure a good synchronization among products.

SICOM 3000

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↗ Parameters

Product Description

Model：SICOM3000 series

Description：Gigabit, DIN–Rail Industrial Ethernet Switch, store and forward switching mode, Ethernet (10 Mbit/s) and Fast–Ethernet (100 Mbit/s), Gigabit–Ethernet (1000 Mbit/s).

Interface

V.24 interface：$1 \times$ RJ45

Gigabit port：$2 \times$ SFP(Fiber or TP cable)

100M port：2 X 100Base–FX; 6（8）X 100Base–TX

Power terminal：2 x plug–in terminal block, 3–pin

Network size – length of cable

Twisted pair (TP)：100m

Multimode fiber：Distance: 5km; Wavelength: 1310nm; Optical power: >–20dbm(100Mbit/s)

Single mode fiber：Distance: 40km; Wavelength: 1310nm; Optical power: >–13dbm(100Mbit/s)Distance: 60km; Wavelength: 1550nm; Optical power: >–3dbm(1000Mbit/s)

Network size – cascadibility

Line – / star topology：Any

Ring structure (DT–Ring,DT–Ring+)：50 switches (ring recovery time < 300ms)

Power requirements

Power input：12–36V

Power consumption：<10W

Performance

Transfer Rate：148810pps

MAC Address Table Size：8K

Backplane switching capacity：5.6G

Protocol

Max VLAN quantity/range：4094

VLAN：Port–based, 802.1Q tag, GVRP mobile VLAN

Port mirroring：Yes

Redundancy protocol：DT–Ring with recovery time less than 300ms

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 relais(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.

Ambient conditions

Operating temperature：–35℃ to +75℃

Storage/transport temperature：–45℃ to +85℃

Relative humidity (non–condensing)：10% to 95%

MTBF：35years/MIL–HDBK–217F 25℃

Mechanical construction

Dimensions(DxHxW)：120X90X36 (mm)

Mounting：DIN–Rail

Protection class：IP40

EMC interference immunity

EN 61000–4–2 electrostatic discharge (ESD)：±4 kV contact discharge, ±8 kV air discharge

EN 61000–4–3 electromagnetic field：10 V/m (80 – 1000 MHz)

EN 61000–4–4 fast transients (burst)：±2 KV power line, ±1 kV data line

EN 61000–4–5 surge voltage：Power line：±2 kV (line/earth)，±1 kV (line/line)，±1 kV data line

EN 61000–4–6 conducted immunity：3V (10 kHz – 150 kHz), 10 V (150 kHz – 80 MHz)

EMC emitted immunity

FCC CFR47 Part 15：FCC CFR47 Part 15 Class A

EN 55022：EN 55022 Class A

Vibration：IEC60068–2–6

Shock：IEC60068–2–27

Free Fall：IEC60068–2–32

Approvals

Certificate：FCC, CE, UL under processing

Warranty：5 years

↗ Order Information

Model	Description
SICOM3000–2GS–2S–6T	2 x 1000Base–FX, fiber cable, single mode,2 x 100Base–FX，fiber cable, single mode,6 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
Sicom3000–2GS–2M–6T	2 x 1000Base–FX, fiber cable, single mode,2 x 100Base–FX，fiber cable, multimode,6 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
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Sicom3000–2GM–2M–6T	2 x 1000Base–FX, fiber cable, multimode,2 x 100Base–FX，fiber cable, multimode,6 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
Sicom3000–2GT–2M–6T	2 x 1000Base–TX, TP cable,2 x 100Base–FX，fiber cable, multimode,6 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
Sicom3000–2GT–2S–6T	2 x 1000Base–TX, TP cable,2 x 100Base–FX，fiber cable, single mode,6 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
Sicom3000–2GS–8T	2 x 1000Base–FX, fiber cable, single mode,8 x 100Base–TX，TP cableDIN–Rail, Support WEB–Managed、Telnet、SNMP–based management, RMON, DT–Ring, DT–Ring+, RSTP
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