

SICOM3028GPT SICOM3424PT



Layer 2 28G/24+4G Port Full Gigabit Managed Rack Mountable Modular IEC61850 & IEEE1588 Switch

- Supports IEEE1588v2
- Supports ITU-T. G. 8261/G. 8262 (SyncE)
- Complete support of Power Profile IEEE C37.238
- 1U modular design for easy expansion, and supports max 28 Gigabit ports or 4 Gigabit ports and 24 fast Ethernet ports
- Supports IEC62439-6, DT-Ring protocols and MSTP
- Extensible GPS and IRIG-B input/output modules
- Provides Mini USB Console port, supports setting backup and recovery through USB
- Supports VCT (Virtual Cable Test)
- Exceeds IEC61850-3 and IEEE1613
- KEMA (pending), CE, FCC certificates



Overview

SICOM3028GPT/SICOM3424PT series are members of Kyland intelligent modular platform SICOM GPT series which is an All-in-One solution integrating IEEE1588v2, SyncE, full gigabit, and both layer 2 & Layer 3 availability specifically designed to operate reliably in electrically harsh and climatically demanding utility substation and industrial environments. SICOM3028GPT/SICOM3424PT features the IEEE1588v2 & SyncE protocols with hardware time stamping allowing 10 nanoseconds time synchronization over each of 28 Gigabit/100M Ethernet ports. Its high port density in 1U chassis and fully modular design offers the maximum flexibility for easy expansion.

SICOM GPT Series is equipped with a Kyland patent IEC62439-6 ring protocol which enables less than 20ms recovery time. It also supports DT-Ring, RSTP/STP, and MSTP. Mini USB console port enables configuration easy backup and restore. SICOM GPT series has a GPS module, enabling the device to function as the clock source - offering accurate timing information obtained from GPS or Beidou GPS satellites. It also supports IRIG-B input and output modules which enable the customer to synchronize the whole system with large numbers of IRIG-B devices with accurate timing information. The new SICOM GPT series is fully compliant with IEC61850-3 and IEEE1613 standards (KEMA certification in progress).

Features & Benefits

- Redundancy Technology: supports IEC62439-6 (recovery time<20ms), DT-Ring protocols (recovery time<50ms) and MSTP
- Multicast Protocol: supports IGMP Snooping, GMRP and static multicast
- Network Partition: supports VLAN, GVRP, PVLAN
- Service Quality: supports QoS
- Bandwidth Management: supports port trunking, port speed limit, broadcast storm control
- Network Management and Monitoring: supports CLI, Telnet, WEB management methods, Kyvision centralized management, SNMPv1/v2/v3, RMON, LLDP, DHCP
- Synchronization Protocol: supports SNTP, IEEE1588v2, ITU-T. G. 8261/G. 8262. Supports master and slave, boundary and transparent IEEE1588v2. Support BMC. PPS reaches 10ns accuracy.
- Network Security: supports MAC address binding with port, IEEE802.1X, SSH, SSL, TACACS+, RADIUS, ACL
- Device Management: supports FTP/TFTP upgrade, also supports Syslog upload and download, set of logs, events and alarms can work with syslog and SIEM
- Device Maintenance: supports port mirroring, VCT (Virtual Cable Test)
- Alarm Output: supports IP/MAC conflicts, power, temperature, port and ring alarms
- Special Function: supports Link Check and Loop Status Check

Technical Specifications

Standard

IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE802.3ac, IEEE 802.3ad, IEEE 802.3z, IEEE 802.3x, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE802.1X, IEEE1588v2, IEC62439-6, ITU-T. G.8261/G. 8262, IEEE C37.238

Protocols

DT-Ring, DT-Ring+, DT-VLAN, MSTP, DRP;
IGMP Snooping, GMRP;
VLAN, GVRP, PVLAN;
Telnet, HTTP, HTTPS, SNMPv1/v2/v3, RMON, LLDP, Bootp, DHCP server/relay/client, DHCP Option 82;
SNTP, PTP, RTC;
SSH, SSL, TACACS+, RADIUS, ACL;
FTP, TFTP, Syslog;
ARP, Modbus TCP, QoS, LACP

Switch Properties

Priority Queues: 4
Number of VLANs: 256
VLAN ID: 1-4094
Number of Multicast Groups: 256
MAC Table: 16K
Packet Buffer: 12Mbit
Packet Forwarding Rate: 41.7Mpps (SICOM3028GPT),
9.5Mpps(SICOM3424PT)
Switching Delay: <5µs

Interface

1 1U slot for 4-port Gigabit interface module (1000Base SFP or 10/100/1000Base-TX port)
6 0.5U slots for 4-port Gigabit/Fast Ethernet interface modules
Gigabit Ethernet Ports: max 28 1000Base SFP slots or 28 10/100/1000Base-TX RJ45 ports
Gigabit SFP ports support 1G, 3.3V and SFF-8074i. DDM and dual speed capability are included in the switch.
Fast Ethernet Ports: max 24 100Base-FX, SM/MM ports, FC/SC/ST connector or 24 10/100Base-TX RJ45 ports
Console Port: Mini USB
USB Interface: USB2.0
Alarm Contact: 3-pin 5.08mm-spacing plug-in terminal block, 250VAC/220VDC Max, 2A Max, 60W Max

LED

1) LEDs on Front Panel:
Running LED: Run
Alarm LED: Alarm
Power LED: PWR1, PWR2
Interface LED: Link/ACT, Speed
Synchronization Finish LED: Lock
2) LEDs on Rear Panel:
Interface LED: Link/ACT
Port Speed LED: Speed
Data Transmitting and Receiving LED: Data (on IRIG-B interface module)
Synchronization Finish LED: SYNC (on IRIG-B and GPS interface modules)

Transmission Distance

Twisted Pair:
100m (Standard CAT5, CAT5e network cable)
Multi Mode Fiber:
1310nm, 5km (100M)
850nm, 550m (1000M)
Single Mode Fiber:
1310nm, 40km/60km (100M)
1550nm, 60km/80km (100M)
1310nm, 10km/40km (1000M)
1550nm, 60km/80km (1000M)

Power Requirements

Power Input:
24VDC (18-36VDC), 48VDC (36-72VDC), 220VAC/DC (85-264VAC/77-370VDC), dual redundant power supplies with load balance
Power Terminal:
5-pin 5.08mm-spacing plug-in terminal block
Power Consumption:
<28W (full RJ45 ports); <42W (full fiber ports)

Overload Protection: Support
Reverse Connection Protection: Support
Redundancy Protection: Support

Physical Characteristics

Housing: Metal, fanless
Protection Class: IP40
Dimensions (W×H×D):
482.6×44×360 mm (19×1.73×14.17 in.)
Weight: <10kg (22.046 pound)
Mounting: 19 inch 1U Rack mounting

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: 5 to 95% (non-condensing)

MTBF

359,000 hrs

Warranty

5 years

Approvals

KEMA (pending), CE, FCC

Industrial Standard

EMI:
FCC CFR47 Part 15, EN55022/CISPR22, Class A

EMS:

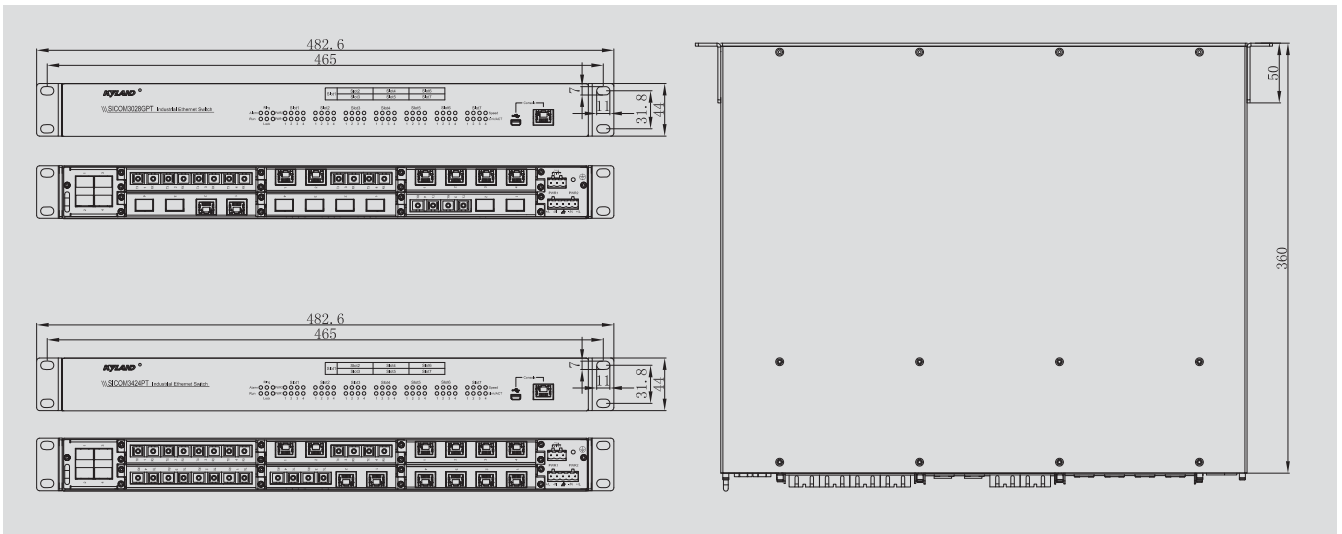
IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air)
IEC61000-4-3 (RS): 10V/m (80MHz-2GHz)
IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV
IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV
IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz)
IEC61000-4-8 (Power frequency magnetic field): 100A/m (cont.), 1000A/m (1s-3s)
IEC61000-4-9 (Pulsed magnetic field): 1000A/m
IEC61000-4-10 (Damped oscillation): 100A/m
IEC61000-4-12 (Oscillatory wave): 2.5kV/CM, 1kV/DM
IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)

Machinery:

IEC60068-2-6 (Vibration)
IEC60068-2-27 (Shock)
IEC60068-2-32 (Free Fall)

Industry: IEC61000-6-2
Power: IEC61850-3, IEEE1613
Railway: EN50155, EN50121-4
Traffic Control: NEMA TS-2

➤ Mechanical Drawing



➤ Ordering Information

Slot 1	Slot2	Slot4	Slot6	
	Slot3	Slot5	Slot7	PS

Model Chassis S1 S2 S3 S4 S5 S6 S7

Model Chassis: Chassis and Power Supplies

SICOM3028GPT-24-XX = SICOM3028GPT-MB-24DC-V1.0, SICOM3028GPT Chassis with 24VDC(18-36VDC) power supply

SICOM3028GPT-24-24 = SICOM3028GPT-MB-24DC-24DC-V1.0, SICOM3028GPT Chassis with dual redundant 24VDC(18-36VDC) power supplies

SICOM3028GPT-48-XX = SICOM3028GPT-MB-48DC-V1.0, SICOM3028GPT Chassis with 48VDC(36-72VDC) power supply

SICOM3028GPT-48-48 = SICOM3028GPT-MB-48DC-48DC-V1.0, SICOM3028GPT Chassis with dual redundant 48VDC(36-72VDC) power supplies

SICOM3028GPT-HI-XX = SICOM3028GPT-MB-220AC/DCW-V1.0, SICOM3028GPT Chassis with 85-264VAC/77-370VDC power supply

SICOM3028GPT-HI-HI = SICOM3028GPT-MB-220AC/DCW-220AC/DCW-V1.0, SICOM3028GPT Chassis with dual redundant 85-264VAC/77-370VDC power supplies

SICOM3424PT-24-XX = SICOM3424PT-MB-24DC-V1.0, SICOM3424PT Chassis with 24VDC(18-36VDC) power supply

SICOM3424PT-24-24 = SICOM3424PT-MB-24DC-24DC-V1.0, SICOM3424PT Chassis with dual redundant 24VDC(18-36VDC) power supplies

SICOM3424PT-48-XX = SICOM3424PT-MB-48DC-V1.0, SICOM3424PT Chassis with 48VDC(36-72VDC) power supply

SICOM3424PT-48-48 = SICOM3424PT-MB-48DC-48DC-V1.0, SICOM3424PT Chassis with dual redundant 48VDC(36-72VDC) power supplies

SICOM3424PT-HI-XX = SICOM3424PT-MB-220AC/DCW-V1.0, SICOM3424PT Chassis with 85-264VAC/77-370VDC power supply

SICOM3424PT-HI-HI = SICOM3424PT-MB-220AC/DCW-220AC/DCW-V1.0, SICOM3424PT Chassis with dual redundant 85-264VAC/77-370VDC power supplies

S1: 1U Module

XX = None

4GX1U = SM6.6-4GX-1U-V1.0, 1U Module with 4 Gigabit SFP ports

4GE1U = SM6.6-4GE-1U-V1.0, 1U Module with 4 Gigabit 10/100/1000Base-TX RJ45 ports

2GX2GE1U = SM6.6-2GX-2GE-1U-V1.0, 1U module with 2 Gigabit SFP ports and 2 10/100/1000Base-TX RJ45 ports

S2-S7: 0.5U Module

XX = None

4GX = SM6.6-4GX-0.5U-V1.0, 0.5U Module with 4 Gigabit SFP ports (Only available for SICOM3028GPT)**4GE** = SM6.6-4GE-0.5U-V1.0, 0.5U Module with 4 Gigabit 10/100/1000Base-TX RJ45 ports (Only available for SICOM3028GPT)**2GX2GE** = SM6.6-2GX-2GE-0.5U-V1.0, 0.5U Module with 2 Gigabit 10/100/1000Base-TX RJ45 ports and 2 Gigabit SFP ports (Only available for SICOM3028GPT)**4T** = SM6.6-4T-0.5U-V1.0, 0.5U Module with 4 10/100Base-TX RJ45 ports**4SSC** = SM6.6-4S-SC-1310-40-0.5U-V1.0, 0.5U Module with 4 100Base-FX single mode fiber ports, 1310nm, 40km, SC connector**4SST** = SM6.6-4S-ST-1310-40-0.5U-V1.0, 0.5U Module with 4 100Base-FX single mode fiber ports, 1310nm, 40km, ST connector**4SFC** = SM6.6-4S-FC-1310-40-0.5U-V1.0, 0.5U Module with 4 100Base-FX single mode fiber ports, 1310nm, 40km, FC connector**4SSC60** = SM6.6-4S-SC-1310-60-0.5U-V1.0, 0.5U Module with 4 100Base-FX single mode fiber ports, 1310nm, 60km, SC connector**4SSC80** = SM6.6-4S-SC-1550-80-0.5U-V1.0, 0.5U Module with 4 100Base-FX single mode fiber ports, 1550nm, 80km, SC connector**4MSC** = SM6.6-4M-SC-1310-5-0.5U-V1.0, 0.5U Module with 4 100Base-FX multimode fiber ports, 1310nm, 5km, SC connector**4MST** = SM6.6-4M-ST-1310-5-0.5U-V1.0, 0.5U Module with 4 100Base-FX multimode fiber ports, 1310nm, 5km, ST connector**4MFC** = SM6.6-4M-FC-1310-5-0.5U-V1.0, 0.5U Module with 4 100Base-FX multimode fiber ports, 1310nm, 5km, FC connector**2GX2SSC** = SM6.6-2GX-2S-SC-1310-40-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX single mode fiber ports, 1310nm, 40km, SC connector (Only available for SICOM3028GPT)**2GX2SST** = SM6.6-2GX-2S-ST-1310-40-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX single mode fiber ports, 1310nm, 40km, ST connector (Only available for SICOM3028GPT)**2GX2SFC** = SM6.6-2GX-2S-FC-1310-40-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX single mode fiber ports, 1310nm, 40km, FC connector (Only available for SICOM3028GPT)**2GX2SSC60** = SM6.6-2GX-2S-SC-1310-60-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX single mode fiber ports, 1310nm, 60km, SC connector (Only available for SICOM3028GPT)**2GX2SSC80** = SM6.6-2GX-2S-SC-1550-80-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX single mode fiber ports, 1550nm, 80km, SC connector (Only available for SICOM3028GPT)**2GX2MSC** = SM6.6-2GX-2M-SC-1310-5-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX multi mode fiber ports, 1310nm, 5km, SC connector (Only available for SICOM3028GPT)**2GX2MST** = SM6.6-2GX-2M-ST-1310-5-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX multi mode fiber ports, 1310nm, 5km, ST connector (Only available for SICOM3028GPT)**2GX2MFC** = SM6.6-2GX-2M-FC-1310-5-0.5U-V1.0, 0.5U Module with 2 Gigabit SFP ports and 2 100Base-FX multi mode fiber ports, 1310nm, 5km, FC connector (Only available for SICOM3028GPT)**2SSC2T** = SM6.6-2S-SC-1310-40-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX single mode fiber ports, 1310nm, 40km, SC connector and 2 10/100Base-TX RJ45 ports**2SST2T** = SM6.6-2S-ST-1310-40-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX single mode fiber ports, 1310nm, 40km, ST connector and 2 10/100Base-TX RJ45 ports**2SFC2T** = SM6.6-2S-FC-1310-40-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX single mode fiber ports, 1310nm, 40km, FC connector and 2 10/100Base-TX RJ45 ports**2SSC602T** = SM6.6-2S-SC-1310-60-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX single mode fiber ports, 1310nm, 60km, SC connector and 2 10/100Base-TX RJ45 ports**2SSC802T** = SM6.6-2S-SC-1550-80-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX single mode fiber ports, 1550nm, 80km, SC connector and 2 10/100Base-TX RJ45 ports**2MSC2T** = SM6.6-2M-SC-1310-5-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX multimode fiber ports, 1310nm, 5km, SC connector and 2 10/100Base-TX RJ45 ports**2MST2T** = SM6.6-2M-ST-1310-5-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX multimode fiber ports, 1310nm, 5km, ST connector and 2 10/100Base-TX RJ45 ports**2MFC2T** = SM6.6-2M-FC-1310-5-2T-0.5U-V1.0, 0.5U Module with 2 100Base-FX multimode fiber ports, 1310nm, 5km, FC connector and 2 10/100Base-TX RJ45 ports**GPS** = SM6.6-GPS-OI-0.5U-V1.0, GPS Clock Synchronization Module**BO** = SM6.6-PTP-BO-0.5U-V1.1, IRIG-B PTP Clock Converter Output Module**Accessories****DT-GPS-ANT-01** = GPS Antenna**DT-SP-01** = GPS Surge Protection AR21T**DT-LMR400-20-TNC-BNC** = 20m coaxial cable with BNC(male) to TNC(male) adaptor**DT-LMR400-2-TNC-BNC** = 2m coaxial cable with BNC(male) to TNC(male) adaptor
GPT Module Puller**DT-XL-Mini-USB-USB-2m** = 2M USB Console Cable

Patch Cord Organizers (One Pair)

DT-BNC(K)-TNC(K) = BNC (female) to TNC (female) connector**Example Order Codes**

SICOM3028GPT-HI-HI-4GX1U-4GX-4GX-4GX-4GX-4GX

SICOM3028GPT with 28G SFP ports and dual redundant 85-264VAC/77-370VDC power supplies