Smart solutions for smart networks

Version 1.0

SWMDL-I-4GPBT-2USF

LAYER-2 POE++ INDUSTRIAL SWITCH

4 X 10/100/1000BASE-T RJ-45 PORTS WITH IEEE 802.3AF/AT/BT POE INJECTOR +

2 X 100/1000BASE-X SFP SLOTS

MANAGED RUGGED POE SWITCH

Description

SWMDL-I-4GPBT-2USF consists of advanced 6-port layer-2 managed Ethernet switch meticulously designed to meet the evolving demands of rigorous network environments, with the latter featuring four 90W PoE injectors.

SWMDL-I-4GPBT-2USF features not only two 100/1000Base-X SFP slots, but four 10/100/1000Base-T RJ- 45 ports equipped with IEEE 802.3af/at/bt PoE injectors, capable of delivering up to 90W per port with a total power budget of 300W.

For ensuring and perfecting network resilience, the SWMDL-I-4GPBT-2USF is distinguished by its ability to operate in a wide temperature range from -20°C to 60°C, which ensures reliable performance in harsh environmental conditions.

This resilience is further embodied by exclusive Fast Ring v2 and chain technologies, which guarantee a network recovery time of less than 50 ms, thereby minimizing downtime and enhancing overall network reliability. It also support standard RSTP/STP protocols to prevent network loops and ensure efficient data traffic management.

Application

SWMDL-I-4GPBT-2USF comes equipped with comprehensive management and security features, safeguarding network integrity and data. These advanced capabilities make it an ideal solution for demanding applications such as surveillance systems, enterprise networks, and outdoor installations, where high-power PoE, resilient network architecture, and robust environmental performance are paramount.

- Extreme environments with unstable temperature changes
- Long-distance fiber Ethernet network deployment

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Key Features

- **Wide Temperature Tolerance: -20°C ~ 60°C**

The extensive operation temperature range allows it to perform reliably in environments with extreme temperature fluctuations, making it suitable for outdoor applications or the increasingly unpredictable conditions caused by global warming.

- **All Aluminum Housing**

The robust aluminum casing enhances heat dissipation, ensuring efficient cooling during operation, as well as reduces the overall weight of the device.

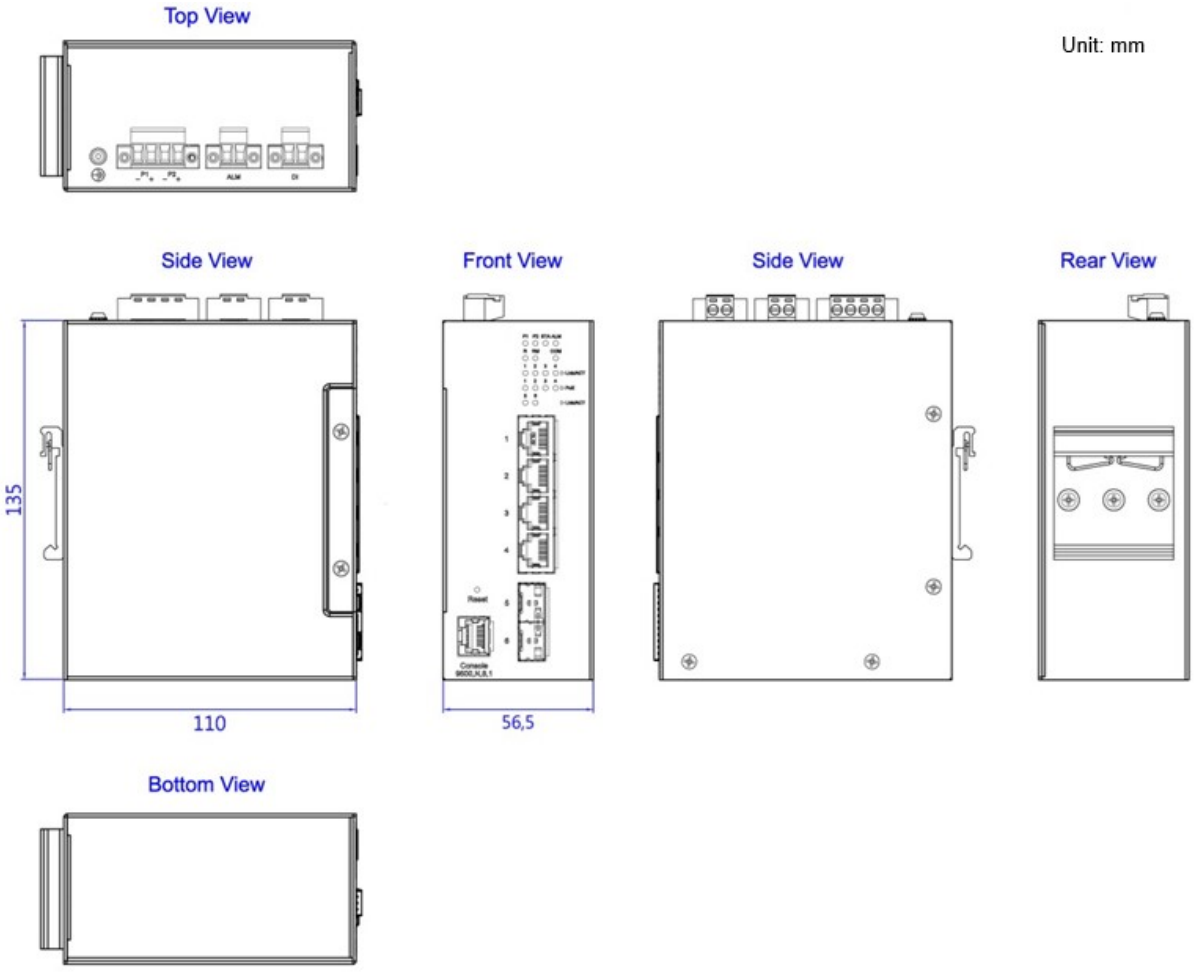
- **Dual Power Input**

Both models are shipped with a 4-pin terminal block to ensure a seamless transition of power supply in case of a sudden outage on either set of power inputs.

- **Fast Ring v2**

Aside from standard RSTP/STP protocols, the SWMDL-I-4GPBT-2USF features Fast Ring v2 technology to ensure network resilience with rapid recovery times of less than 50 ms (milliseconds,) which minimizes downtime, prevent network loops & enhances overall reliability for uninterrupted network performance.

Dimension



Specification

Interface	**Fiber Port**	• Fiber Ports: 2 x 100/1000Base-X SFP
	RJ45 Ports	• 4 x 10/100/1000Base-T RJ-45 with IEEE 802.3af/at/bt PoE injector • 6kV surge protected on PoE ports
	Console Port	• 1 x RS-232 to RJ45 Serial Port
	Terminal Block	• 1 x Digital Output (Alarm Relay) Relay output with current carrying capacity of 1 A @ 24 VDC • 1 x Digital Input (Dry contact)
	Standards	• Static route • IEEE 802.3 10Base-T • IEEE 802.3u 100Base-TX/FX • IEEE 802.3ab 1000Base-T • IEEE 802.3z 1000Base-X • IEEE 802.3x Flow Control • IEEE 802.3ad Link Aggregation (Static)* • IEEE 802.1ab LLDP • IEEE 802.1p Priority • IEEE 802.1q Tag VLAN • IEEE 802.1d STP* • IEEE 802.1w RSTP* • IEEE 802.3af Power over Ethernet • IEEE 802.3at Power over Ethernet + • IEEE 802.3bt Power over Ethernet ++ ** coming soon*
Hardware		• MAC Address Table: 2K • Non-Blocking Switching Fabric: 12Gbps • Throughput @ 64Bytes: 8.928Mpps • Packet Buffer: 1Mbit • Jumbo Frame: 9K Bytes • Store and Forward Switching Mechanism • Auto-Cross Over for MDI/MDIX in TP Ports • Auto-Negotiation in TP Ports • Full/Half Duplex Mode Operation
LED		• P1, P2, STA, ALM, Ring, Ring Master, COM, Link/Act, PoE
Forward/Filter Rate		• 10M: 14,880/14,880pps • 100M: 148,800/148,800pps • 1000M: 1,488,000/1,488,000pps
Security		• 802.1x RADIUS Authentication for login username/password • DHCP Snooping and DHCP Server Trust Port • Port Isolation • Broadcast Storm Control • Loop Detection
Management		• SNMP v1, v2c & v3 (Support Traps) • Web (HTTP/HTTPS) • CLI (Console/Telnet/SSHv2) • NTP with Daylight Saving Time • LLDP
	Upgrade/Restore	• Firmware Upgrade/Downgrade HTTP/HTTPS/FTP/TFTP • DHCP Auto-provision via DHCP Option 60/43 • Configuration Upload/Backup HTTP/HTTPS/FTP/TFTP • DHCP Auto-provision via DHCP Option 60/43 • Auto configure backup • FTP/TFTP

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Specification

Power over Ethernet		• Total PoE Power Budget: 300W
PoE Management	Per Port Power Pin Assignment	• IEEE 802.3af/at (mode A/end-span): 1/2(-), 3/6(+) • max. PoE output Budget: 15/30W • IEEE 802.3bt • (4-pair mode, 4-pair mode mandatory): 1/2(-), 3/6(+) & 4/5(+), 7/8(-) • max. PoE output Budget: 90W • System/per port PoE off and on • PoE Usage Alarm Threshold * • PoE Inline Mode • Auto af/at, Auto bt, Fix, Force • PoE Priority • Critical/High/Low • PoE off/on by schedule ** coming soon*
Layer 2 Switch Features	Port Management	• State, Description, Media Type, Port Type, Speed, Duplex and Flow Control
	Network Redundancy	• IEEE 802.1d Spanning Tree Protocol (STP)* • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)* • Fast Ring v2/Chain Redundancy Protocols* • Static Port Trunking** • Up to 3 Aggregation Groups, 2-4 Ports per Group* ** coming soon*
	VLAN	• IEEE 802.1q VLAN VLAN ID: 4094 IDs • VLAN Concurrent Groups: 128 VLAN Groups • Port-Based VLAN • Q-in-Q Double tag with Configurable Ether Type
	QoS	• QoS based on 802.1p CoS and DSCP • Scheduling Algorithm Weighted Round Robin (WRR) Strict Priority Queuing (SPQ) • QoS Priority Queues: 4 Queues • 802.1p P-bit & DSCP Remarking • Port-Based Rate Limit (Ingress/Egress)
	Multicast	• IGMP Snooping v1/v2/v3 • IGMP Fast Leave • MLD Snooping v1/v2 • IGMP/MLD Snooping Group: 64/32 Groups
	IPv6 Feature	• IPv6 Over Ethernet (RFC 2464) • IPv6 Addressing Architecture (RFC 4291) • IPv6 Dual Stack (RFC 4213) • ICMPv6 (RFC 4884) • Path MTU Discovery for IPv6 (RFC 1981) • Neighbour Discovery (RFC 4861) • DHCPv6 Client
Maintenance	Diagnostic	• Port Mirror • ICMP Ping • Event log • Syslog • SFP SFF-8472 DDMI Monitor • Temp/Voltage/TX Bias/TX Power/RX Power • CPU Temperature/Utilization • Memory Statistics • Digital Input • Normal Open, Normal Close • Digital Output • Event Trigger (Digital Input, Power 1/2 Down and Port Down)

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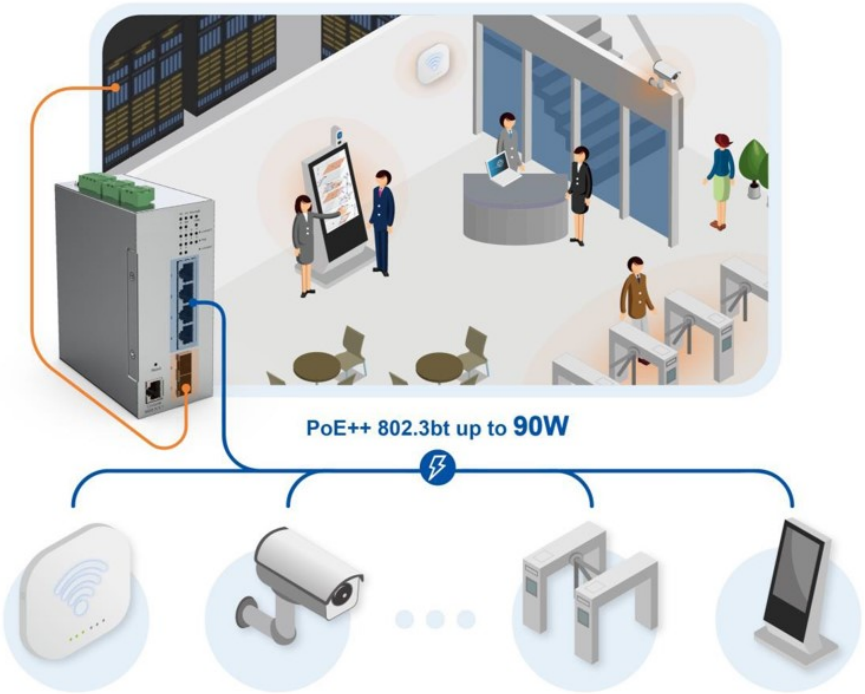
Specification

Power Requirement	Dual DC Input (4-pin removable terminal block)	• 48~57 VDC
	Recommend PoE Output Requirement Voltage	• 802.3at: 50~57 VDC • 802.3bt: 52~57 VDC
	Max. Power Consumption	• 313W (1068 BTU/h)
Environmental Condition		• Operation: -20˚C ~ 60˚C • Storage: -30˚C ~ 70˚C • Humidity: 5% ~ 90%, Non-condensing
Dimension & Weight		• Size: 56.5 x 110 x 135mm (W x D x H) • Weight: 0.57 Kg • Housing: Aluminum, IP30
Standards and Certifications	CE/FCC Class A	• Safety: EN/IEC 62368-1 • EMC: EN 55032 / EN 55035 • ESD • Air Discharge: +/-8kV Contact Discharge: +/-4kV • EFT • DC Input: +/-0.5kV Signal (RJ-45): +/-0.5kV • Surge Protection DC Input: +/-0.5kV • Signal (RJ-45): +/-6kV
	Freefall/Shock/ Vibration	• IEC 60068-2-32 • IEC 60068-2-27 • IEC 60068-2-6
	UKCA/RCM	
	RoHS 2.0	

Application Diagram



Ordering Informations

Reference	Description
SWMDL-I-4GPBT-2USF	Layer2 manageable DIN-Rail switch,industrial -20 to +60°C working temperature, 4 10/100/1000BaseT PoE PSE ports 90W 802.3bt, 2 undiversal SFP 100FX/GSX/GLX SFP port w/o SFP, VLAN tagging 802.1q, Q-in-Q, ,QoS 802.1p, trunking, RSTP, SNMP V2c, redundant input power terminal bloc 24-57Vcc Booster

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