

# ICS-G7748A 系列

## 48G 埠 Layer 2 全 Gigabit 模組化網管型乙太網路交換器



### 特色與優點

- 最多 48 個 Gigabit 乙太網路連接埠
- 多達 48 個光纖連接埠 ( SFP 插槽 )
- 最多 48 個 PoE+ 連接埠 ( 搭配 IM-G7000A-4PoE 模組 )
- 無風扇，-10 至 60°C 工作溫度範圍
- 模組化設計可達成最大的彈性和輕鬆的擴充
- 支援熱插拔網路介面及電源模組，允許不斷電下連續運作
- Turbo Ring 和 Turbo Chain ( 250 台交換器，復原時間小於 20 毫秒 )，以及 STP/RSTP/MSTP，以實現網路備援
- 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-G7748A 系列全 Gigabit 骨幹交換器的模組化設計讓您輕鬆進行網路規劃，並且可安裝最多 48 個 Gigabit 乙太網路連接埠，提供更大彈性。

ICS-G7748A 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

- 進階的 PoE 管理功能：PoE 輸出設定、PD 故障檢查、PoE 排程和 PoE 診斷 ( 使用 IM-G7000A-4PoE 模組 )
- 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 和 Modbus TCP 通訊協定以進行設備管理和監控
- 相容於 PROFINET 通訊協定以進行透通式數據傳輸
- Port mirroring 可用於除錯
- 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
- 備援雙交流 (AC) 電源輸入
- 數位輸入可將感應器和告警整合至 IP 網路
- 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
- 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
- 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

### 規格

#### 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

## Ethernet Interface

Slot Combination	12 slots for 4-port interface modules (10/100/1000BaseT(X), or PoE+ 10/100/1000BaseT (X), or 100/1000BaseSFP slots). See the IM-G7000A datasheet for Gigabit Ethernet module product information.
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 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3af/at for PoE/PoE+ output

## Ethernet Software Features

Management	ARP, Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, IPv4/IPv6, 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
Redundancy Protocols	Link Aggregation, MSTP, RSTP, Turbo Chain, Turbo Ring v1/v2, V-ON
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
Industrial Protocols	EtherNet/IP, Modbus TCP
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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## 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	0.87/0.51 A @ 110/220 VAC

## Physical Characteristics

IP Rating	IP30
Dimensions	440 x 176 x 523.8 mm (17.32 x 6.93 x 20.62 in)
Weight	12,900 g (28.5 lb)
Installation	Rack mounting

## Environmental Limits

Operating Temperature	-10 to 60°C (14 to 140°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	EN 60950-1, UL 60950-1
EMC	EN 55032/24
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: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 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	314,973 hrs
Standards	Telcordia (Bellcore), GB

## Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/tw/warranty">www.moxa.com/tw/warranty</a>

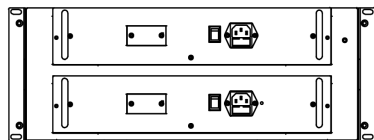
## Package Contents

Device	1 x ICS-G7748A Series switch
Cable	1 x USB type A male to USB type B male

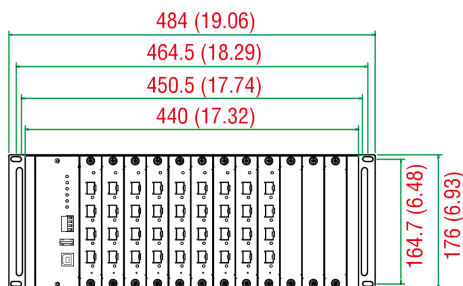
Installation Kit	2 x rack-mounting ear 4 x cap, plastic, for SFP slot
Power Supply	1 x power cord, EU type 1 x power cord, US type
Documentation	1 x quick installation guide 1 x warranty card
Note	48 V external power supply, SFP modules and/or modules from the IM-G7000A Module Series need to be purchased separately for use with this product.

## 尺寸

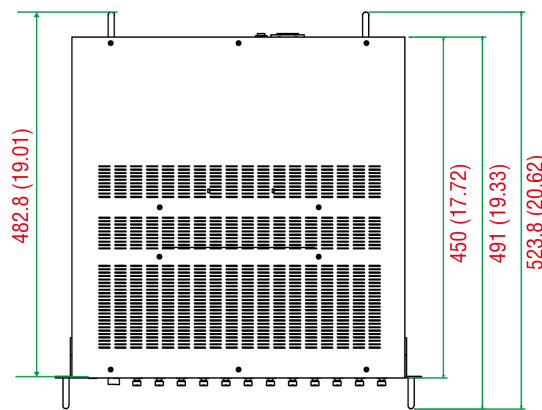
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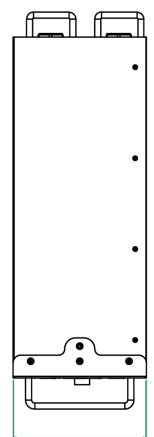
Rear View



Front View



Top View



176 (6.93)

Side View

## 訂購資訊

Model Name	Layer	10GbE SFP+ Slots	100/1000Base SFP Slots	10/100/1000BaseT(X) Ports RJ45 Connector	Operating Temp.
ICS-G7748A-HV-HV	2	0	Up to 48	Up to 48	-10 to 60°C

## 配件 (選購)

### IM-G7000A Module Series

IM-G7000A-4GSFP	Gigabit Ethernet interface module with 4 100/1000BaseSFP slots, -10 to 60°C operating temperature
IM-G7000A-4GTX	Gigabit Ethernet interface module with 4 10/100/1000BaseT(X) ports, -10 to 60°C operating temperature
IM-G7000A-4PoE	Gigabit Ethernet PoE+ interface module with 4 10/100/1000BaseT(X) ports, -10 to 60°C operating temperature

### Power Modules

PWR-G7000A-AC	Power supply module (85 to 264 VAC) for ICS-G7748A/G7750A/G7752A/G7848A/G7850A/G7852A Series, -10 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
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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 1000BaseEZXC port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-120	SFP module with 1 1000BaseEZXC 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 1000BaseLSXC port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLSXC port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXLC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXLC-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-10GERLC	SFP+ module with 1 10GBase-ER port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-10GLRLC	SFP+ module with 1 10GBase-LR port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-10GSRLC	SFP+ module with 1 10GBase-SR port, LC connector for 33m/82m/300m/400m transmission, 0 to 60°C operating temperature

### Power Cords

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

### 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

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