

RP-IPG6308I-2F-D

8-P Gigabit PoE + 2-SFP(1G/2.5G) slot L2+ Managed Industrial PoE Switch with DI/DO/RS485



The RP-IPG6308I-2F-D is the highly reliable managed industrial PoE switch with 8-port 10/100/1000-T RJ45 and 2-port 1G/2.5G/10GBase-X SFP+ interfaces. It complies with IEEE802.3af, IEEE802.3at standard PoE protocol, the Max power consumption can reach 30W (PoE+) per port. It supports ERPS redundant network and the self-recovery mechanism is 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. RP-IPG6308IX-2F also supports DI/DO/RS485, Layer 3 IPv4/IPv6 static routing, DHCP server, features and powerful Layer 2 management and secure function, which all making them ideal for large-scale industrial networks.

RP-IPG6308I-2F-D is a 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/over-voltage/over-current protection, robust IP40 fan-less housing with Din-rail installation, wide operation temperature from -40°C to 75°C as well as high-level EMI/EMC capability. It is 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

- Redundant power DC 44-57V input with polarity reverse/over-voltage/over-current protection
- Complies with IEEE802.3af PoE and IEEE802.3at PoE+ standard
- Support DI/DO/RS485 and USB one key configuration & upgrading
- Layer 3 feature: Support IPv4/IPv6 static routing, DHCP server, DHCP relay
- Support Layer 2 management function: VLAN/ GVRP/QinQ/ SPAN/RSPAN/STP, RSTP, MSTP/DHCP/Multicast/ACL/QoS/LLDP/802.1X/AAA/Loop Detect/Dying Gasp/SFP DDM/IPV6 management/Dual Stack/ PoE management /sFlow/Web/SNMP/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°C ~+75°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 • IEEE 802.3af PoE • IEEE 802.3at PoE+	
Interface	• 8 x 10/100/1000Base-T RJ45 PoE • 2 x 1G/2.5G/10GBase-X SFP (9-10 ports)	
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	• 26Gbps	
Packet forwarding rate	• 38.6Mpps	
MAC address table	• 16K	
VLAN	• 4K	
Buffer	• 12M bit	
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 dynamic 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 • Flow-based QinQ • VLAN mapping
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

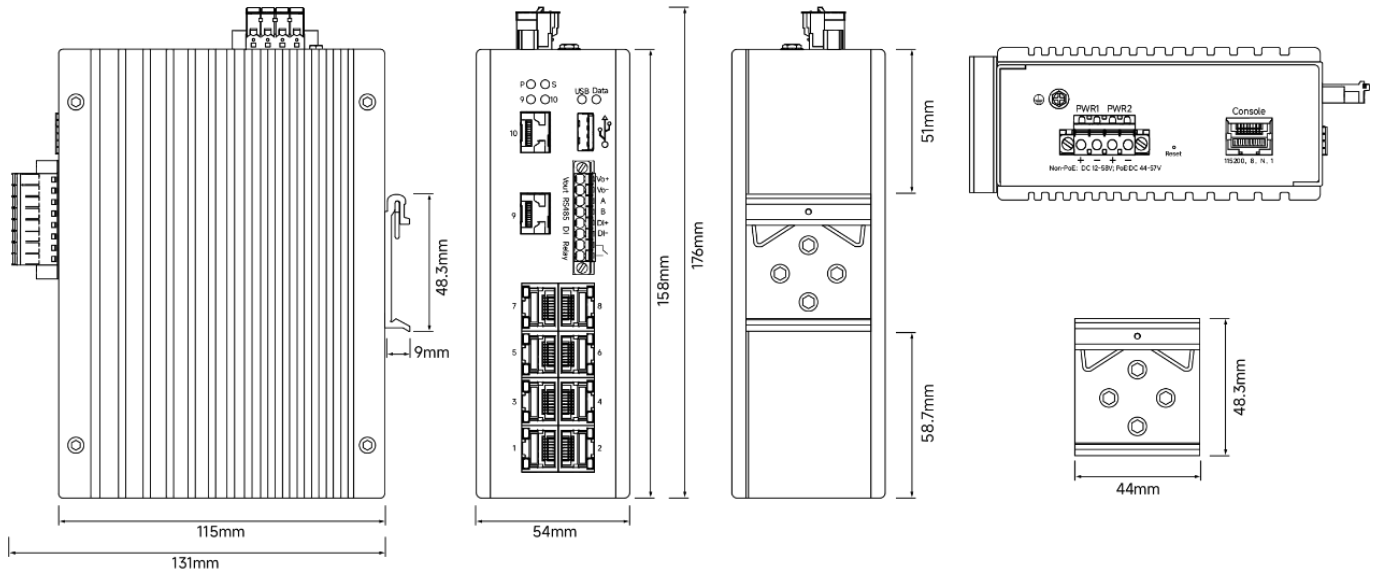
ERPS G.8032	• Major ring • Sub ring • Recovery time ≤20ms • Number of Single Ring Device Connections: No limit
QoS	• QoS Class, Remarking • Support SP, WRR Queue Scheduling • Ingress Port-based Rate-limit • Egress Port-based Rate-limit • Egress port-queue shaper • Policy-based QoS • Port Queue Numbers: 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
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 function	
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	• 5.8A Max
Total power consumption	• Full loading without PoE≤10W • PoE power budget ≤ 240W
Connector	• Removable 4-pin terminal block
Reverse polarity protection	• Support
Over-voltage protection	• Support
Over-current protection	• Support
Mechanical structure	
LED Indicators	• P (Power indicator) • S (System status indicator) • USB (USB status indicator) Green • Data (RS485 status indicators) • 1-8 (Copper ports indicators) Green / (PoE) Yellow • 9-10 (Fiber ports indicators) Green
Case protection	• IP40
Installation method	• Din-rail
Dimension	• 54x158x115mm (WxHxD)
Environment	• Operating temperature: -40°C~+75°C

	• Storage temperature -40°C~+85°C • Operating Humidity: 10 to 90% (Non-Condensing)
EMS	• Surge protection of power: IEC 61000-4-5 DC: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 power 4K, signal 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	• CCC/CE/FCC/RoHS

Dimension



Ordering information

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