

SICOM3024PT24+4G Port Precise Clock Synchronization
Managed Industrial Ethernet SwitchCE, FCC, ROHS
Chinese State Grid Certification**Overview**

SICOM3024PT is a precise clock synchronization solution of IEC61850 compliant managed industrial Ethernet switch specifically designed to operate stably in electrically harsh and climatically demanding utility substation and industrial environments. It offers up to 24 100Base TP/fiber ports, 4 Gigabit SFP slots or 10/100/1000Base-T(X) ports. The redundant function of optical fiber network, independent entire network management channel, dual redundant power supplies function, and entire network real-time management system provide multiplex guarantee for reliable operation of the system.

Features

1. Supports 4 Gigabit SFP slots or 10/100/1000Base-T(X) ports, 24 100Base TP/fiber ports
2. Supports IEEE1588V2, Boundary Clock (BC), E2E Transparent Clock (TC-E2E), P2P Transparent Clock (TC-P2P)
3. Time source automatic selection
4. Supports G.8261 Synchronization industrial Ethernet standard
5. Supports DT-Ring protocols (recovery time<50ms), RSTP/STP (IEEE802.1w/d) redundant protocols
6. Advanced ring topology protocol avoiding broadcast storm
7. Supports IGMP Snooping, port trunking, port mirroring, QoS, VLAN, ACL and link aggregation
8. Real time temperature detecting and alarming, alarm value can be set
9. System operation log's writing and uploading
10. Supports port speed limitation and special broadcast storm control
11. Provides precise real time clock
12. IP and MAC address confliction detection
13. Unicast attack detection
14. Safe MAC and port binding function, supports static FDB
15. Bandwidth configuration controls port bandwidth properly
16. Improves network monitoring ability through RMON (group 1, 2, 3 and 9)
17. Supports multiple management functions including CLI, TELNET, WEB, SNMP V1/V2/V3 and OPC
18. EMC industrial level 4, specially designed for harsh electromagnetic interference environment
19. Abundant power supply options, dual redundant power supplies
20. Supports relay alarm output port alarming the loss of power
21. Operating temperature: -40 to 85°C (-40 to 185°F)
22. Ribbed aluminum case for heat dissipation (patent), fanless design
23. Rack-mounting (19 inch 1U/2U) installation

24. IP40 protection class

25. Unified management software for SICOM series: Kyvision3.0

Technical Specifications**Standard**

IEEE1588 V2
G.8261
IEEE802.3
IEEE 802.3u
IEEE 802.3x
IEEE802.3z
IEEE802.3ab
IEEE802.1d
IEEE802.1w
IEEE802.1p
IEEE802.1q
IEEE802.1x
Store and forward switching mode

1588

PTP Interface: 24 100Base-FX/TX ports support Sync Ethernet and hardware timestamp
Time transfer accuracy: 20ns (BC), 200ns (TC-E2E), 200ns (TC-P2P)
Clock Type: master clock, slave clock, transparent clock, ordinary clock
Supports time source automatic selection

Network

Ring, chain, star and tangent ring network topology

Interface

Gigabit Ethernet Ports: One slot for Gigabit ports (SICOM3024PT-16, SICOM3024PT-28), the slot supports
1) 4 x 10/100/1000Base-T(X) ports
2) 4 Gigabit SFP slots
3) 2 x 10/100/1000Base-T(X) ports and 2 Gigabit SFP slots
4) 2 x 100Base-FX ports (FC/SC/ST) and 2 Gigabit SFP slots
SFP slots support 1000Base-SX/LX/LH/ZX, LC interface modules
Fast Ethernet Ports:
3 slots for 100M ports (SICOM3024PT-16)
4 slots for 100M ports (SICOM3024PT-18)
6 slots for 100M ports (SICOM3024PT-28)
Each slot supports 4 100Base fiber or copper ports
CONSOLE Interface: RS232, RJ45
Alarm Contact: 3-Pin 3.81mm-spacing terminal block, 250VAC/220VDC Max; 2A Max; 60W Max

Performance

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

Cable

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), 110VAC/110VDC/220VAC/220VDC (85-264VAC/77-300VDC), dual redundant power supplies (optional)
Power terminal: 5-Pin 5.08mm-spacing plug-in terminal block
Power consumption: <30W (SICOM3024PT-18, SICOM3024PT-16) <40W (SICOM3024PT-28)

Physical Characteristics

Casing: Ribbed aluminum case (fanless)
Protection Class: IP40
Installation:
19 inch 1U rack mounting (SICOM3024PT-18, SICOM3024PT-16);
19 inch 2U rack mounting (SICOM3024PT-28)
Dimensions (WxHxD):
482.6x44x328mm (19x1.73x12.91 in.) (SICOM3024PT-18, SICOM3024PT-16);
482.6x88x328mm (19x3.46x12.91 in.) (SICOM3024PT-28)
Weight:
3.5kg (7.716 pound) (SICOM3024PT-18, SICOM3024PT-16);
5kg (11.023 pound) (SICOM3024PT-28)

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): ±8KV contact discharge, ±15KV air discharge
IEC61000-4-3 (RS): 10V/M (80-1000MHz)
IEC61000-4-4 (EFT): power line ±4KV, data line ±2KV
IEC61000-4-5 (Surge): power line ±4KV CM/±2KV DM,
data line ±2KV

IEC61000-4-6 (CS): 3V (10KHZ-150KHZ), 10V 52 (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)

CE, FCC, ROHS, Chinese State Grid Certification

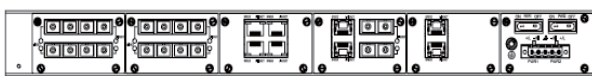
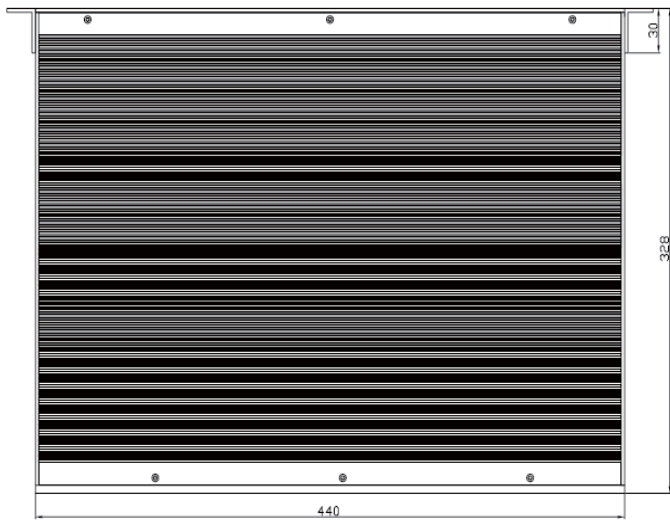
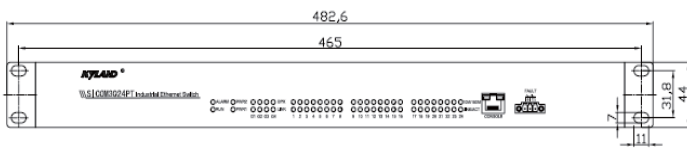
MTBF

35 years

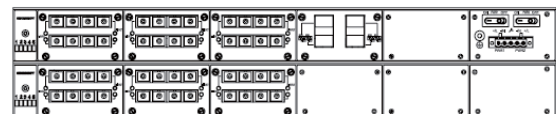
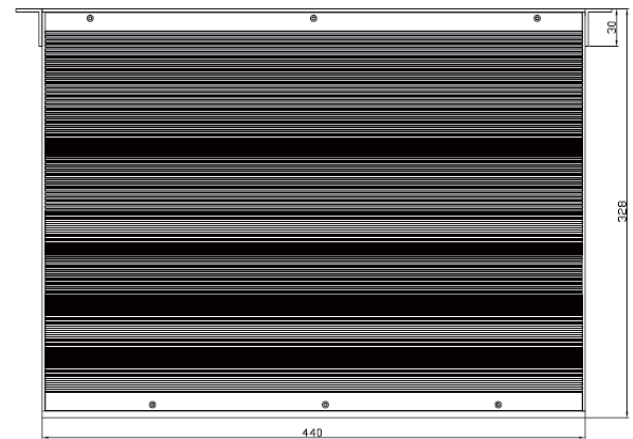
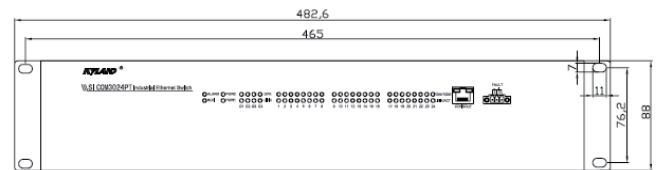
Warranty

5 years

Mechanical Drawing



SICOM3024PT-18



SICOM3024PT-28

Ordering Information

Model	Description
SICOM3024PT-18 -Chassis	IEC61850-3 modular managed rack mounted industrial Ethernet switch system with 2x10/100Base-TX RJ45 ports, 4x100M extension interface module slots for a total of up to 18 ports, IEEE1588v2 precise clock synchronization, -40 to 85°C operating temperature
SICOM3024PT-16 -Chassis	IEC61850-3 modular managed rack mounted industrial Ethernet switch with 3x100M extension interface module slots, 1x1000M extension interface module slot, for a total of up to 12+4G ports, IEEE1588v2 precise clock synchronization, -40 to 85°C operating temperature
SICOM3024PT-28 -Chassis	IEC61850-3 modular managed rack mounted industrial Ethernet switch with 6x100M extension interface module slots, 1x1000M extension interface module slot, for a total of up to 24+4G ports, IEEE1588v2 precise clock synchronization, -40 to 85°C operating temperature
SM3.1-4GX	Interface module with 4 Gigabit SFP slots
SM3.1-4GE	Interface module with 4 x 10/100/1000Base-T(X) RJ45 ports
SM3.1-2GX-2GE	Interface module with 2 Gigabit SFP slots and 2 x 10/100/1000Base-T(X) RJ45 ports
SM3.1-2GX-2S	Interface module with 2 Gigabit SFP slots and 2 x 100Base-FX ports, single mode, FC/SC/ST connector
SM3.1-2GX-2M	Interface module with 2 Gigabit SFP slots and 2 x 100Base-FX ports, multi mode, FC/SC/ST connector
SM3.1-4T	Interface module with 4 x 10/100Base-T(X) ports, RJ45 connector
SM3.1-2S-2T	Interface module with 2 x 100Base-FX ports, single mode, FC/SC/ST connector and 2 x 10/100Base-T(X) ports, RJ45 connector
SM3.1-2M-2T	Interface module with 2 x 100Base-FX ports, multi mode, FC/SC/ST connector and 2 x 10/100Base-T(X) ports, RJ45 connector
SM3.1-4S	Interface module with 4 x 100Base-FX ports, single mode, FC/SC/ST connector
SM3.1-4M	Interface module with 4 x 100Base-FX ports, multi mode, FC/SC/ST connector
SFP Modules	
SM-GSFP-TX/RJ45	SFP interface module with 1 x 10/100/1000M port, RJ45 connector, 100m
SM-GSFP-SX/LC-550	SFP interface module with 1 x 1000M multimode port, LC connector, 850nm, 550m
SM-GSFP-LX/LC-550	SFP interface module with 1 x 1000M multimode port, LC connector, 1310nm, 550m
SM-GSFP-LX/LC-10	SFP interface module with 1 x 1000M single mode port, LC connector, 1310nm, 10km
SM-GSFP-LX/LC-15	SFP interface module with 1 x 1000M single mode port, LC connector, 1310nm, 15km
SM-GSFP-LH/LC-40	SFP interface module with 1 x 1000M single mode port, LC connector, 1310nm, 40km
SM-GSFP-ZX/LC-40	SFP interface module with 1 x 1000M single mode port, LC connector, 1550nm, 40km
SM-GSFP-ZX/LC-60	SFP interface module with 1 x 1000M single mode port, LC connector, 1550nm, 60km
SM-GSFP-ZX/LC-80	SFP interface module with 1 x 1000M single mode port, LC connector, 1550nm, 80km

Different ports combinations can be customized.

Power Supply: 24VDC, 48VDC, 110VAC/110VDC/220VAC/220VDC, dual redundant power supplies (optional)

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