

ICS-G7828A 系列

24G+4 10GbE 連接埠 Layer 3 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多達 4 個 10G 乙太網路連接埠
- 多達 28 個光纖連線 (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)，以及透過 STP/RSTP/MSTP 協議支援網路備援
- 具有通用 110/220 VAC 電源範圍的隔離式備援電源輸入
- 支援 Mxstudio 以進行輕鬆、虛擬化的工業網路管理
- V-ON™ 可確保毫秒等級的 multicast 資料和視訊網路復原

認證



簡介

製程自動化和運輸自動化應用結合資料、語音和視訊，因此需要高效能和高可靠性。ICS-G7828A 系列配備 24 個 Gigabit 乙太網路連接埠和多達 4 個 10 Gigabit 乙太網路連接埠，並支援 Layer 3 路由功能，便於透過網路部署應用程式，因此成為大型工業網路的理想選擇。

ICS-G7828A 的全 Gigabit 功能可增加頻寬，藉以提供高效能，以及透過網路快速傳輸大量視訊、語音和資料的能力。無風扇交換器支援 Turbo Ring、Turbo Chain 和 RSTP/STP 備援技術，並配備隔離式備援電源供應器，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

- Layer 3 交換功能可跨網傳送資料和資訊
- 命令列介面 (CLI) 快速設定主要網管功能
- 透過 Q-in-Q 標籤支援進階 VLAN 功能
- DHCP Option 82 依據不同的政策配置 IP 位置
- 支援 EtherNet/IP、PROFINET 和 Modbus TCP 通訊協定以進行裝置管理與監控
- IGMP 和 GMRP，用於篩選 multicast 流量
- IEEE 802.1Q VLAN 以及 GVRP 通訊協定，可簡化網路規劃
- 可用連線埠鏡像進行線上除錯
- 發生狀況時，可自動透過 Email 和繼電器輸出告警
- QoS (IEEE 802.1p/1Q 和 TOS/DiffServ) 以提高確定性
- Port Trunking 可提供最佳頻寬使用率
- 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
- SNMPv1/v2c/v3，適用不同層級的網路管理
- RMON 提供主動且有效率的網路監控
- 頻寬管理可預防無法預測的網路狀態
- 鎖定連接埠功能可根據 MAC 位址封鎖未經授權的存取
- 數位輸入可將感應器和警告整合至 IP 網路
- 備援雙交流電源輸入

規格

Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	ICS-G7828A-4XG-HV-HV-T: 20 ICS-G7828A-8GSFP-4XG-HV-HV-T: 12
100/1000BaseSFP Ports	ICS-G7828A-8GSFP-4XG-HV-HV-T: 8 ICS-G7828A-20GSFP-4XG-HV-HV-T: 20
10GbE SFP+ Slots	4

Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP+)	4
Standards	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 802.3ae for 10 Gigabit Ethernet IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.3z for 1000BaseSX/LX/LHX/ZX

Ethernet Software Features

Management	ARP, Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, IPv4, LLDP, Port Mirror, RMON, SNMP Inform, SNMPv1/v2c/v3, Syslog, Telnet, TFTP, SMTP, RARP, Flow control
Filter	802.1Q, GMRP, GVRP, IGMP v1/v2/v3, QinQ VLAN
Multicast Routing	DVMRP, PIM-DM, PIM-SM, PIM-SSM
Redundancy Protocols	Link Aggregation, MSTP, RSTP, Turbo Chain, Turbo Ring v1/v2, V-ON
Routing Redundancy	VRRP
Security	Access control list, Broadcast storm protection, HTTPS/SSL, MAB authentication, Sticky MAC, NTP authentication, Port Lock, RADIUS, SSH, TACACS+
Time Management	NTP Server/Client, SNTP
Unicast Routing	OSPF, RIPV1/V2, Static Route
Industrial Protocols	EtherNet/IP, Modbus TCP, PROFINET
MIB	Bridge MIB, Ethernet-like MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB

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	110 to 220 VAC, Redundant dual inputs
Operating Voltage	85 to 264 VAC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
Input Current	1/0.5 A @ 110/220 VAC

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

Environmental Limits

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)

Standards and Certifications

Safety	ICS-G7828A-4XG-HV-HV-T: UL 61010-2-201, ICS-G7828A-8GSFP-4XG-HV-HV-T: UL 61010-2-201, ICS-G7828A-20GSFP-4XG-HV-HV-T: UL 61010-2-201, ICS-G7828A-4XG-HV-HV-T: EN 61010-2-201, ICS-G7828A-8GSFP-4XG-HV-HV-T: EN 61010-2-201, ICS-G7828A-20GSFP-4XG-HV-HV-T: EN 61010-2-201
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 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
Freefall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

MTBF

Time	ICS-G7828A-4XG-HV-HV-T: 454,412 hrs ICS-G7828A-8GSFP-4XG-HV-HV-T: 436,357 hrs ICS-G7828A-20GSFP-4XG-HV-HV-T: 411,819 hrs
Standards	Telcordia (Bellcore), GB

Warranty

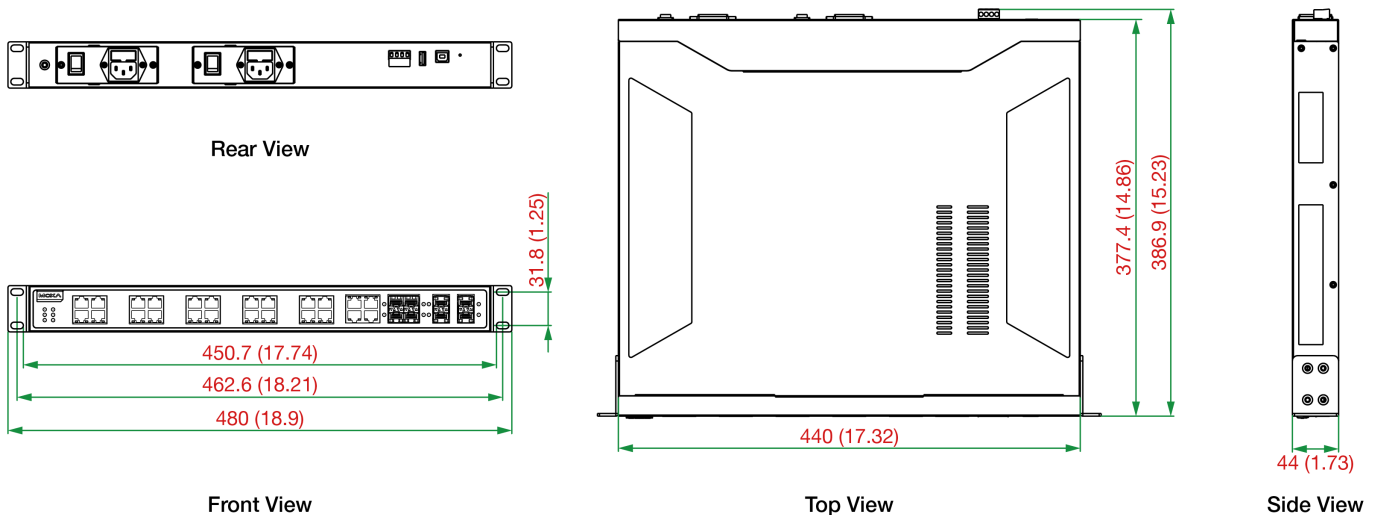
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x ICS-G7828A 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
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-G7828A-4XG-HV-HV-T	3	4	4	0	20	-40 to 75°C
ICS-G7828A-8GSFP-4XG-HV-HV-T	3	4	4	8	12	-40 to 75°C
ICS-G7828A-20GSFP-4XG-HV-HV-T	3	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
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature

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-1GEZXC	SFP module with 1 1000BaseEZ port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZ 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-1GLHXC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXC	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GSXC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature

SFP-1GZXC	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXC-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-10GSRLC-T	SFP+ module with 1 10GBase-SR port, LC connector for 33m/82m/300m/400m 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-10GZRLC-T	SFP+ module with 1 10GBase-ZR port, LC connector for 80 km transmission, -40 to 85°C operating temperature

Power Cords

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