

# ICS-G7528A 系列

## 24G+4 10GbE 連接埠 Layer 2 全 Gigabit 網管型乙太網路交換器



### 特色與優點

- 24 個 Gigabit 乙太網路連接埠以及最多 4 個 10G 乙太網路連接埠
- 多達 28 個光纖連接埠 ( SFP 插槽 )
- 無風扇，-40 至 75°C 操作溫度範圍 ( T 型號 )
- 支援 Turbo Ring 和 Turbo Chain ( 復原時間 < 20 毫秒 @ 250 台交換器 )<sup>1</sup>，以及透過 STP/RSTP/MSTP 協議支援網路備援
- 隔離式備援電源輸入，具有通用 110/220 VAC 電源供應範圍
- 支援 MXstudio，輕鬆實現可視化的工業網路管理
- V-ON™ 可確保毫秒等級的 Multicast 資料和視訊網路復原

### 認證



### 簡介

處理自動化和傳輸自動化應用結合數據、語音和視訊，因此需要高效能和高可靠性。ICS-G7528A 系列全 Gigabit 骨幹交換器配備 24 個 Gigabit 乙太網路連接埠以及最多 4 個 10 Gigabit 乙太網路連接埠，相當適合大規模工業網路。

ICS-G7528A 的全 Gigabit 可增加頻寬，藉以提供高效能以及透過網路快速傳輸大量視訊、語音和數據的能力。無風扇交換器支援 Turbo Ring、Turbo Chain 和 RSTP/STP 備援技術，並配備隔離備援電源，藉以提高系統可靠性和網路骨幹的可用性。

### 附加特色與優點

- 命令列介面 ( CLI ) 快速設定主要網管功能
- DHCP Option 82 以不同原則指派 IP 位址
- 支援 EtherNet/IP、PROFINET 及 Modbus TCP 通訊協定，便於進行設備管理和監控
- IGMP snooping 和 GMRP，用於過濾 multicast 流量
- IEEE 802.1Q VLAN 以及 GVRP 通訊協定，可簡化網路規劃
- QoS ( IEEE 802.1p/1Q 和 TOS/DiffServ ) 提高資料傳送穩定性
- 發生狀況時可透過電子郵件或是繼電器輸出自動發出告警
- 數位輸入可將感應器和告警整合至 IP 網路
- Port Trunking 可將頻寬使用率最佳化
- 支援 TACACS+、SNMPv3、IEEE 802.1X、HTTPS 和 SSH，強化網路安全
- 存取控制清單 (ACL) 可增加網路管理的彈性與安全性 ( ICS-G7800A 系列 )
- SNMPv1/v2c/v3，支援不同層級的網路管理
- RMON 提供主動且有效率的網路監控
- 頻寬管理可預防不穩定的網路狀態出現
- 連接埠鎖定功能可依據 MAC 位址封鎖未經授權的存取
- Port mirroring 可用於除錯
- 備援雙交流 (AC) 電源輸入

### 規格

#### Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	ICS-G7528A-4XG-HV-HV-T: 20 ICS-G7528A-8GSFP-4XG-HV-HV-T: 12
100/1000BaseSFP Ports	ICS-G7528A-8GSFP-4XG-HV-HV-T: 8 ICS-G7528A-20GSFP-4XG-HV-HV-T: 20
10GbE SFP+ Slots	4

1. 如果埠連結速度為 1 Gigabit 或更高，復原時間 < 50 毫秒

Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP+)	4
Standards	<p>IEEE 802.1D-2004 for Spanning Tree Protocol  IEEE 802.1p for Class of Service  IEEE 802.1Q for VLAN Tagging  IEEE 802.1s for Multiple Spanning Tree Protocol  IEEE 802.1w for Rapid Spanning Tree Protocol  IEEE 802.1X for authentication  IEEE 802.3 for 10BaseT  IEEE 802.3ab for 1000BaseT(X)  IEEE 802.3ad for Port Trunk with LACP  IEEE 802.3u for 100BaseT(X) and 100BaseFX  IEEE 802.3x for flow control  IEEE 802.3z for 1000BaseSX/LX/LHX/ZX  IEEE 802.3ae for 10 Gigabit Ethernet</p>

### Ethernet Software Features

Management	<p>ARP  Back Pressure Flow Control  BOOTP  DDM  DHCP Option 66/67/82  DHCP Server/Client  Flow control  IPv4/IPv6  LLDP  Port Mirror  RARP  RMON  SCP  SMTP  SNMP Inform  SNMPv1/v2c/v3  Syslog  Telnet  TFTP</p>
Filter	<p>802.1Q  BPDU Filter  BPDU Guard  GMRP  GVRP  IGMP v1/v2/v3</p>
Redundancy Protocols	<p>Link Aggregation  MRP  MSTP  RSTP  Turbo Chain  Turbo Ring v1/v2  V-ON</p>
Security	<p>Access control list  Broadcast storm protection  HTTPS/SSL  MAB authentication  Sticky MAC  NTP authentication  Port Lock  RADIUS  SSH  TACACS+</p>
Time Management	<p>NTP Server/Client  SNTP</p>

MIB	Bridge MIB Ethernet-like MIB MIB-II P-BRIDGE MIB Q-BRIDGE MIB RMON MIB Groups 1, 2, 3, 9 RSTP MIB
Industrial Protocols	EtherNet/IP Modbus TCP PROFINET

### Switch Properties

DRAM	128 MB
Flash	16 MB
IGMP Groups	4096
Jumbo Frame Size	9.6 KB
MAC Table Size	16 K
Max. No. of VLANs	256
Packet Buffer Size	12 Mbits
VLAN ID Range	VID 1 to 4094
Priority Queues	8

### USB Interface

Storage Port	USB Type A
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### Serial Interface

Console Port	USB-serial console (Type B connector)
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### Input/Output Interface

Alarm Contact Channels	Relay output with current carrying capacity of 2 A @ 30 VDC
Digital Inputs	+13 to +30 V for state 1 -30 to +1 V for state 0 Max. input current: 8 mA

### Power Parameters

Input Voltage	100 to 240 VAC Redundant dual inputs
Operating Voltage	85 to 264 VAC
Input Current	Max. 1.08 A @ 110 VAC Max. 0.7 A @ 220 VAC
Power Consumption	Max. 66.41 W @ 110 VAC Max. 67.96 W @ 220 VAC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

### Physical Characteristics

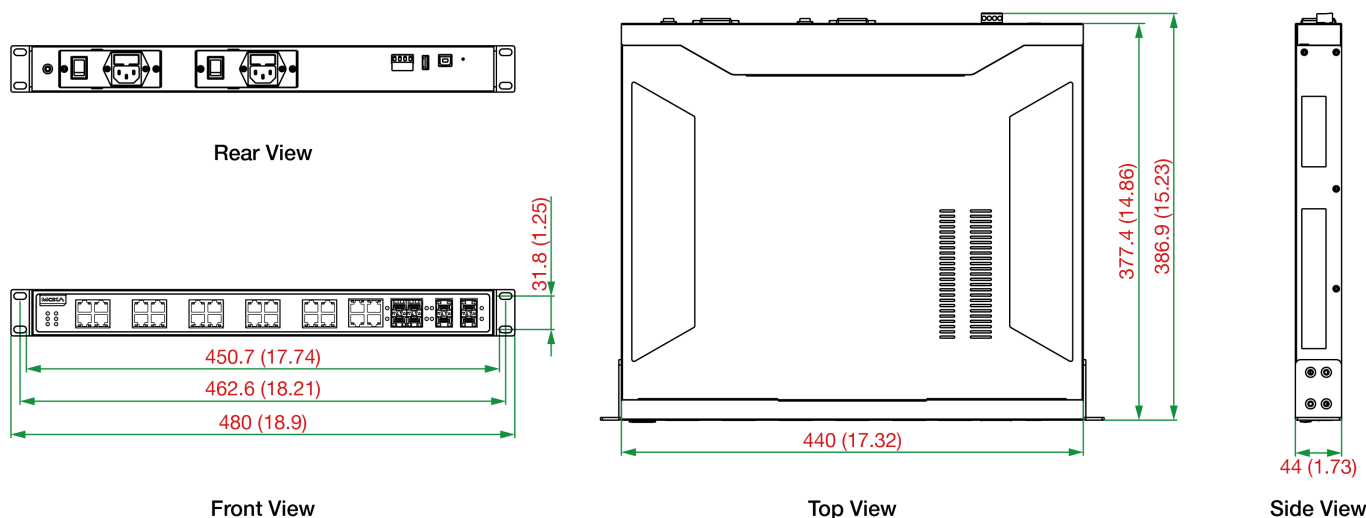
IP Rating	IP30
Dimensions	440 x 44 x 386.9 mm (17.32 x 1.73 x 15.23 in)

Weight	6470 g (14.26 lb)
Installation	Rack mounting
<b>Environmental Limits</b>	
Operating Temperature	-40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
<b>Standards and Certifications</b>	
Safety	UL 61010-2-201, EN 61010-2-201, UL 62368-1, IEC 62368-1
EMC	EN 55032/35 EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Railway	EN 50121-4
Traffic Control	NEMA TS2
Freefall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
<b>MTBF</b>	
Time	ICS-G7528A-4XG-HV-HV-T: 573,832 hrs ICS-G7528A-8GSFP-4XG-HV-HV-T: 536,851 hrs ICS-G7528A-20GSFP-4XG-HV-HV-T: 555,378 hrs
Standards	Telcordia (Bellcore), GB
<b>Warranty</b>	
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/tw/warranty">www.moxa.com/tw/warranty</a>
<b>Package Contents</b>	
Device	1 x ICS-G7528A Series switch
Cable	1 x USB type A male to USB type B male
Installation Kit	2 x rack-mounting ear caps, plastic, for SFP slot 12 x cap, plastic, for SFP slot 20 x cap, plastic, for SFP slot 32 x cap, plastic, for SFP slot
Power Supply	1 x power cord, EU type 1 x power cord, US type

Documentation	1 x quick installation guide 1 x warranty card
Note	SFP modules need to be purchased separately for use with this product.

## 尺寸

單位：公釐（英吋）



## 訂購資訊

Model Name	Layer	10GbE SFP+ Slots	Combo Ports 10/100/ 1000BaseT(X) or 100/ 1000BaseSFP+	100/1000BaseSFP Slots	10/100/ 1000BaseT(X) Ports (RJ45 Connector)	Operating Temp.
ICS-G7528A-4XG-HV-HV-T	2	4	4	0	20	-40 to 75°C
ICS-G7528A-8GSFP-4XG-HV-HV-T	2	4	4	8	12	-40 to 75°C
ICS-G7528A-20GSFP-4XG-HV-HV-T	2	4	4	20	0	-40 to 75°C

## 配件（選購）

### Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
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### SFP Modules

SFP-1FELLC-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature
SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature

SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GEZXLC	SFP module with 1 1000BaseEZX port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXLC-120	SFP module with 1 1000BaseEZX port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature
SFP-1GLHXL	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXL-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXL	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLSXL-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXL	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXL-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXL	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GSXL-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXL	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXL-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1GTXRJ45-T	SFP module with 1 1000BaseT port with RJ45 connector for 100 m transmission, -40 to 75°C operating temperature
SFP-10GERLC-T	SFP+ module with 1 10GBase-ER port, LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-10GZRLC-T	SFP+ module with 1 10GBase-ZR port, LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-10GLRLC-T	SFP+ module with 1 10GBase-LR port, LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-10GSRLC-T	SFP+ module with 1 10GBase-SR port, LC connector for 33m/82m/300m/400m transmission, -40 to 85°C operating temperature

## Power Cords

PWC-C13CN-3B-183	Power cord with three-prong China (CN) plug, 1.83 m
PWC-C7AU-2B-183	Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m
PWC-C13AU-3B-183	Power cord with Australian (AU) plug, 1.83 m
PWC-C7UK-2B-183	Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m
PWC-C13UK-3B-183	Power cord with United Kingdom (UK) plug, 1.83 m
PWC-C13US-3B-183	Power cord with United States (US) plug, 1.83 m
PWC-C7EU-2B-183	Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m
PWC-C7US-2B-183	Power cord with United States (US) plug, 10A/125V, 1.83 m
PWC-C13EU-3B-183	Power cord with Continental Europe (EU) plug, 1.83 m

## Software

MXview-50	Industrial network management software with a license for 50 nodes (by IP address)
MXview-100	Industrial network management software with a license for 100 nodes (by IP address)
MXview-250	Industrial network management software with a license for 250 nodes (by IP address)
MXview-500	Industrial network management software with a license for 500 nodes (by IP address)
MXview-1000	Industrial network management software with a license for 1000 nodes (by IP address)
MXview-2000	Industrial network management software with a license for 2000 nodes (by IP address)
MXview Upgrade-50	License expansion of MXview industrial network management software by 50 nodes (by IP address)

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