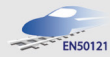# SICOM3028GPT

28 ports Layer 2/3 managed rack mountable modular switch

- Flexible modular design for easy expansion, supports max 28 gigabit fiber/copper ports
- Supports DT-Ring, DRP, MSTP and VRRP for network redundancy
- Supports Layer 3 routing protocols such as RIP and OSPF
- Supports IEEE1588v2 and the synchronization precision reaches ±100 ns, supports ITU-T.G.8261/G.8262 synchronous Ethernet and the synchronization precision reaches ±50 ns
- Supports TimeServer module, GPS module, IRIG-B module, TMS-trigger module, serial server module
- Supports IEC61850 MMS management
- Supports cable test
- Complies with IEC61850-3 and IEEE1613
- KEMA, CE, FCC, EN50155/50121
- NEMA TS2

Overview

SICOM3028GPT is an intelligent modular platform which is an All-in-One solution integrating IEEE1588v2, Sync-E, 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 supports up to 28 gigabit fiber/copper ports, meets the IEC61850 and IEEE1613 standards. SICOM3028GPT is a 19-inch 1U rack mountable device and supports one 1U slot and six 0.5U slots which offers the maximum flexibility for easy expansion.SICOM3028GPT supports IEEE1588v2 and synchronous Ethernet protocol with hardware time stamping and supports the BC, P2P TC, and E2E TC clock modes, it reaches a timing precision of 100 ns. It supports Power Profile and Telecom Profile, and supports many modules for time synchronous like TimeServer, GPS and IRIG-B module etc. SICOM3028GPT supports many Layer 2 software features such as port, VLAN, multicast, QoS, fast redundant ring and Layer 3 functions such as VRRP, RIP, OSFP, IGMP and PIM. It supports Console, Telnet, Web management and network management software based on SNMP. By expanding the serial server module, the product can provide up to 24 RS232/422/485 serial ports. At present, the product is widely used at the intelligent substation and many other industrial communication systems.

Software functions

Switching Function

Supports VLAN and PVLAN
Supports port aggregation
Supports flow control
Supports broadcast storm suppression

Redundancy Protocol

Supports DT-Ring, DT-Ring+, and DT-VLAN and the recovery time<50 ms
Supports DHP and DRP and the recovery time<20 ms
Supports RSTP/MSTP and compatible with STP.

Multicast Protocol

Supports IGMP snooping
Supports GMRP
Supports static multicast
Supports GOOSE over IP tunnel (receiver)(Web interface doesn't support)

L3 function (part of sub-models support)

Supports ARP proxy
Supports RIPv1/v2
Supports OSFPv2
Supports static routing
Supports VRRP
Supports IGMP
Supports PIM SM
Supports GOOSE over IP tunnel (sender) (Web interface doesn't support)

Security

Supports IEEE 802.1x
Supports HTTPS/SSL
Supports SSH
Supports SFTP
Supports RADIUS
Supports TACACS+
Supports user grading
Supports MAC address binding
Supports port isolate

Service Quality Management

Supports ACL
Support 802.1p(CoS),DSCP
Supports SP and WRR queuing

Management & Maintenance

Supports Console, Telnet, and Web management methods
Supports SNMPv1/v2c/v3 and can managed by Kyvision
Supports IEC61850 MMS management
Supports file transfer and software update over FTP and TFTP
Supports the IP/MAC address conflict alarm, power failure alarm, power alarm, temperature alarm, port linkdown alarm, port traffic alarm, CRC and packet lose alarm, CPU alarm, memory alarm, Sfp port rx power alarm, transceiver alarm and ring alarm (Web interface doesn't support address conflict alarm. Sfp port rx power alarm, transceiver alarm need supported by hardware)
Supports port mirroring
Supports cable test
Supports loop detection
Supports CRC protection
Supports Syslog
Supports RMON
Supports LLDP
Supports Link-check
Supports NTP and SNTP
Supports RTC

IP Address Management

Supports Bootp
Supports DHCP server/client
Supports Up to 16 different IP addresses and VLAN for system management

Time synchronization

Supports PTPv2 (IEEE1588-2008)
Supports Power profile (C37.238)
Supports Telecom profile (in special version)
Supports synchronous Ethernet (ITU-T.G.8261/G.8262)
Supports TMS function

≫ Product Specifications

Technical Specifications

Standard
▼ IEEE 802.3i (10Base-T)
▼ IEEE 802.3u (100Base-T)
▼ IEEE 802.3ab (1000Base-T)
▼ IEEE 802.3ad (port aggregation)
▼ IEEE 802.3z (1000Base-SX/LX)
▼ IEEE 802.3x (flow control)
▼ IEEE 802.1p (priority)
▼ IEEE 802.1Q (VLAN)
▼ IEEE 802.1w (RSTP)
▼ IEEE 802.1s (MSTP)
▼ IEEE 802.1x
▼ IEEE1588-2008 (PTPv2)
▼ ITU-T.G.8261/G.8262 (synchronous Ethernet)

Switch Properties

Priority queue	8
Number of VLANs	4K
VLAN ID	1–4093
Number of multicast groups	256
Routing table	8K (L2 chassis do not involve)

MAC table   16K
Packet buffer
▼ 12Mbit (SICOM3028GPT-L3F/L3FT/L3G/L3GT), 8Mbit (SICOM3028GPT-L2F/L2FT/L2G/L2GT)
Packet forwarding rate
▼ 41.7Mpps (SICOM3028GPT-L2G/L2GT/L3G/L3GT), 9.5Mpps (SICOM3028GPT-L2F/L2FT/L3F/L3FT)
Switching delay   < 10 μs

Interface

Console port   Mini USB, RJ45
Alarm contact
▼ 3-pin 5.08mm-spacing plug-in terminal block, 250 VAC/220 VDC Max, 2 A Max, 10A@1s, 60 W Max
Slots for module
▼ 1U: 1
▼ 0.5U: 6

LED

LED on front panel
▼ Alarm LED: Alarm
▼ Running LED: Run
▼ Ring Role LED: Ring
▼ Synchronization finish LED: Lock
▼ Power LED: PWR1, PWR2
▼ Port LED: Link/ACT
▼ Port speed LED: Speed
LED on rear panel
▼ Port LED: Link/ACT
▼ Port speed LED: Speed

Power Requirements

Power input:
▼ 24VDC (18-36 VDC)
▼ 48VDC (36-72 VDC)
▼ 100-240VAC,50/60Hz;110-220VDC (85-264VAC/77-300VDC)
Power terminal
▼ 5-pin 5.08 mm-spacing plug-in terminal block

Power consumption	< 40 W
Overload protection	Support
Reverse connection protection	Support
Redundancy protection	Support
Hot Swappable	Support

Physical Characteristics

Housing	Metal
Cooling	Natural cooling, fanless
Protection Class	IP40

Dimensions(W×H×D)
▼ 482.6 mm × 44 mm × 359.7 mm (19×1.73×14.16 in.)

Weight	< 10 Kg (22.046 pound)
Mounting	19 inch 1U rack mounting

Environmental Limits

Operating temperature	-40°C to +85°C (-40°F to 185°F)
Storage temperature	-40°C to +85°C (-40°F to 185°F)
Ambient Relative Humidity	5% to 95% (non-condensing)

Quality Assurance

MTBF
▼ 360000h (SICOM3028GPT-L2F/L2G)
▼ 359000h (SICOM3028GPT-L2FT/L2GT)
▼ 371000h (SICOM3028GPT-L3F/L3G)
▼ 368000h (SICOM3028GPT-L3FT/L3GT)
Warranty   5 years

Approvals

KEMA
▼ Models with power supply of HV:100-240VAC,50/60Hz;110-220VDC
CE   All models
FCC   All models
EN50155
▼ Models with power supply of HV:100-240VAC,50/60Hz;110-220VDC

Industry Standard

EMI
▼ FCC CFR47 Part 15, EN55022/CISPR22, Class A
EMS
▼ IEC61000-4-2(ESD) ±8 kV (contact), ±15 kV(air)
▼ IEC61000-4-3(RS) 10 V/m (80 MHz-2 GHz)
▼ IEC61000-4-4(EFT) Power Port: ±4 kV; Data Port: ±2 kV
▼ IEC61000-4-5(Surge) Power Port: ±2 kV/DM, ±4 kV/CM; Data Port: ±2 kV
▼ IEC61000-4-6(CS) 3 V (10 kHz-150 kHz); 10 V (150 kHz-80 MHz)
▼ IEC61000-4-8 (power frequency magnetic field) 100 A/m(cont.), 1000 A/m(1s-3s)
▼ IEC61000-4-9 (pulsed magnetic field) 1000 A/m
▼ IEC61000-4-10 (damped oscillation) 100 A/m
▼ IEC61000-4-12 (oscillatory wave) 2.5 kV/CM, 1 kV/DM
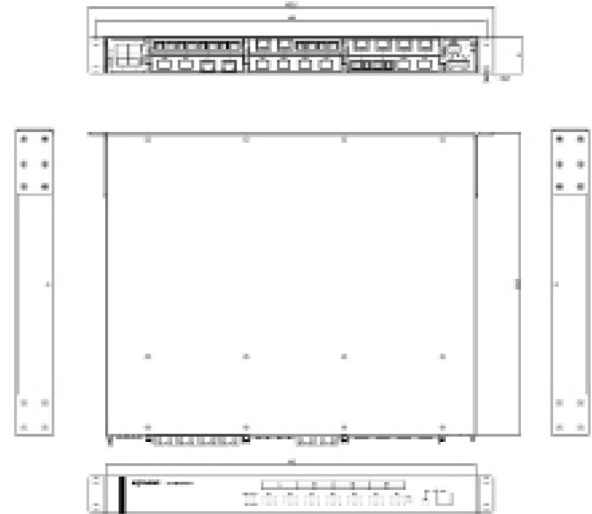▼ IEC61000-4-16 (common mode conduction) 30 V(cont.), 300 V(1s)

Machinery
▼ IEC60068-2-6 (vibration)
▼ IEC60068-2-27 (shock)
▼ IEC60068-2-32 (free fall)

Mechanical Drawing

Order Information

Product Model	SICOM3028GPT-SM-PS1-PS2

Code definition	Code selection
SM: Sub-model	L2GT-MB: SICOM3028GPT 28G ports L2 Chassis with time synchronization
	L2G-MB: SICOM3028GPT 28G ports L2 Chassis
	L2FT-MB: SICOM3028GPT 24+4G ports L2 Chassis with time synchronization
	L2F-MB: SICOM3028GPT 24+4G ports L2 Chassis
	L3GT-MB: SICOM3028GPT 28G ports L3 Chassis with time synchronization
	L3G-MB: SICOM3028GPT 28G ports L3 Chassis
	L3FT-MB: SICOM3028GPT 24+4G ports L3 Chassis with time synchronization
	L3F-MB: SICOM3028GPT 24+4G ports L3 Chassis
PS1: power input 1	
HV	100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC)
L1	48VDC(36-72VDC)
L3	24VDC(18-36VDC)
PS2: power input 2	
HV	100-240VAC,50/60Hz;110-220VDC(85-264VAC/77-300VDC)
L1	48VDC(36-72VDC)
L3	24VDC(18-36VDC)
NA	no redundant power supply

Accessories

Accessory Model	Description
Gigabit SFP module	See the selection table of industrial gigabit SFP module
100M SFP module	See the selection table of industrial 100M SFP module
DT-FCZ-RJ45-01	Single-port RJ45 dust plug
DT-XL- Mini USB-USB-2m	2m USB console cable
DT-ZJQ-BNC-TNC-01	BNC(female) to TNC(female) connector
DT-XL-LMR400-TNC-BNC-20m	20m coaxial cable with BNC(male) to TNC(male) Adapter
DT-XL-LMR400-TNC-BNC-2m	2m coaxial cable with BNC(male) to TNC(male) Adapter
DT-GPS-ANT-01	GPS antenna, 5 V DC power supply, 1 TNC connector(female)
DT-SP-01	GPS surge protection, TNC connector(male) – TNC connector(female)