

# SICOM3000A

## Layer 2 managed DIN-Rail switches



### » Overview

SICOM3000A is Layer 2 DIN-Rail Managed Industrial Ethernet Switch. It provides a rich product port portfolio, 6/8/10/12/16/18/20 ports, 100/1000M SFP port, 12/24/48/110/220V power input. SICOM3000A supports DT-Ring (recovery time<50ms), DRP/DHP (recovery time<20ms), STP/RSTP/MSTP, VLAN, multicast, QoS, SSH and many other Layer 2 software features, and supports CLI, Telnet, Web management methods, Kyvision centralized management based on SNMPv1/v2c/v3. It supports IEEE1588 PTPV2, Automatic Configuration Backup and Restore, DDM(SFP port), PROFINET (-PN Model), EtherNet/IP and Modbus/TCP protocols. SICOM3000A is especially designed for harsh environments with wide operating temperature range, EMC level 3, IP40 protection class, strong vibration-resistant mounting clip for DIN-Rail installation, and can be deployed in Factory automation, Transportation, Oil & gas, wind power, distribution network automation and many other industrial applications.

### » Key Features

Supports 100Base-X, 1000Base-X SFP ports

Supports Redundancy protocols: DT-Ring (recovery time<50ms), DRP/DHP (recovery time<20ms), STP/RSTP/MSTP

Supports Network Security: HTTPS/SSL, SSH, TACACS+, IEEE802.1X, Radius, User Classification, MAC address binding with switch ports

Supports CLI, Telnet, WEB management methods, Kyvision centralized management based on SNMPv1/v2c/v3

Supports Automatic Configuration Backup and Restore

Supports Hardware-based IEEE1588 PTPv2 (BC, P2P TC, E2E TC clock modes, synchronization precision  $\pm 100$  ns)

Supports PROFINET (-PN Model), EtherNet/IP and Modbus/TCP protocols

Supports DDM(SFP port)

Supports IP40 protection

Complies with IEC61850-3 and IEEE1613

CE, FCC, CB, EN50121-4, UL61010, Class I Div 2, IECEx, ATEX, WEEE certificates

### **Product Specifications**

#### **>Software functions**

##### **-Switching**

Supports VLAN, PVLAN

Supports GVRP

Supports port aggregation, LACP

Supports port flow control

Supports Rate limit based on flow (ACL Rate Limiter)

Supports Global broadcast storm suppression (QOS Storm Policing)

##### **-Redundancy**

Supports DT-Ring, DT-Ring+, DT-VLAN with the recovery time<50ms

Supports DRP/DHP with the recovery time<20ms

Supports STP/RSTP/MSTP/G.8032 ERPS

Supports MRP , MRM&MRC

##### **-Multicast**

Supports IGMP snooping

Supports GMRP

Supports static multicast

##### **-Routing protocol**

Supports static routing

##### **-Network Security**

Supports HTTPS/SSL

Supports SSH

Supports TACACS+

Supports IEEE802.1X

Supports RADIUS

Supports User Classification

## Industrial Ethernet Solutions

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Supports MAC address binding with switch ports

### **-Service Quality**

Supports QoS, 802.1p(CoS), DSCP

Supports SP, WRR queue scheduling

Supports ACL

### **-Industrial protocol**

Supports PROFINET (PROFINET Conformance Class B, PROFINET IO diagnosis, GSD files, Configuration and diagnostic via STEP 7)

Supports EtherNet/IP

Supports Modbus/TCP

### **-Management and Maintenance**

Supports Console, Telnet, WEB management methods

Supports SNMPv1/v2c/v3, Kyvision centralized management

Supports software upgrade by SFTP/HTTP

Supports Power alarm, IP/MAC conflict alarm, Memory/CPU usage alarm, Port alarm, Ring alarm, Port traffic alarm, CRC error and packet lose alarm, SFP port RX power alarm and TX power alarm

Supports DDM (SFP port)

Supports loop detection

Supports RMON

Supports port mirroring

Supports Syslog

Supports LLDP

Supports Link-check

Supports Automatic Configuration Backup and Restore

### **-IP Management**

Supports DHCP server/snooping/client, DHCP Option 82

Supports ARP

Supports IPv4/IPv6

### **-Clock Management**

Supports SNTP Client

Supports PTP

### >Technical Specification

#### -Technical Parameter

Standard

IEEE 802.3i (10Base-T)

IEEE 802.3u (100Base-T and 100Base-FX)

IEEE 802.3ab (1000Base-T)

IEEE 802.3z (1000Base-SX/LX)

IEEE 802.3ad (Link aggregation)

IEEE 802.3x (Flow Control)

IEEE 802.1p (Class of Service)

IEEE 802.1Q (VLAN)

IEEE 802.1d (STP)

IEEE 802.1w (RSTP)

IEEE 802.1s (MSTP)

IEEE 802.1x (Network Access Control)

IEEE 802.1ab (LLDP)

IEEE1588 V2 (PTP)

#### -Switch Properties

Priority Queues 8

Number of VLANs 4K

VLAN ID 1 ~ 4094

Number of Multicast Groups 8K

MAC Table 8K

Packet Buffer 4Mbit

Packet Forwarding Rate

1.5Mpps (2SFP8T), 1.8Mpps (4SFP8T)

4.2Mpps (2GX8T), 7.2Mpps (4GX8T)

14.9Mpps (2GX8GE), 17.9Mpps (4GX8GE)

3.0Mpps (4SFP16T), 8.3Mpps (4GX16T)

2.4Mpps (8SFP8T), 13.1Mpps (8GX8T)

29.8Mpps (4GX16GE,12GX8GE), 23.8Mpps (8GX8GE)

Switching Delay <5 $\mu$ s

Jumbo frame 9.6KB

### **-Interface**

Gigabit Port

100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP slot

10/100/1000Base-T(X), RJ45 port, Auto MDI/MDI-X connection

Fast Ethernet Port

100Base-X SFP slot

10/100Base-T(X), RJ45 port, Auto MDI/MDI-X connection

Console Port RJ45, RS232

Alarm Contact 3-pin 5.08mm-spacing plug-in terminal block, 250VAC/220VDC Max, 2A Max

### **-LED**

LEDs on Front Panel

Running LED: Run

Alarm LED: Alarm

Power LED: PWR1,PWR2

Ring LED: Ring

Interface LED: Link/ACT, Speed (RJ45 port); Link/ACT(Fiber port)

### **-Button**

Reset: Reboot and restore default configuration

### **-Power Requirement**

Power Input

100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC)

24-48VDC(18-72VDC)

12-24VDC(9-36VDC)

Power Terminal

5-pin 5.08 mm-spacing plug-in terminal block (L2/L5/HV-HV)

3-pin 7.62 mm-spacing plug-in terminal block (HV)

### Power Consumption

<12W (4GX8T)

<16W (4GX8GE)

<20W (4GX16GE,12GX8GE)

### Overload Protection Support

Reverse Protection Support

Redundancy Protection Support (12/24/48VDC)

### -Physical Characteristics

Housing Metal

Cooling Natural convection, fanless

Protection Class IP40

Dimension

66mm×135mm×107.5mm (6T,8T,2GX8T,4GX8T) (W×H×D)

88mm×135mm×137mm (8GE,2GX8GE,4GX8T,4GX8GE) (W×H×D)

102mm×135mm×137mm (16GE,2GX16GE,4GX16GE,8GX8GE,12GX8GE) (W×H×D)

Weight

1.1Kg (6T,8T,2GX8T,4GX8T)

1.5Kg (8GE,2GX8GE,4GX8GE)

1.9Kg (16GE,2GX16GE,4GX16GE,8GX8GE,12GX8GE)

Mounting DIN-Rail or Panel Mounting

### -Environmental Limit

Operating Temperature -40°C ~ +75°C

Storage Temperature -40°C ~ +85°C

Ambient Relative Humidity 5 ~ 95% (non-condensing)

### -Warranty

MTBF

1681195h (6T)

1675852h (8T)

1657563h (4GX8T)

1317486h (4GX8GE)

1272643h (12GX8GE)

1097144h (4GX16GE)

Warranty 5 years

### **-Approvals**

CE, FCC

EMC: EN 55032/35, EN 61000-6-4, EN 61000-6-2

Rail Traffic: EN 50121-4

UL61010, Class I Div 2, IECEx, ATEX Zone 2, Ex ec nC IIC T4 Gc

IEC61850-3, IEEE1613

PROFINET Conformance Class B

IEC 62368-1, EN 62368-1

### **-Industrial Standard**

EMI:

FCC CFR47 Part 15, EN55032/CISPR22, Class A

EMS:

IEC61000-4-2(ESD)  $\pm 6\text{kV}$ (contact),  $\pm 8\text{kV}$ (air)

IEC61000-4-3(RS) 10V/m(80MHz ~ 2GHz)

IEC61000-4-4(EFT) Power Port:  $\pm 2\text{kV}$ ; Data Port:  $\pm 1\text{kV}$

IEC61000-4-5(Surge) Power Port:  $\pm 1\text{kV}/\text{DM}$ ,  $\pm 2\text{kV}/\text{CM}$ ; Data Port:  $\pm 1\text{kV}$

IEC61000-4-6(CS) 10V(150kHz ~ 80MHz)

Machinery:

IEC60068-2-6 (vibration)

IEC60068-2-27 (shock)

IEC60068-2-32 (free fall)

Climatic environmental:

IEC60068-2-1 Cold test

IEC60068-2-2 Dry heat test

IEC60068-2-14 Change of temperature test

IEC60068-2-30 Damp heat cyclic test

**» Ordering Information**

**Ordering Information**

Product Model	SICOM3000A-Ports-PS1-PS2 SICOM3000A-Ports-PS1-PS2-PN
Code definition	Code selection



Ports	<p><b>66mm×135mm×107.5mm(W×H×D):</b>          6T= 6×10/100Base-T(X) RJ45 ports          8T= 8×10/100Base-T(X) RJ45 ports          2SFP8T= 2×100Base-X SFP ports; 8×10/100Base-T(X) RJ45 ports          2GX8T= 2×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100Base-T(X) RJ45 ports          4SFP8T= 4×100Base-X SFP ports; 8×10/100Base-T(X) RJ45 ports          4GX8T= 4×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100Base-T(X) RJ45 ports</p> <p><b>88mm×135mm×137mm(W×H×D):</b>          8GE= 8×10/100/1000Base-T(X) RJ45 ports          2GX8GE= 2×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100/1000Base-T(X) RJ45 ports          4GX8T= 4×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100Base-T(X) RJ45 ports(support HV-HV power inputs )          4GX8GE= 4×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100/1000Base-T(X) RJ45 ports</p> <p><b>102mm×135mm×137mm(W×H×D):</b>          16T= 16×10/100Base-T(X) RJ45 ports          16GE= 16×10/100/1000Base-T(X) RJ45 ports          2GX16T= 2×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          16×10/100Base-T(X) RJ45 ports          2GX16GE= 2×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          16×10/100/1000Base-T(X) RJ45 ports          4SFP16T= 4×100Base-X SFP ports; 16×10/100Base-T(X) RJ45 ports          4GX16T= 4×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          16×10/100Base-T(X) RJ45 ports          4GX16GE= 4×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          16×10/100/1000Base-T(X) RJ45 ports          8SFP8T= 8×100Base-X SFP ports; 8×10/100Base-T(X) RJ45 ports          8GX8T= 8×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100Base-T(X) RJ45 ports          8GX8GE= 8×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100/1000Base-T(X) RJ45 ports          12GX8GE= 12×100Base-X, 1000Base-X, 10/100/1000Base-T(X) SFP ports;          8×10/100/1000Base-T(X) RJ45 ports</p>
PS1-PS2	L2-L2=24-48VDC (18-72VDC), redundant power inputs L5-L5=12-24VDC (9-36VDC), redundant power inputs HV=100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC), single power input
PN	Supports PROFINET

### Accessories

Accessory Model	Description
SFP module	See the selection table of industrial SFP module.
DT-BGAZ-02	Panel for panel mounting
DT-FCZ-RJ45-01	Single-port RJ45 dust plug



KyACB-USB-RJ45	Automatic Configuration Backup tool with RJ45 connector
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