



AVCOMM®

6012GX4-POE Datasheet

Aiming to create better and safer working environments and life experiences through the products we deliver.



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Building More Powerful Industrial POE Aggregation Network

6012GX4-POE

Industrial 8G + 4GF Layer 2 PoE Cyber Security Switch

The 6012GX4-POE is an industrial L2 smart Managed PoE Ethernet Switch. Equipped with 8xGigabit PoE Af/at 802.3af PoE and 4x100M/1000M SFP fiber ports. The 8xGigabit PoE/PoE+ ports can feed IP cam or wireless AP up to 30W/port. The 6012GX4-POE designs with the latest ERPSv2 ring which is fully compatible with commercial communication equipment for flexible network upgrade. The USB port for configuration file can help mass installation and site support. Wide operating temperature design (-40~75°C) can withstand harsh industrial environment. Improved production processes and precision ensure higher quality and stability. The ANMS supports network management for up to 2000 nodes.



Full Gigabit Switching and Ultra-high Throughput

- 12-port Full Gigabit Ethernet with 8-port RJ-45 PoE and 4-port SFP
- 16K MAC address table
- 1.5MByte packet buffer memory for H.264 burst
- 9K bytes jumbo frame
- Store-and-forward with non-blocking switch fabric

ITU-T G.8032 v1/v2 ERPS Ring Redundancy

- An ITU standard Ring redundancy Protocol
- Provide sub-50ms protection and recovery switching for Ethernet traffic
- Interoperate with 3rd party industrial switch and still remain fast recovery time
- Interoperate with commercial switch instead of STP/RSTP
- Efficient network interconnection with ERPS Chain, multiple chains

Rugged Design for Security Surveillance

- Rugged design prevents mechanical deformation
- Wide operating temperature range: -40~75°C, humidity : 95%
- Wide operating voltage range: 46~57VDC
- IEC61000-6-2/4 heavy industrial EMC

Extreme PoE Capability

- 8-port provide IEEE 802.3af/at compliance PoE, up to 30W/port
- Up to 240W PoE power budget
- Complete PoE management including per-port Power Budget Control, PoE Scheduling and PoE Status

IEC62443-4-2 Level 3 / 4 Cyber Security*

- L2-L7 IPv4/IPv6 Access Control List (ACL)
- DHCP Snooping, IP Source Guard, Dynamic ARP Inspection
- 802.1Q VLAN, Private VLAN, Advanced Port Security
- Multi-Level user passwords
- HTTPS/SSH/SFTP, 256-bit encryption
- 802.1X MAB for non-802.1X compliant end devices
- RADIUS/TACACS+ centralized password authentication

Smart Management

- Supports web pages, command lines, Telnet, SNMP v1/v2c/v3/trap
- LLDP topology control
- IEEE 1588v1/v2 PTP Precision Time Synchronization Protocol
- USB for easy field side configuration and firmware update
- Software tools for easy LAN management
- ANMS Network Management System

PoE (Power Over Ethernet) Details	PoE (IEEE 802.3af)	PoE+ (IEEE 802.3at)
Max power	15.40 W	34.20 W
Available power for the device	12.95 W	25.50 W
Voltage output range	44-58 VDC	50-57 VDC
Max output current	350 mA	600 mA
Power management level	L3	L4



Ordering Information

Model Name	Description
6012GX4-POE	12-Port Industrial Fully Managed POE Switch, 8 RJ45 10/100/1000BaseT(X), 4 SFP Slots 1000BaseSFP+, Support POE/POE+, Support ITU-TG.8032, DIN-Rail, Dual Power Input 46-57VDC, -40°C-75°C
6012GX4-POE-2SX	6012GX4-POE, w/ 2 AVC-SFP-SX
6012GX4-POE-2LX-10	6012GX4-POE, w/ 2 AVC-SFP-LX-10
6012GX4-POE-2LX-40	6012GX4-POE, w/ 2 AVC-SFP-LX-40
6012GX4-POE-4SX	6012GX4-POE, w/ 4 AVC-SFP-SX
6012GX4-POE-4LX-10	6012GX4-POE, w/ 4 AVC-SFP-LX-10
6012GX4-POE-4LX-40	6012GX4-POE, w/ 4 AVC-SFP-LX-40
6012GX4-POE-PS	6012GX4-POE, w/ 1 APS-240-48
6012GX4-POE-2SX-PS	6012GX4-POE, w/ 1 APS-240-48 and 2 AVC-SFP-SX
6012GX4-POE-2LX-10-PS	6012GX4-POE, w/ 1 APS-240-48 and 2 AVC-SFP-LX-10
6012GX4-POE-2LX-40-PS	6012GX4-POE, w/ 1 APS-240-48 and 2 AVC-SFP-LX-40
6012GX4-POE-4SX-PS	6012GX4-POE, w/ 1 APS-240-48 and 4 AVC-SFP-SX
6012GX4-POE-4LX-10-PS	6012GX4-POE, w/ 1 APS-240-48 and 4 AVC-SFP-LX-10
6012GX4-POE-4LX-40-PS	6012GX4-POE, w/ 1 APS-240-48 and 4 AVC-SFP-LX-40

Technology	
Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3ab 1000Base-T Gigabit Ethernet copper
	IEEE 802.3u 100Base-FX Fast Ethernet Fiber
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.3ab 1000Base-T Gigabit Ethernet copper
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN
	ITU-T G.8032 Ethernet ring protection switching (ERPS)
	IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
	IEEE 1588 Precision Time Protocol v1/2
Performance	
Switch Technology	Store and Forward Technology with non-blocking Switch Fabric
Number of MAC Address	16K
Packet Buffer Memory	1.5MBytes
Jumbo Frame	9216 Bytes
Transfer performance	10Base-TX: 14,880pps, 100Base-TX: 148,800pps, 1000Base-TX/FX: 1,488,100pps
VLAN	256 VLANs
VLAN ID	1~4094
Class of Service	8 Priority Queues per Port
Watchdog	Hardware-based 10 seconds timer
Interface	
Ethernet Port	8 x 10/100/1000Base-T RJ-45, Auto-Negotiation 4 x 100/1000Base SFP, DDM
System LED	2 x Power: Green On 1 x System Status: Ready: Green On, Firmware Updating: Green Blinking 1 x DO: Red On 1 x DI : Green On 1 x Ring: Off: Ring disabled, Green On: Ring normal (Not RPL Owner), Green Blinking: Ring normal (RPL Owner), Amber On: Ring abnormal, Amber Blinking: Ring port fail 8 x PoE: Amber On
Ethernet Port LED	Link (Green On), Active (Green Blinking), Speed 1000M(Amber On), Speed 100M(Off)
SFP LED	Link (Green On), Active (Green Blinking), Speed 1000M(Amber On), Speed 100M(Off)
Reset	System Reboot(2-6 Seconds)/Default Settings Reset(over 7 Seconds)
Console	1 x RS232 in RJ45 for System Configuration. Baud Rate:115200.n.8.1
USB	1 x USB for Configuration/Firmware Update
Power Input, Digital Input, Digital Output	8-Pin Removable Terminal Block Connector: 4 Pins for Redundant Power 4 Pins for DI, DO (Relay Alarm) 1x Digital Output: Dry Relay Output with 0.5A/24V DC 1x Digital Input: DI with Photo-Coupler Isolation High: DC 11~30V Low: DC 0~10V

Power Requirement		
Input Voltage	48VDC (46~57VDC), 50~57VDC for IEEE802.3at	
Reverse Polarity Protect	Yes	
Input Current	4.67A@54V	
Power Consumption	Max 18.9W@54VDC full traffic without PD loading, suggest to reserve 15% tolerance	
PoE		
Power forwarding mode	Alternative A	
PoE Power Budget	PoE: Max.240W@75°C Per Port: Max. 30W	
PoE Mode	IEEE 802.3af/at	
Management	System/Port Power Budget Control, PoE Scheduling, PD Alive Check, PoE Status	
Software		
Management Interface	CGI WebGUI, Command Line Interface (CLI), Telnet, SNMP	
Time Management	NTP, IEEE 1588 Precision Time Protocol v1/v2	
Network Management	IPv4/IPv6, SNMP v1/v2c/v3/Trap, MIBs, RMON, LLDP, DHCP server/client/Option 82, TFTP, System Log, SMTP	
Traffic Management	Flow Control, Port Trunk/802.3ad LACP, VLAN, Private VLAN, GVRP, GMRP, QinQ, QoS, IGMP Snooping v1/v2/v3, Rate Control, Storm Control, Port Mirror	
Security	IEEE 802.1X/RADIUS, Private VLAN, ACL(MAC/IP filter), HTTPs/SSH secure login	
Redundancy	Rapid Spanning Tree Protocol (RSTP)/Multiple Spanning Tree Protocol (MSTP) ITU-T G.8032 v1/v2 Ethernet Ring Protection Switching (ERPS)	
Mechanical		
Installation	DIN Rail	
Enclosure Material	Steel Metal with Aluminum	
Dimension	85.5 mm x 150 mm x 126.5 mm (W x H x D) without DIN Rail Clip	
Ingress Protection	IP31	
Weight	1.38KG	
Environmental		
Operating Temperature & Humidity	-40°C~75°C , 0%~95% Non- Condensing	
Storage Temperature	-40°C~85°C	
Hi-Pot Insulation	AC 1.5KV	
MTBF	>2,000,000 hours	
Warranty	5 years	
Standard		
Safety	IEC60950-1 Compliance	
EMC	EN61000-6-2/EN61000-6-4	
EMI	CISPR 22, FCC part 15B Class A	
EMS	EN61000-4-2 ESD, EN61000-4-3 RS, EN61000-4-4 EFT, EN61000-4-5, EN61000-4-6 CS, EN61000-4-8 Magnetic Field	
Railway	EN50121-4	
Substation	EN61850-3/IEEE1613	
100Base FX		
Multi Mode	AVC-SFP-FX-SX (550m)	Wavelength: 850 nm
	AVC-SFP-FX-S (2km)	Wavelength: 1310 nm
Single Mode	AVC-SFP-FX-10 (10km)	Wavelength: 1310 nm
1000Base FX		
Multi Mode	AVC-SFP-SX (550m)	Wavelength: 850 nm
	AVC-SFP-LX-S (2km)	Wavelength: 1310 nm
Single Mode	AVC-SFP-LX-10 (10km)	Wavelength: 1310 nm



function interface

Integrated Power Connector

- 1 x 8-pin removable terminal block
- 4 pin for redundant power input
- 2 pin DI
- 2 pin DO
- Easy installation

System LED

- 8 x PoE
- 2 x Power
- 1 x System Status
- 1 x DI
- 1 x DO
- 1 x Ring Status

Easy System Management

- USB for Configuration/Firmware update
- RS232 console

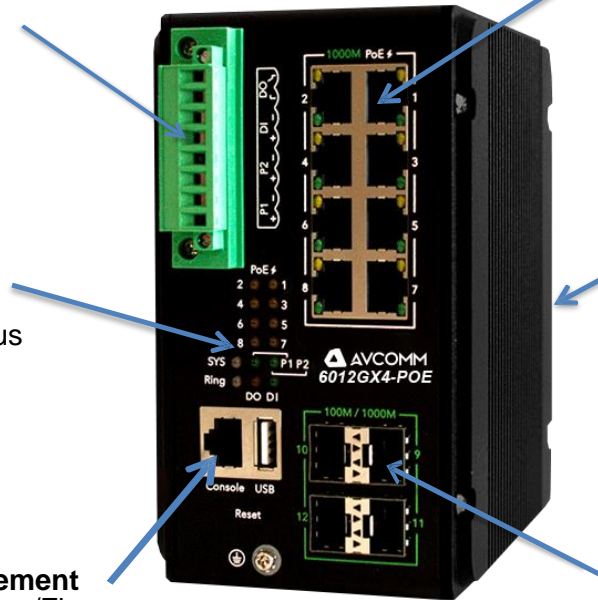
Gigabit PoE Port

- 8-port 100/100MBase-T
- IEEE 802.3 af/at PoE

DIN Clip

Gigabit Fiber Port

- 4-port 100/1000M SFP



Installation dimensions

