

RP-IPG6324I-4F-D

24-P Gigabit + 4-SFP(1G/2.5G) slot L2+ Managed Industrial Ethernet Switch with DI/DO/RS485



The RP-IPG6324I-4F-D is the highly reliable Layer 2+ managed industrial PoE switch with 24-port 10/100/1000-T PoE, 4-port 1G/2.5GBase-X SFP. They complies with IEEE802.3af PoE, IEEE802.3at PoE+ standard protocol, the Max power output consumption per port can reach 30W. It supports ERPS redundant network and the self-recovery mechanism less than 20ms on full load which allows you to scheme a reliable Ethernet network by building a redundant ring topology as your back-up solution. It also supports DI/DO/RS485, IPv4/IPv6 static routing, DHCP server, robust Layer 2 management and secure functions, which all making them ideal for large-scale industrial networks.

RP-IPG6324I-4F-D is the high cost-effective easy-to-use device, which provides essential industrial Ethernet networking function, including wide range power input 44-57VDC, redundant power design with polarity reverse protection, robust IP40 fan-less housing with Din-rail installation, wide operation temperature from -40°C to 70°C as well as high-level EMI/EMC capability. They are the best choice for heavy industrial factory, transportation, oil & gas, chemical, IP Surveillance and processing automation area where environmental conditions are harsh and critical.

Features

- 24*10/100/1000Base-T RJ45 PoE, 4*1G/2.5G Base-X SFP
- Redundant power 12-57V input with polarity reverse/over-current protection
- Complies with IEEE802.3af PoE and IEEE802.3at PoE+ standard.
- Automatically allocate PoE power according to the input voltage
- Support DI/DO/RS485 and USB one key configuration & upgrading
- Layer 3 features: Support IPv4/IPv6 static routing, DHCP server, DHCP relay
- Layer 2 features: VLAN/GVRP/QinQ/SPAN/RSPAN/STP, RSTP, MSTP/DHCP/Multicast/ACL/QoS/LLDP/802.1X/AAA/Loop Detect/SFP DDM/IPV6 management/Dual Stack/ PoE management/sFlow/Web/SNMP/MQTT/Telnet/TFTP/Web upgrading

- Support G.8032 ERPS protocol, recovery time $\leq 20\text{ms}$
- Support 6KV surge protection and ESD: Air-15kV, Contact-8kV Protection
- IP40 fan-less and Din-rail hardware design
- Operation temperature: $-40\text{ }^{\circ}\text{C} \sim +75\text{ }^{\circ}\text{C}$

Specifications

Standards	● IEEE 802.3 10Base-T Ethernet ● IEEE 802.3u 100Base-TX Ethernet ● IEEE 802.3ab 1000Base-T Ethernet ● IEEE 802.3z 1000Base-X Ethernet ● IEEE802.3x Flow Control and Back Pressure ● IEEE 802.1D Spanning Tree Protocol ● IEEE 802.1w Rapid Spanning Tree Protocol ● IEEE 802.1Q VLAN ● ITU-T G.8032 ERPS ● IEEE 802.1X Port Authentication Network Control ● IEEE 802.1ab LLDP ● IEEE 802.3ad LACP ● IEEE802.3af PoE ● IEEE802.3at PoE+	
Interface	● 24 x 10/100/1000Base-T RJ45 ● 4 x 1G/2.5GBase-X SFP	
Management port	● 1 x RJ45 Console port ● 1 x USB 2.0	
Data & Alarm channel (Removable 8-pin terminal block)	● Vout: VO + , VO -	5V output (0.2A MAX)
	● 1 channel RS485: A, B	Serial server: Supports Modbus protocol transparent transmission Network Side: Supports TCP protocol, supports client and server mode Serial Port Side: Supports RTU communication mode and serial port transmission parameter settings
	● 1 channel digital input: DI+, DI-	Status "1": 12V-30V Status "0": -30V~3V Max input current: 8 mA
	● 1 channel digital output	Normally open, Normally closed, Pulse 2A@30V DC, 0.3A@125V AC
Size of RAM	● 512MB	
Size of Flash	● 512MB	
Switching capacity	● 68Gbps	
Packet forwarding rate	● 101Mpps	
MAC address table	● 16K	
VLAN	● 4K	
Buffer	● 12Mbit	

Forwarding delay	• <5us
Jumbo Frame	• Support 10Kbytes
MDX/MIDX	• Support
Watchdog	• Support
Layer 2 function	
Port aggregation	• Support GE port aggregation • Support 2.5GE aggregation • Support static aggregation • Support LACP dynamic aggregation • Up to 64 aggregation groups and up to 8 ports per group
Port features	• Support IEEE802.3x flow control • Support interface counters • Support port isolation • Port mirroring (One-to-One, Many-to-One) • Support loop detection(Port-based; VLAN-based) • Support broadcast storm suppression (broadcast; unknown multicast; unknown unicast)
VLAN	• IEEE802.1Q tagged VLAN • Mac based VLAN • IP based VLAN • Protocol based VLAN • Voice VLAN, specially divide VLAN for user voice data flow • Private VLAN, divide a VLAN broadcast domain into multiple subdomains to form a double-layer VLAN structure • VLAN range: 1-4094 • Support access mode/trunk mode/hybrid mode
Mac-address table management	• Support static Mac-address management • Support dynamic Mac-address Management • Support filtering Mac-address • Support MAC limit based on port and VLAN • Support MAC flapping based on port and VLAN • 16K Mac-address table size
GVRP	• Normal mode • Fixed mode • Forbidden mode
QinQ	• Port-based QinQ • VLAN-based QinQ(VLAN-stacking; VLAN-mapping) • Flow-based QinQ
LLDP	• LLDP (Link Layer Discovery Protocol) • Med
SPAN	• Number of Sessions: 7 • Many-to-one
RSPAN	• Remote Switch Port Analyzer
MSTP	• 802.1D STP • 802.1W RSTP • 802.1S MSTP • BPDU Guard • Number of Single Ring Device Connections: 20
ERPS G.8032	• Major ring

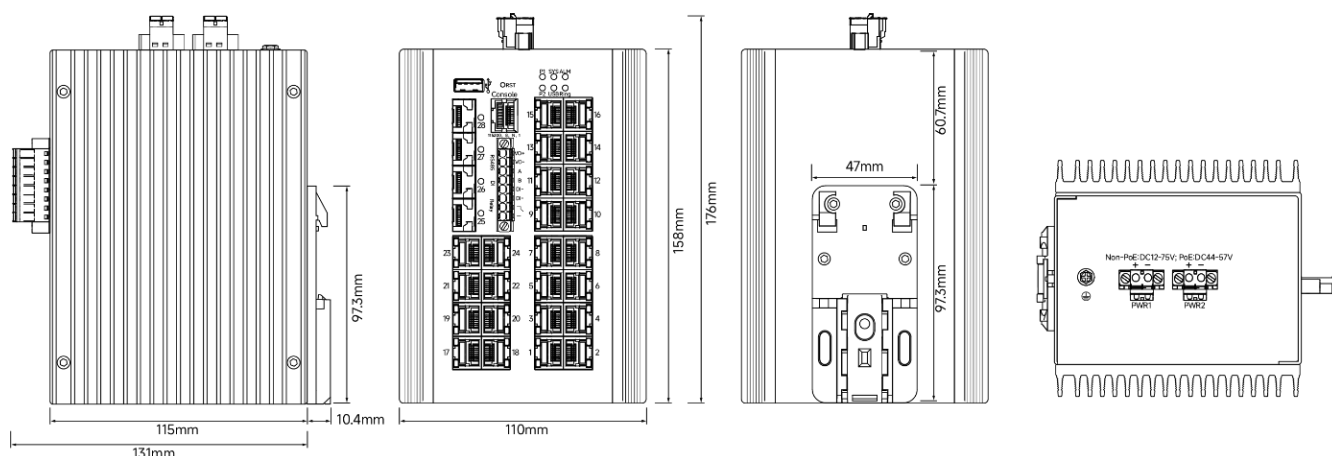
	• Sub ring • Recovery time ≤20ms • Number of Single Ring Device Connections: No limit
QoS	• QoS Class, Remarking • Support SP, WRR Queue Scheduling • Ingress Port-based Rate-limit • Egress Port-based Rate-limit • Egress port-queue shaper • Policy-based QoS • Port Queue Numbers: 8
DHCPv4 Snooping	• DHCP snooping trust port • DHCP snooping option-82 • DHCP snooping circuit-id and remote-id customized
L2 Multicast	
IGMP	• IGMP v1, v2, v3
IGMP Snooping	• Internet Group Management Protocol Snooping • Fast Leave • Multicast Table Size: 1K
PIM-SM	• Protocol Independent Multicast-Sparse Mode
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Security features	
ACL	• IP Standard ACL • MAC extend ACL • IP extend ACL • IPv6 ACL • Time Range • ACL apply on VLAN • ACL Entrys, include input and output
802.1x	• Port access control • Mac-address access control • RADIUS server
Port-security	• Port-security
IP source guard	• IP Source Guard, Port-based IP/Mac Binding Access
ARP-check	• Support ARP-check and ARP packet filtering for illegal users
DAI	• Dynamic ARP Inspection
Anti-gateway ARP Spoofing	• Prevent Gateway ARP Spoofing
Ddos	• Ddos attack protection
Access control	• Support Telnet/SSH/HTTP/HTTPS user access control
AAA	• RADIUS authentication access switch • TACACS authentication access switch • Authorization
Reliability	
Loop Detect	• Loop detect, based on port or VLAN

EFM	• The Ethernet in the first mile, 802.3ah
Management & Maintenance functions	
Dual Stack	• IPv4 and IPv6 Dual Stack Management
System Log Management	• Syslog Level 7 to 0 • Corresponding Debug/Info/Notice/Warning/ Err/ Critical/ Alert • Support connecting up to 3 Servers • For IPv4 and IPv6
User Management	• Support password protection, support MD5/SHA256/SHA512 algorithm • Local Management of User Privilege • Remote authorization by RADIUS or TACACS • Enable privilege protection • User password complexity requirements • User login fail protection • User Privilege Level 0 to 15
Login Service Management	• Up to 8 users online simultaneously • Access control based on IPv4 or IPv6 ACL
Firmware Management	• Firmware upgraded by WEB • Firmware upgraded by CLI • Dual partition
Web Management	• Web Management • Support HTTP V1.1 • Support HTTPS • For IPv4 and IPv6
CLI management	• Console/Telnet command line management
Fault Detection	• Ping/Traceroute, For IPv4 and IPv6 • Dying gasp • Optical transceiver DDM • One click fault information collection • Cable detection
DNS	• Domain Name System
NTP	• Network Time Protocol, For IPv4 and IPv6 • Support domain name configuration
Configuration Import /Export	• FTP/TFTP based remote configuration import and export • USB flash drives based local configuration import and export
sFlow	• Sampled flow
SNMP	• Version SNMPV2C/V3
MQTT	• Message Queuing Telemetry Transport
RMON	• Support RMON (Remote Monitoring) alarm
PoE management	• Support 802.3af/802.3at • Support PD watchdog • Support PoE priority management • Support Max PoE power configuration for each port • Support alarm threshold configuration • Support reserved power configuration • Support PoE schedule • Support POE legacy mode
Dual partition managed	• Support dual partition switching
Application Protocol Functions	

Telnet server	• Support telnet server for IPv4 and IPv6
Telnet client	• Support telnet client for IPv4 and IPv6
SCP(Secure Copy Protocol)	• SCP client/server for IPv4 and IPv6
SFTP	• sftp client/server for IPv4 and IPv6
SSH server	• Support login based on user password-SSH2, support IPv4, IPv6 • Support public key-based login
TACACS	• Support TACACS (the terminal access controller accesses the control systems)
TFTP	• Support TFTP Client
Layer 3 functions	
Static Route	• Support VLAN interface and route port • IPv4 static routing table entry configuration • ARP dynamic learning and static configuration • IPv6 static routing table entry configuration • Neighbor discovery and static configuration • Routing prefix table size 4k for IPv4, for IPv6 divide by 4
DHCPv4 Client	• Dynamic host configuration protocol for IPv4
DHCPv6 Client	• Dynamic host configuration protocol for IPv6
DHCPv4 Relay	• DHCP Relay for IPv4
DHCPv4 Server	• DHCP Server for IPv4
Power parameter	
Input voltage	• 44-57VDC(802.3af) • 52-57VDC(802.3at) • redundant power input
Input current	• 6A DC/DC input Max
Total consumption	• Full loading ≤ 26W • Single power input: PoE power budget ≤240W (-40°C~+ 70°C) • Dual power input: PoE power budget ≤370W (-40°C~+ 60°C) • *Dual power input must be the same DC voltage
Connector	• Removable 2x2-pin terminal block
Reverse polarity protection	• Support
Over-voltage protection	• Support
Over-current protection	• Support
Mechanical structure	
LED Indicators	• P1/P2 (Power indicator) • SYS (System status indicator) • USB (USB status indicator) Green • ALM(Fault status indicator) Red • Ring(Ring network indicator) • 1-24 (Copper ports indicators) Green • 1-24 (PoE status indicators) Yellow • 25-28 (Fiber ports indicators) Green
Case protection	• IP40
Installation method	• Din-rail
Dimension	• 110 x 115 x 158mm (WxDxH)
Environment	• Operating temperature: -40°C~+70°C

	• Storage temperature -40°C~+85°C • Operating Humidity: 10 to 90% (Non-Condensing)
EMS	• Surge protection of power: IEC 61000-4-5 6KV/4KV (8/20us) • Surge protection of Ethernet ports: IEC 61000-4-5 6KV/2KV (10/700us) • RS : IEC 61000-4-3 80 MHz-1 GHz: 10 V/m • EFT : IEC 61000-4-4 4K/2K • CS : IEC 61000-4-6 10V • ESD : IEC 61000-4-2 Contact: 8K ; Air: 15K
EMI	• FCC Part 15B Class A
Shock	• IEC 60068-2-27
Free fall	• IEC 60068-2-32
Vibration	• IEC 60068-2-6
Certification	• CE/FCC

Dimension



Ordering information

RP-IPG6324I-4F-D 24 x Gigabit + 4-SFP(1G/2.5G) L2+ Managed Industrial PoE Ethernet Switch (370W) with DI/DO/RS485