

# 工業級網管型乙太網交換器

## IGS-803SM IGS-803SM-E

工業級 8 埠 10/100/1000Base-T(X)  
with 3 埠 100/1000 SFP 網管型乙太網  
交換器



主向位科技網管型乙太網交換器 IGS-803SM 提供 8 個千兆電口及 3 個 SFP 光口。此外，它可支援多種管理功能，包含 STP / RSTP / MSTP 和 ITU-T G.8032 Ring<50ms、IGMP、VLAN、QoS、Security、IPV6、速度頻寬調控、網路線連線偵錯和綠能乙太網。IGS-803SM 系列具備高效 EMS 管理，在安全自動化應用環境上，諸如自動門禁管制系統及人員訊息系統，具有不間斷系統的可靠性，並對未來整個網路架構具有可擴充性。

### 功能特色

- 8 個 10/100/1000Base-T(X) RJ-45 與 3 個 100/1000 兆 SFP 光口
- 認證：UL60950-1, CE, FCC, EN50121-4 (軌道交通)
- 工業級認證：EMS, EMI, EN61000-6-2, EN61000-6-4
- 網路線連線偵錯
- 支援 IEEE802.3az EEE 綠能省電自動調節
- STP, RSTP, MSTP, ITU-T G.8032 環網拓樸 Ethernet Protection Ring(EPR) for cabling redundant
- QoS, QoS 速度頻寬調控, CoS, 出入口頻寬控制, Strom Control, DiffServ
- IEEE802.1q VLAN, port base VLAN, Mac base VLAN, IP subnet base VLAN, Protocol base VLAN, VLAN translation, MVR
- 動態 IEEE 802.3ad LACP Link Aggregation, 靜態 Link Aggregation
- IGMP/MLD snooping V1/V2/V3, IGMP Filtering / Throttling, IGMP query, IGMP proxy reporting, MLD snooping
- 安全授證協議：Port Base and Mac base IEEE802.1X, RADIUS, ACL, TACACS+, HTTP/HTTPS, SSL/SSH v2
- Cisco like CLI, Web base management, SNMP v1/v2c/v3, Telnet 服務器管理
- 軟體更新可經由 TFTP 和 HTTP, redundant firmware to avoid in case of upgraded failure
- DHCP client/Relay/Snooping/Snooping option 82/Relay option 82
- RMON, MIB II, Port mirroring, Event syslog, DNS, NTP/SNTP, IEEE802.1ab LLDP
- 支援 IPV6 Telnet server /ICMP v6, SNMP, HTTP, SSH/SSL, NTP/SNTP, TFTP, QoS, AC
- 備雙直流電源輸入 (12/24/48)
- 導軌式和壁掛式的安裝方式
- 工作溫度可達 -40 ~ 75°C (IGS-803SM-E)
- 堅固的金屬外殼支援 IP30 防護等級

### 產品規格

IEEE 標準	IEEE 802.3	10Base-T, 10Mbit/S 乙太網路
	IEEE 802.3u	100Base-TX, 100Base-FX 高速乙太網路
	IEEE 802.3ab	1000Base-T, 千兆乙太網路 (雙絞線)
	IEEE 802.3z	1000Base-X 千兆乙太網路 (光纖線)
	IEEE 802.1d	STP (Spanning Tree Protocol)
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
	ITU-T G.8032 / Y.1344	EPR (環網拓樸)
	IEEE 802.1Q	虛擬線路 (VLAN)
	IEEE 802.1X	連接埠網路存取控管, 認證
	IEEE 802.3ad	Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)
	IEEE 802.3x	Flow control for Full Duplex
	IEEE 802.1ad	Stacked VLANs, Q-in-Q
	IEEE 802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization
	IEEE 802.1ab	Link Layer Discovery Protocol (LLDP)
	IEEE 802.3az	EEE (Energy Efficient Ethernet)
VLAN ID	4096	
交換結構	(背板匯流排頻寬): 22G	
數據處理方式	存儲轉發	
流控	IEEE 802.3x 全雙工, 背壓式流控	
巨型訊框	9.6K Bytes	
Mac 位址表容量	8K	

網路連接埠	8 x RJ-45 10/100/1000BaseT(X) 自動式調整速率, MDI/MDI-X 自動偵測, 全雙工 / 半雙工, 3 個 SFP 100/1000Base-X 雙速插槽
網路連接埠	RS-232 (RJ-45)
網路連接埠	UTP/STP above Cat. 5e cable EIA/TIA-568 100-ohm (100m)
通訊協議	CSMA/CD
反向極性保護	提供
反向極性保護	提供
CPU 看門狗	提供
電源功率	冗餘雙 DC12/24/48VDC(9.6 ~ 60VDC) 輸入 (可拆卸的接線端子)
LED	每單位: 電源 1(綠), 電源 2(綠), 故障(琥珀), CPU Act(綠), Ring Master(黃) 每個 RJ-45 端口: 10/100 Link/Active(綠), 1000 Link/Act(琥珀) SFP Fiber Per port: Link/Active (綠)
電源消耗	9.6W
警告訊息	System Syslog, SMTP/ e-Mail event message, alarm relay
繼電器告警	最大承載 1A, 24VDC
可插拔接線板	提供一個 6 pin 可插拔式接線板. 內含 2 個備援輸入電源, 一個告警繼電器

## 產品規格

工作溫度	0 ~ 60° C 常溫型 (IGS-803SM) -40 ~ 75° C 寬溫型 (IGS-803SM-E)
濕度	5% ~ 95% (無凝結)
儲存溫度	-40 ~ 85° C
外殼	堅固金屬 · IP30 的防護等級
尺寸	72 x 106 x 142 毫米 (寬 / 深 / 高)
重量	790 (克)
安裝方式	導軌式和壁掛式
EMC/EMS	CE, FCC
EMI 認證	FCC Part 15 Subpart B Class A, CE EN 55022 Class A EN61000-6-4 Emission 重工業環境電磁輻射干擾

## 軟體規格

<b>技術面</b>	
虛擬線路	IEEE 802.1q VLAN, up to 4095 ID IEEE 802.1q VLAN, up to 4095 Groups IEEE 802.1ad Q-in-Q Port Based VLAN MAC-based VLAN, up to 256 entries IP Subnet-based VLAN, up to 128 entries Protocol-based VLAN(Ethernet, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries MVR ( Multiple VLAN Registration )
Link Aggregation (Port Trunk)	Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group
生成樹	IEEE802.1d STP IEEE802.1w RSTP IEEE802.1s MSTP
<b>環路保護</b>	
ITU-T G.8032 / Y.1344	Convergence time <50ms
ERPS (Ethernet Ring Protection)	Single Ring, Sub-Ring, Multiple ring topology network
<b>QoS 功能</b>	
Class of Service	IEEE802.1p 8 active priorities queues for per port
Traffic Classification	IEEE802.1p based CoS
QoS	IP Precedence based CoS IP DSCP based CoS QCL(QoS Control List): MAC Access control list (Source/Destination MAC, Ether type, Priority ID/ VLAN ID) QCL: IP extended access control list (Source/Destination IP, Protocol, TCP/UDP port number)
Bandwidth control for Ingress	Rate in steps : 100 kbps / 1fps / 100fps Range : 100 kbps to 1Gbps / 1fps to 3300kfps Rate Unit : bit or frame
Bandwidth control for Egress	Rate in steps : 100 kbps / 1fps / 100fps Range : 100 kbps to 1Gbps / 1fps to 3300kfps Rate Unit : bit or frame Per queue shaper
DiffServ (RF 2474) remarking	
Strom Control	for Unicast, Broadcast, Multicast
<b>多點傳達</b>	
IGMP / MLD snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile Throttling Fast Leave Query
<b>安全功能</b>	
IEEE 802.1X	Port-Based MAC-Based
ACL	Number of rules : up to 256 entries for L2 / L3 / L4
RADIUS authentication & accounting	
TACACS+ authentication & accounting, TACACS+ 3.0	
HTTPS, HTTP	
SSL / SSH v2	
User name password authentication	Local Authentication
	Remote Authentication (via RADIUS / TACACS+)
Management Interface	Web, Telnet / SSH
Access Filtering	

EMS 認證	EN61000-6-2-Immunity 重工業環境抗干擾 EN61000-4-2 (ESD) Level 3, Criteria B EN61000-4-3 (RS) Level 3, Criteria A EN61000-4-4 (EFT) Level 3, Criteria A EN61000-4-5 (Surge) Level 3, Criteria B EN61000-4-6 (CS) Level 3, Criteria A EN61000-4-8 (Magnetic Field) Level 3, Criteria A
安全認證	UL60950-1( 進行中 )
軌道交通認證	EN 50121-4
抗震性	衝擊 : IEC 60068-2-27 落下 : IEC 60068-2-32 振動 : IEC 60068-2-6
MTBF	404,589 小時
保修期	5 年

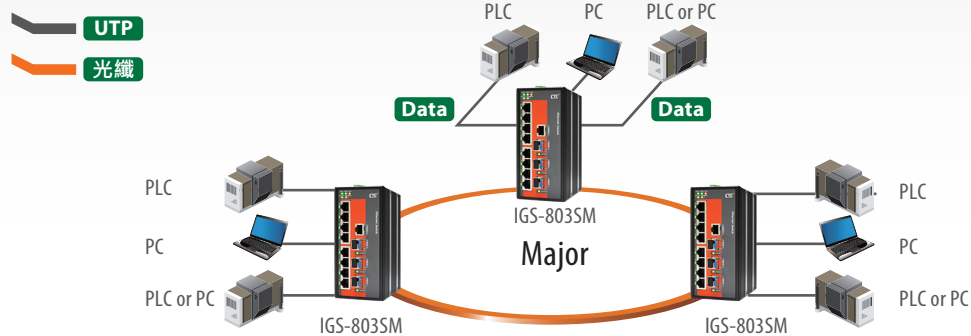
## 管理功能

Cisco® like CLI	
Web based management	
Telnet	Server
SNMP	V1, V2c, V3
SW & Configuration Upgrade	TFTP, HTTP Redundant firmware to avoid crashing in case of upgrading failure
RMON	RMON I (1, 2, 3, 9 group), RMON II
MIB II	RFC 1213
DHCP	Client Relay Snooping Snooping option 82 Relay option 82
IP Source Guard	
Port mirroring	
Event Syslog	Syslog server (RFC3164) (Support 1 server)
Warning Message	System Syslog, e-Mail, alarm relay
DNS	Client, Proxy
NTP /SNTP	
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED
<b>IPv6 功能</b>	
IPv6 Management	Telnet Server/ICMP v6
Stateless Autoconfiguration	
SNMP over IPv6	
HTTP over IPv6	
SSH over IPv6	
IPv6 Telnet Support	
IPv6 NTP / SNTP Support	
IPv6 TFTP Support	
IPv6 QoS	
IPv6 ACL	Number of rules: up to 256 entries L2 / L3 / L4
<b>其他功能</b>	
綠能乙太網	Support IEEE802.3az EEE (Energy Efficient Ethernet) Management to optimize the power consumption Determine the cable length and lowering the power for ports with short cables Lower the power for a port when there is no link LED Power Management :Adjustment LEDs intensity
線路診斷	Measuring cable OK or broken point distance

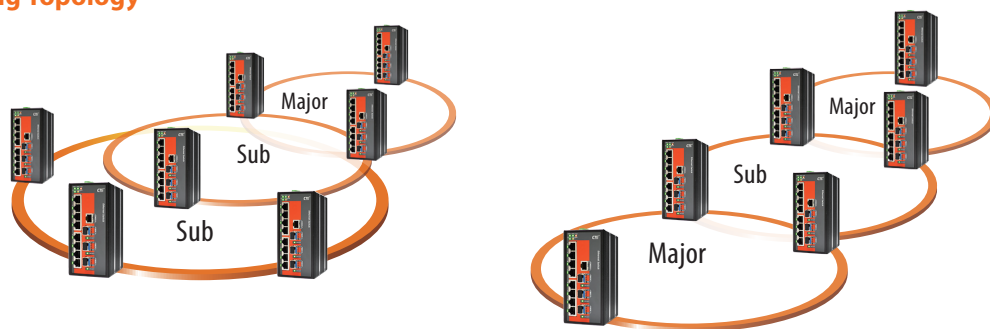
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## 應用圖例

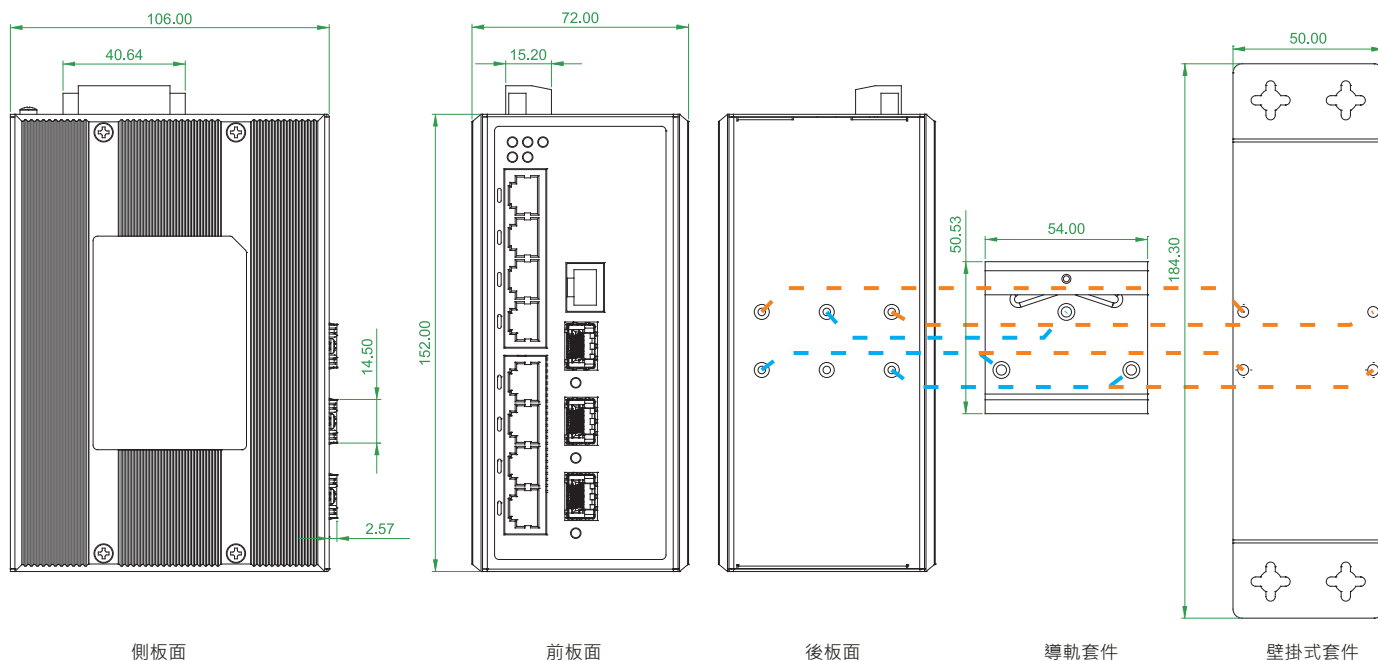
### Single-Ring Topology



### Multi-Ring Topology



## 機構尺寸



## 訂購資訊

型號	說明
IGS-803SM	工業級 8 埠 10/100/1000Base-T(X) + 3 埠 100/1000 SFP 網管型乙太網路交換器 (0 ~ 60°C)
IGS-803SM-E	工業級 8 埠 10/100/1000Base-T(X) + 3 埠 100/1000 SFP 網管型乙太網路交換器 (40 ~ 75°C)

溫度  
 IGS-803SM -   
 範例: IGS-803SM - E