

NEW



## IPS-803GSM

IEC 61850-3 8x10/100Base-TX+  
3x100/1000Base-X SFP



此IPS-803GSM 管理型百兆乙太網交換器系列是為滿足變電站系統的需求所設計，並通過IEC 61850-3和IEEE 1613認證。本交換器具備許多備援功能，能增加您通訊系統的可靠性，包括備援及獨立電源供應器(24/48 VDC和110/220 VDC/VAC)、STP/RSTP/MSTP/ITU-T G.8032環形和多重u-環形的備援佈線、第2層乙太網IGMP、VLAN、QoS、Security、IPv6、bandwidth control、port mirroring、Cable diagnostic 和節能乙太網。此交換器具備堅固機體及DIN軌道式或壁掛式安裝，專為變電站網路等嚴苛環境所設計。本系列產品可使用CTC Union的SmartView™ 管理系統以方便進行集中式的管理。

### 功能特色

- 8 個 10/100Base-TX RJ-45 和 3x 100/1000Base-X SFP Fiber
- 通過 UL60950-1、CE、FCC、EN50121-4 認證
- 通過變電站 IEC 61850-3、IEEE1613 認證
- 具雙電源冗餘備援輸入，可供選擇輸入電壓有，低電壓的 isolated 24/48VDC，或高電壓的 isolated AC/DC(110/220 VAC/VDC) 電源
- 寬溫工作範圍 -40 ~ 85°C
- Din Rail 軌道式安裝或壁掛式
- IP30 金屬外殼、無風扇
- 支援 Cable diagnostic，可以診斷網路線故障點，定位線纜的故障點距離
- 支援 IEEE1588 PTP V2 精密時間同步，每個端口都可以選擇以下模式操作：Master, Boundary, Slave mode
- 支援綠色節能乙太網 IEEE802.3az EEE (Energy Efficient Ethernet) Management，優化電源消耗
- STP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching(ERPS), and u-Ring 可用於網路佈線備援
- 每台設備可支援 u-Ring，u-Chain 或 Sub-Ring 型態的環網 (圖 4)，最多可設 5 個環網 (圖 2)
- u-Ring 冗餘乙太網環網，在最多 250 個裝置時，恢復時間 <10ms
- QoS、Traffic classification QoS、CoS、bandwidth control for Ingress and Egress、Storm Control、DiffServ
- IEEE802.1Q VLAN、MAC based VLAN、IP subnet based VLAN、Protocol based VLAN、VLAN translation、GVRP、MVR
- Dynamic IEEE 802.3ad LACP Link Aggregation、Static Link Aggregation
- IGMP snooping V1/V2/V3、IGMP Filtering/ Throttling、IGMP query、IGMP proxy reporting、MLD snooping V1/V2
- Security: Port based 和 MAC based IEEE802.1X、RADIUS、ACL、TACACS+、HTTP/HTTPS、SSL/SSH v2
- 支援透過 TFTP 和 HTTP 進行軟體升級，韌體冗餘備份防止升級失敗
- 支援 RMON、MIB II、Private MIB、Port mirroring、Event syslog、DNS、NTP/SNTP、IEEE802.1ab LLDP
- 支援 IPv6 Telnet server/ICMP v6
- 支援 CLI、Web based management、SNMP v1/v2c/v3、Telnet server 管理方式
- 支援 SmartConfig™，提供快速且便利的設定工具，以方便於設定大量的設備
- 支援 SmartView™ 集中式的管理系統

### 產品規格

符合標準	IEEE 802.3 10Base-T 10Mbit/s Ethernet IEEE 802.3u 100Base-TX, 100Base-FX, Fast Ethernet IEEE 802.3ab 1000Base-T Gbit/s Ethernet over twisted pair IEEE 802.3z 1000Base-X Gbit/s Ethernet over Fiber-Optic IEEE 802.1d STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) IEEE 802.1Q for VLAN Tagging IEEE 802.1X Port based and MAC based Network Access Control, Authentication IEEE 802.3ad Link aggregation for parallel links with LACP(Link Aggregation Control Protocol) IEEE802.3x Flow Control and Back Pressure ITU-T G.8032/ Y.1344 ERPS (Ethernet Ring Protection Switching) 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)	網路連接器	8個10/100Base-TX RJ-45 auto negotiation speed 自動 MDI/MDI-X 功能, 全/半雙工 3個 100/1000Base-X 雙速 mode SFP slot, with DDMI										
交換架構	Back-plane (Switching Fabric): 7.6 Gbps	Console	RS-232 (RJ-45)										
Data Processing	Store and Forward	網路線規格	UTP/STP above Cat. 5e cable EIA/TIA-568 100-ohm (100m)										
Flow Control	IEEE 802.3x flow control, back pressure flow control	通訊協議	CSMA/CD										
Jumbo Frame	9.6KB	LED指示燈	Power 1 (綠), Power 2 (綠), Fault (琥珀色),(-LL model) Power 1 (綠), Power 2 (綠), Power 3 (綠), Fault (琥珀色), (-HL model) 每RJ-45端口: Link/Act(綠) 每SFP Fiber 端口: Link/Active(綠)										
MAC Address Table	8K	電壓極性保護	電源輸入時提供										
Memory Buffer	256K Bytes for packet buffer	電流過載保護	提供										
		CPU Watch Dog	提供										
		電源輸入	配備2個獨立低電壓DC輸入冗於備援 (-LL model) 配備2個獨立低電壓DC輸入冗於備援及1個高電壓AC/DC電源輸入 (-HL model) 獨立低電壓DC: 獨立24/48V (18~72VDC), 可拔插式配接器 高電壓 AC/DC: 獨立110/220VAC (88VAC~264VAC) 或 110/220VDC (85~300VDC), 可拔插式配接器										
		耗電量	<table border="1"> <thead> <tr> <th>輸入電壓</th> <th>IPS-803GSM</th> </tr> </thead> <tbody> <tr> <td>110VAC</td> <td>7.3 W</td> </tr> <tr> <td>220VAC</td> <td>7 W</td> </tr> <tr> <td>24VDC</td> <td>8 W</td> </tr> <tr> <td>48VDC</td> <td>9.2 W</td> </tr> </tbody> </table>	輸入電壓	IPS-803GSM	110VAC	7.3 W	220VAC	7 W	24VDC	8 W	48VDC	9.2 W
輸入電壓	IPS-803GSM												
110VAC	7.3 W												
220VAC	7 W												
24VDC	8 W												
48VDC	9.2 W												
		告警繼電器規格	Relay outputs with current carrying capacity of 1 A @24VDC										

可插拔式配接器	配備2個低電壓備援輸入電源，一個告警繼電器(6Pin) (-LL model) 配備2個低電壓備援輸入電源，一個告警繼電器(6Pin)及一個高電壓輸入電源(2 Pin) (-HL model)
工作溫度	-40°C~85°C
工作濕度	5% to 95% (無冷凝)
儲存溫度	-40°C~85°C
外殼	金屬外殼、IP30防護、無風扇
尺寸	106x82x152mm (D x W x H)
重量	0.885公斤 (IPS-803GSM-LL) 1.085公斤 (IPS-803GSM-HL)
安裝方式	Din Rail 軌道式安裝或壁掛式
產品保固	5年
<b>認證</b>	
EMC/EMS	CE, FCC

## 軟體規格

<b>Topology</b>	
VLAN	IEEE 802.1q VLAN, up to 4094 ID IEEE 802.1q VLAN, up to 4094 Groups IEEE 802.1ad Q-in-Q 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) GVRP (GARP VLAN Registration Protocol)
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
Spanning Tree	IEEE802.1d STP IEEE802.1w RSTP IEEE802.1s MSTP
Multiple u-Ring	up to 5 instances that each supports u-Ring, u-Chain or Sub-Ring type for flexible uses, and maximum up to 5 Rings (參見圖2, 圖4) 恢復時間 <10ms 每個環最多可達250個設備
Loop Protection	Present
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)	恢復時間 <50ms Single Ring, Sub-Ring, Multiple ring topology network
<b>QoS 特色</b>	
Class of Service	IEEE802.1p 8 active priorities queues for per port
Traffic Classification	IEEE802.1p based CoS
Classification QoS	IP Precedence based CoS IP DSCP based CoS QCL(QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI QCE(QoS Control Entry): Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number
Bandwidth Control for Ingress	Rate in steps : 1 kbps / Mbps / fps / kfps Range : 100 kbps to 1Gbps / 1fps to 3300kfps Rate Unit : bit or frame
Bandwidth Control for Egress	Rate in steps : 1 kbps / Mbps Range : 100 kbps to 1Gbps Rate Unit : bit Per queue / Per port shaper
DiffServ (RF 2474) Remark	for Unicast, Broadcast, Multicast
Storm Control	for Unicast, Broadcast, Multicast
<b>IP Multicasting Feature</b>	
IGMP / MLD Snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 support 1022 IGMP groups Port Filtering Profile Throttling Fast Leave Maximum Multicast Group : up to 1022 entries Query / Static Router Port
<b>Security Features</b>	
IEEE 802.1X	Port-Based MAC-Based

EMI	FCC Part 15 Subpart B Class A EN 55022 Class A
EMS	EN61000-4-2 (ESD) Level 4, Criteria B
抗電磁干擾等級	EN61000-4-3 (RS) Level 4, Criteria A EN61000-4-4 (EFT) Level 4, Criteria A EN61000-4-5 (Surge) Level 4, Criteria B EN61000-4-6 (CS) Level 4, Criteria A EN61000-4-8 (Magnetic Field) Level 5, Criteria A
Safety	UL60950-1
變電站	IEC 61850-3, IEEE 1613
軌道交通	EN50121-4
防撞擊	IEC 60068-2-27
防摔	IEC 60068-2-32
防震	IEC 60068-2-6

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	Local Authentication
Password	
Authentication	Remote Authentication (via RADIUS/ TACACS+)
Management	
Interface Access	Web, Telnet / SSH , CLI RS-232 console
Filtering	
<b>Management Features</b>	
CLI	Cisco® like CLI
Web Based Management	
Telnet	Server
SNMP	V1, V2c, V3
SW & Configuration Upgrade	TFTP, HTTP 有備援韌體以防止程式升級失敗
RMON	RMON I (1, 2, 3, 9 group), RMON II
MIB	MIB II RFC1213, Private MIB
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, SMTP/ e-mail event message, alarm relay
DNS	Client, Proxy
IEEE1588 PTP V2	Master, Boundary, Slave Operating mode Operating in each port of these switch
NTP /SNTP	
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED
<b>IPv6 Features</b>	
IPv6 Management	Telnet Server/ICMP v6
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>其他特色</b>	
Green Ethernet	支援 IEEE802.3az EEE (Energy Efficient Ethernet)優化電源消耗 依照網路線長短，自動調節功耗，以節省短線時的耗電 網路埠無連接時，自動降低輸出功耗 LED 功率管理：調節LED強度
Cable Diagnostic	偵測網路線的故障點距離

應用圖

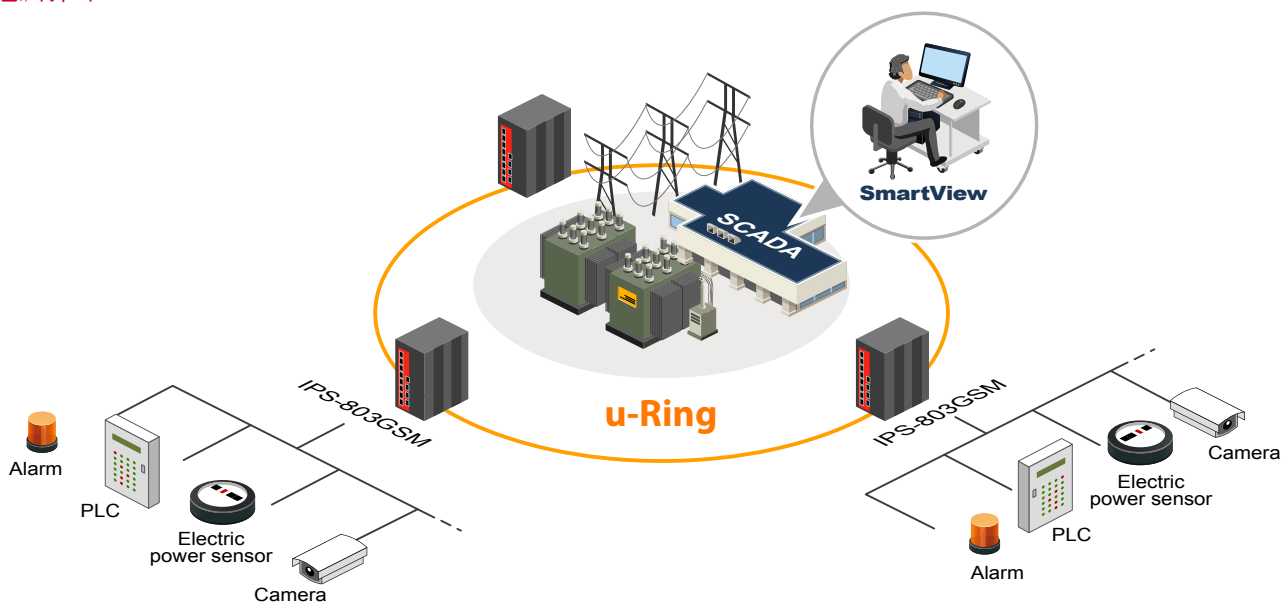


圖1 : IPS Series in Power Substation Application

4 IEC 61850-3 Managed FE Switch

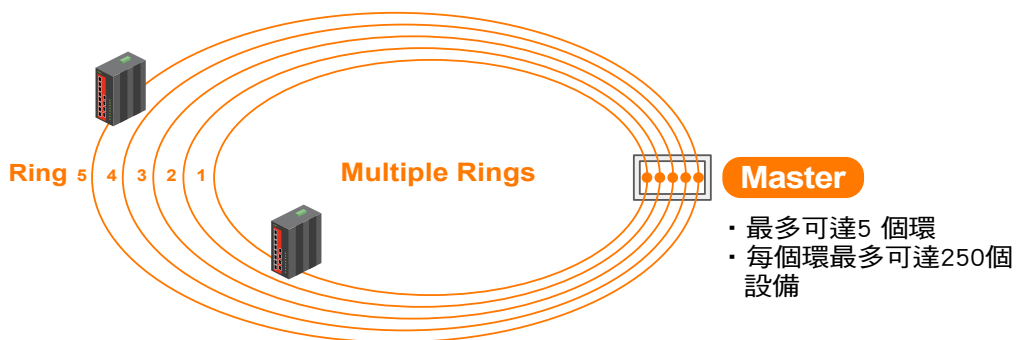


圖2 : Multiple Rings

**u-Ring Configuration** Auto-refresh  Refresh

Delete	Instance	Type	Master	East		West	
				Port	Edge	Port	Edge
Delete	1	u-Ring	<input type="checkbox"/>	1		2	
Delete	2	u-Ring	<input type="checkbox"/>	4		3	
Delete	3	u-Ring	<input type="checkbox"/>	10 (Fiber2)		11 (Fiber3)	
Delete	4	Sub-Ring	<input type="checkbox"/>	6			
Delete	5	u-Chain	<input type="checkbox"/>	5	<input type="checkbox"/>	9 (Fiber1)	<input type="checkbox"/>

Add New Instance

Save Reset

圖3 : 方便又容易設定的 u-Ring 功能設定Web 畫面

圖4：u-Ring 類型

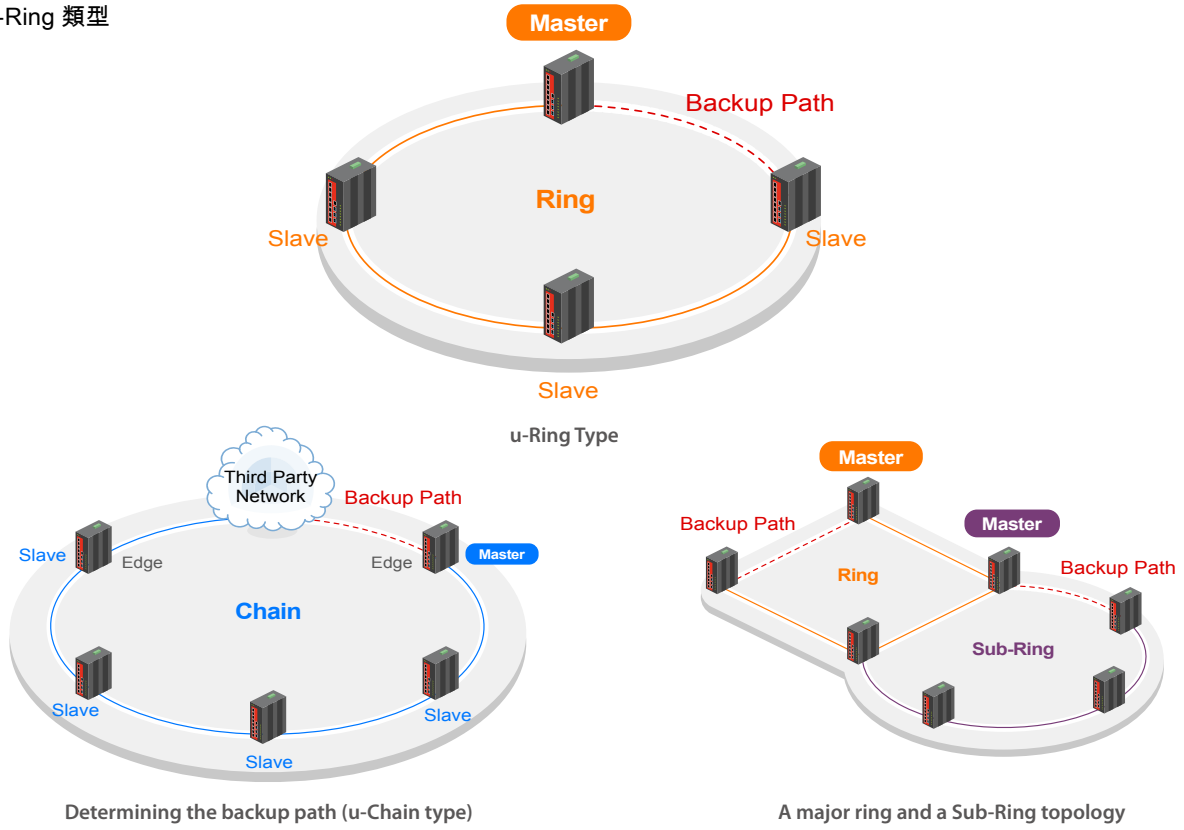
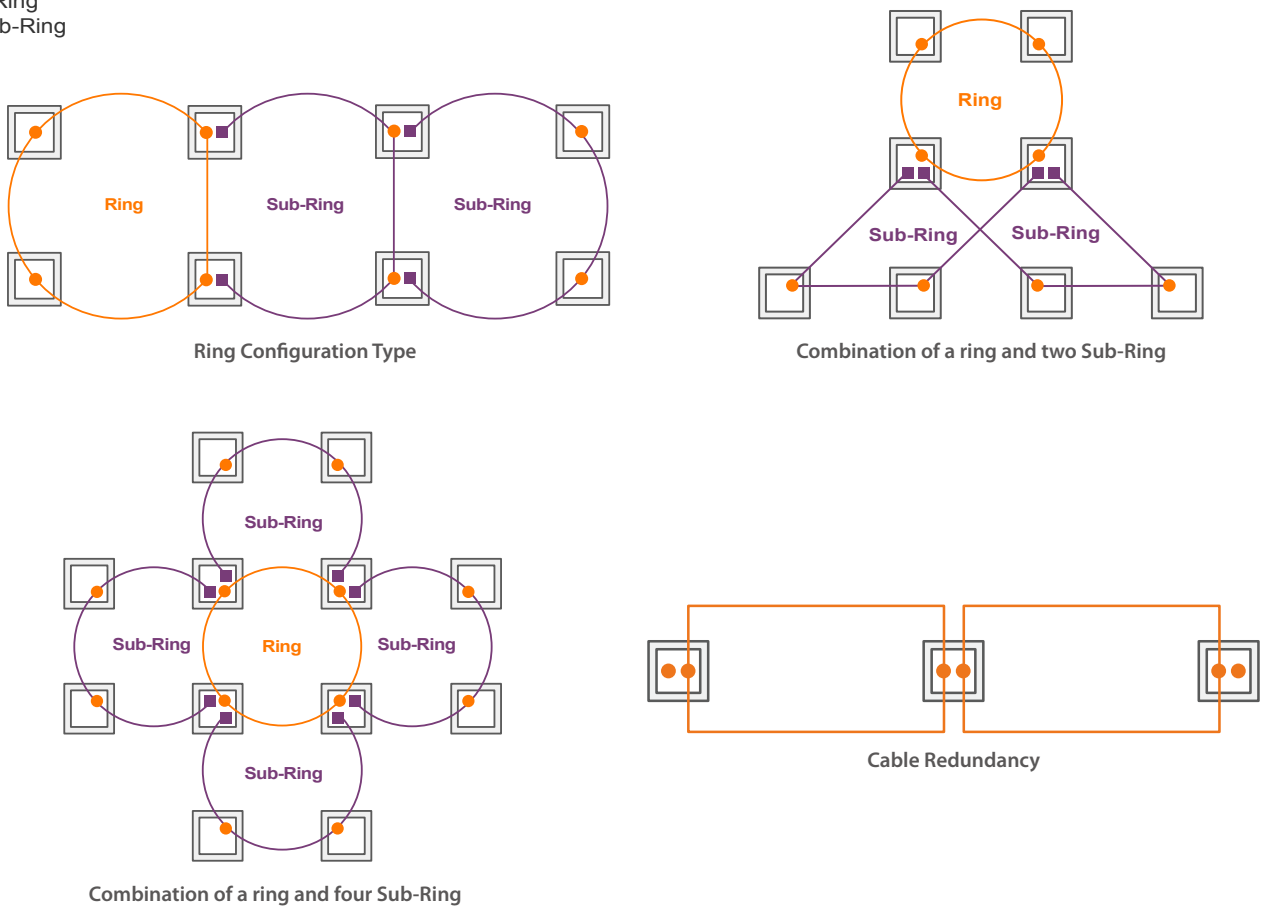
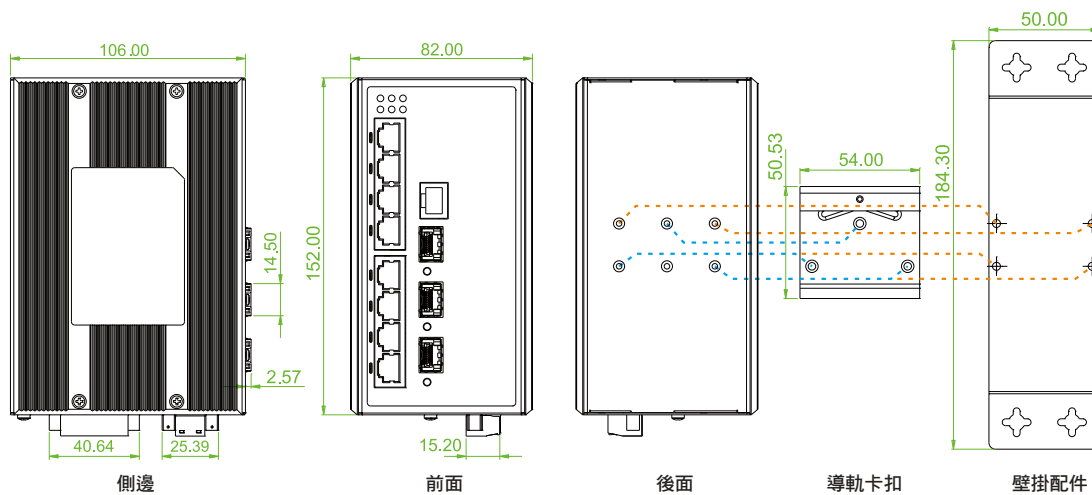


圖5：Ring 配置範例

● u-Ring  
■ Sub-Ring



機構尺寸

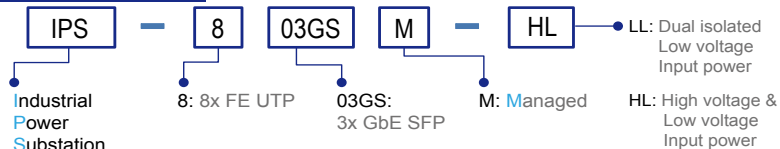


4 IEC 61850-3 Managed FE Switch

訂購資訊

型號	管理	總埠數	UTP Port		光纖		輸入電壓		認證			
			10/100 Base-TX	100/1000 Base-X	Low Voltage isolated 24/48 VDC	High Voltage 110/220V DC/AC	變電站 IEC61850-3	鐵道交通 EN50121-4	安全 UL60950-1	CE, FCC		
IPS-803GSM-LL	V	11	8	3 SFP	2	—	V	V	V	V	V	
IPS-803GSM-HL	V	11	8	3 SFP	2	1	V	V	V	V	V	

型號命名規則

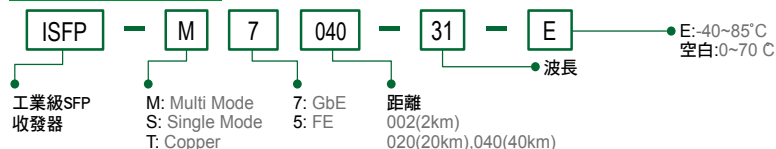


選購配件

DR-4524	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 48W, -10 ~ +50°C
MDR-40-24	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 40W, -20 ~ +70°C
MDR-60-24	Industrial Power, Input 85 ~ 264VAC, Output 24VDC, 60W, -20 ~ +70°C

SFP 收發器 Compatible, Reliable, 5-year Warranty

SFP命名規則



Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.