



## 26-port L2+ Managed industrial Ethernet switch

PLN-EN2224GB-4SF



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### Overview:

The **PLN-EN2224GB-4SF** is a full gigabit L2+ managed industrial Ethernet fiber switch independently developed by POLLO. It has 24\*10/100/1000Base-T adaptive RJ45 ports and 4\*100/1000Base-X uplink SFP fiber ports (including 2 combo ports). Each port can support wire-speed forwarding.

The **PLN-EN2224GB-4SF** has L2+ network management function, supports IPV4/IPV6 management, static route forwarding, complete security protection mechanism, complete ACL/QoS policy, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability, and can quickly restore communications when a one-way network fails. Ensure uninterrupted communication for important applications. According to the application needs, various application services configurations such as port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other network management methods are carried out through Web, CLI, SNMP, Telnet, and other network management methods. It meets the needs of various industrial Ethernet application environments and is suitable for establishing economical, efficient, stable, and reliable communication networks in industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy, and green energy construction.

### FEATURE

#### Gigabit access, uplink 1/10G SFP+ fiber port

- ❖ Support non-blocking wire-speed forwarding.
- ❖ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ❖ Support Gigabit PoE port and Gigabit SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

#### Security

- ❖ Port isolation and storm control.
- ❖ IP+MAC+port+VLAN quadruple flexible combination binding function.

- ❖ 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

### **Strong business processing capability**

- ❖ Support ERPS ring network and STP/ RSTP/ MSTP to eliminate layer 2 loops and realize link backup.
- ❖ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ❖ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ❖ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ❖ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ❖ Support IGMP V1/V2/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

### **Stable and reliable**

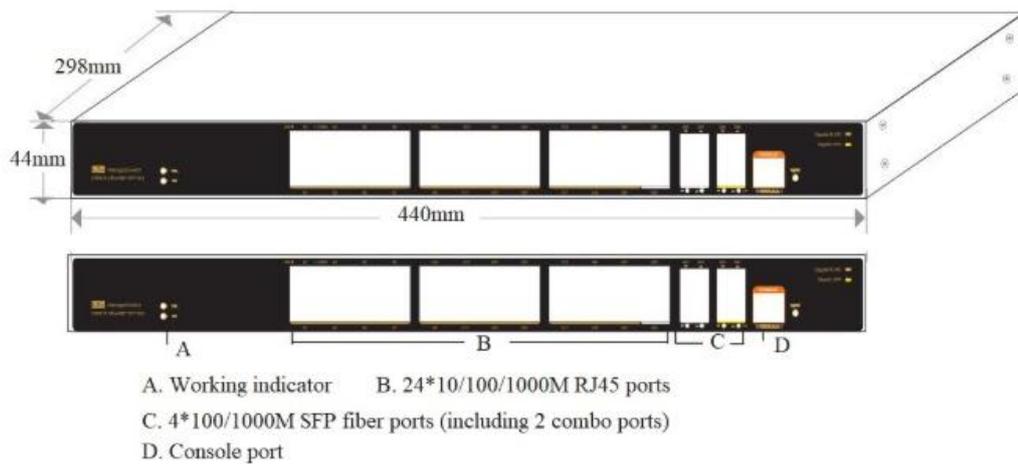
- ❖ CCC, CE, FCC, RoHS.
- ❖ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, and L/A.
- ❖ Self-developed power supply, high redundancy design, providing a long-term and stable PoE power output.
- ❖ Low power consumption, no fan, galvanized steel metal shell, excellent heat dissipation to ensure the stable operation of the switch.

### **Easy O&M management**

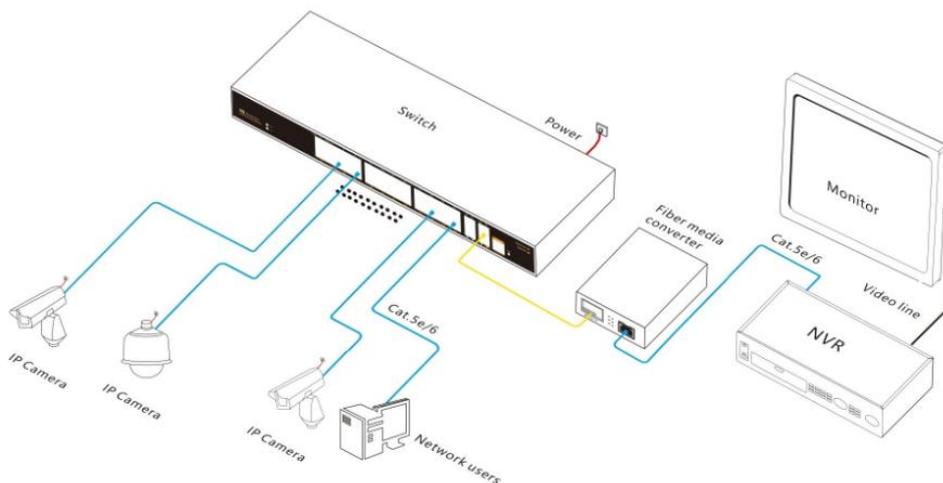
- ❖ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.

- ❖ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.
- ❖ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.
- ❖ LLDP is convenient for the network management system to query and judge the communication status of the link.
- ❖ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

## DIMENSION



## APPLICATION



**TECHNICAL SPECIFICATION**

<b>Model</b>	<b>PLN-EN2224GB-4SF</b>
<b>Fixed Port</b>	2*DC12-48V input ports
	2*AC100-240V input ports
	1*Console port (115200,N,8,1)
	Power-off alarm switch (FAULT)
	24*10/100/1000Base-T RJ45 ports (Data)
	4*100/1000M uplink SFP fiber ports (including 2 combo ports) (Data)
<b>Ethernet Port</b>	Port 1-24 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
<b>Twisted Pair Transmission</b>	10BASE-T: Cat3,4,5 UTP (≤100 meters)
	100BASE-TX: Cat5 or later UTP (≤100 meters)
	1000BASE-T: Cat5e or later UTP (≤100 meters)
<b>Optical Fiber Port</b>	Gigabit optical fiber interface, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
<b>Optical Fiber Port Expansion</b>	Turbo overclocking 2.5G optical module expansion and ring network
<b>Optical Cable/ Distance</b>	Multi-mode: 850nm/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
<b>Network Management Type</b>	L2+
<b>Network Protocol</b>	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
<b>Forwarding Mode</b>	Store and Forward (Full Wire Speed)
<b>Switching Capacity</b>	52Gbps (Non-blocking)
<b>Forwarding Rate@64byte</b>	38.69Mpps
<b>CPU(Hz)</b>	416MHz
<b>DRAM</b>	1G
<b>Flash</b>	128M
<b>MAC</b>	8K
<b>Buffer Memory</b>	8M
<b>Jumbo Frame</b>	9.6K
<b>LED Indicator</b>	Power: PWR (Yellow), System: SYS (Yellow), Network: Link (Yellow), Fiber port: L/A (Green)
<b>Reset Switch</b>	Yes, Press and release for 10 seconds to restore factory settings
<b>Total PWR / Input Voltage</b>	60W/ (AC100-240V)
<b>Power Consumption</b>	Standby<18W, Full load<35W

<b>Power Supply</b>	Built-in power adapter, AC100~240V 50-60Hz, 0.56A
<b>Power Input Port</b>	Alarm switch port, 2*AC power input ports, 2*DC12-48V input ports Dual input power port design: AC power supply priority to support anti-reverse connection protection, and automatically switches to DC connection when power fails.
<b>Operation TEMP / Humidity</b>	-40~+80°C, 5%~90% RH Non condensing
<b>Storage TEMP / Humidity</b>	-40~+85°C, 5%~95% RH Non condensing
<b>Dimension (L*W*H)</b>	440*298*44mm
<b>Net /Gross Weight</b>	3.9kg / 4.7kg
<b>Installation</b>	Desktop, 1U/19" cabinet
<b>Lightning Protection</b>	Protection level: IP30 Lightning protection: 6KV 8/20us IEC61000-4-3(RS):10V/m (80~1000MHz) FCC Part 15/CISPR22 (EN55022): Class B IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m, 1MHz IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV IEC61000-4-4(EFT): Power cable:±4kV, Data cable: ±2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field):100A/m,1000A/m,1-3s IEC61000-4-5( Surge): Power cable: CM±4kV/DM±2kV, Data cable: ±4kV
<b>Mechanical Properties</b>	IEC60068-2-6 (Anti Vibration), IEC60068-2-32 (Free Fall), IEC60068-2-27 (Anti Shock)
<b>Certification</b>	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
<b>Warranty</b>	5 years, lifelong maintenance.
<b>Interface</b>	Port temperature protection settings IEEE 802.3x flow control (Full duplex) Broadcast storm control based on port speed Port EEE Green Ethernet energy-saving configuration Limit the speed of the message traffic at the inbound and outbound ports, with mini granularity of 64Kbps
<b>L3 Feature</b>	ARP protocol, max 1024 entries Static route/ default route, max 128 entries

	L2+ network management function, IPV4/IPV6 dual-stack management
	L3 routing and forwarding, support communication between different network segments and different VLAN
<b>VLAN</b>	Voice VLAN, QinQ configuration, IEEE802.1q
	VLAN based on MAC, VLAN based on the protocol
	4K VLAN based on port, Port configuration of Access, Trunk, Hybrid
<b>Port Aggregation</b>	LACP dynamic aggregation, Static aggregation
	Max 13 aggregation groups and 8 ports per group.
<b>Spanning Tree</b>	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
<b>Industrial Ring Network Protocol</b>	G.8032 (ERPS), Recovery time less than 20ms
	255 Ring at most, Max 254 devices per ring.
<b>Multicast</b>	IGMP Snooping v1/v2/v3, Max 1024 multicast groups
	MLD Snooping, Multicast VLAN, User quick exit mechanism
<b>Port Mirroring</b>	Bidirectional data mirroring based on port
<b>QoS</b>	Queue Scheduling Algorithm (SP, WRR, SP+WRR)
	Flow-based rate limiting, Flow-based packet filtering
	Flow-based redirection, Diff-Serv QoS, Priority Mark/ Remark
	8*Output queues of each port, 802.1p/DSCP priority mapping
<b>ACL</b>	ACL issued based on port and VLAN
	L2-L4 packet filtering function can match the first 80 bytes of the message and provide ACL definition based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
<b>Security</b>	Port-based IEEE802.1X authentication
	MAC address the learning number limit
	SSL ensures data transmission security
	Port isolation, MAC address the black hole
	IP+MAC+VLAN+port four-way binding function
	User hierarchical management and password protection
	AAA & RADIUS & TACACS+ certification, ARP inspection
	IP source address protection, Host data backup mechanism
	SSH 2.0 provides a secure encrypted channel for user login
	DoS attack prevention, Port broadcast message suppression
	ARP message rate limit function, ARP intrusion detection function
<b>DHCP</b>	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
<b>Management</b>	System work log, Link Layer Discovery Protocol
	NTP clock, Cable length detection, SNMP V1/V2/V3
	Ping detection, Web network management (HTTPS)

	NMS platform cluster management (LLDP+SNMP)
	One click recovery, View CPU real-time utilization status
	FTP, TFTP, Xmodem, SFTP file upload and download management
	Console/ AUX Modem/ Telnet/ SSH2.0 CLI command line configuration
<b>System</b>	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable
	TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable