RP-IPG6516IX-2F

16-P Gigabit PoE + 2-SFP (1G/2.5G/10G) slot L3 Managed Industrial PoE Switch

The RP-IPG6516IX-2F is a highly reliable Layer 3 managed industrial PoE switch featuring 16-port 10/100/1000-T RJ45 and 2-port 10GBase-X SFP+ interfaces. It complies with IEEE802.3af and IEEE802.3at PoE standards, with a maximum power consumption of up to 30W (PoE+) per port. With full gigabit downlink and 10G uplink capabilities, it ensures high-performance data transfer across industrial networks.

The RP-IPG6516IX-2F supports ERPS redundant networks, with a self-recovery mechanism that operates in less than 20ms under full load. This feature allows for the creation of a reliable Ethernet network by building a redundant ring topology as a backup solution. Additionally, it supports Layer 3 static and dynamic routing, along with powerful Layer 2 management and security functions, making it ideal for large-scale industrial networks.

The RP-IPG6516IX-2F is a cost-effective, easy-to-use device that offers essential industrial Ethernet networking functions, including a wide power input range of 12-58VDC and a redundant power design with polarity reverse, over-voltage, and over-current protection. Its IP40-rated rugged case allows for either DIN rail or wall mounting, optimizing cabinet space. With a wide operating temperature range from -40°C to 75°C, the RP-IPG6516IX-2F is an excellent choice for heavy industrial factories, transportation, oil and gas, chemical industries, IP surveillance, and automation sectors where environmental conditions are harsh and critical.

Features

- Redundant power 44-57V input with polarity reverse/over-voltage/over-current protection
- Support one digital output for relay alarm
- Complies with IEEE802.3af PoE and IEEE802.3at PoE+ standard
- Supports Layer 3 features, static and dynamic routing
- Support Layer 2 management function: VLAN/VLAN Classification/QinQ/STP, RSTP, MSTP/Port Mirroring/DHCP/Multicast/ACL/IGMP/QoS/LLDP/802.1X/Dying Gasp/SFP DDM/IPV6 management/Web/SNMP/Telnet/TFTP/Web upgrading
- Support G.8032 ERPS protocol, recovery time ≤20ms
- Support 6KV surge protection and ESD: Air-15kV, Contact-8kV Protection
- IP40 fan-less and Din-rail hardware design
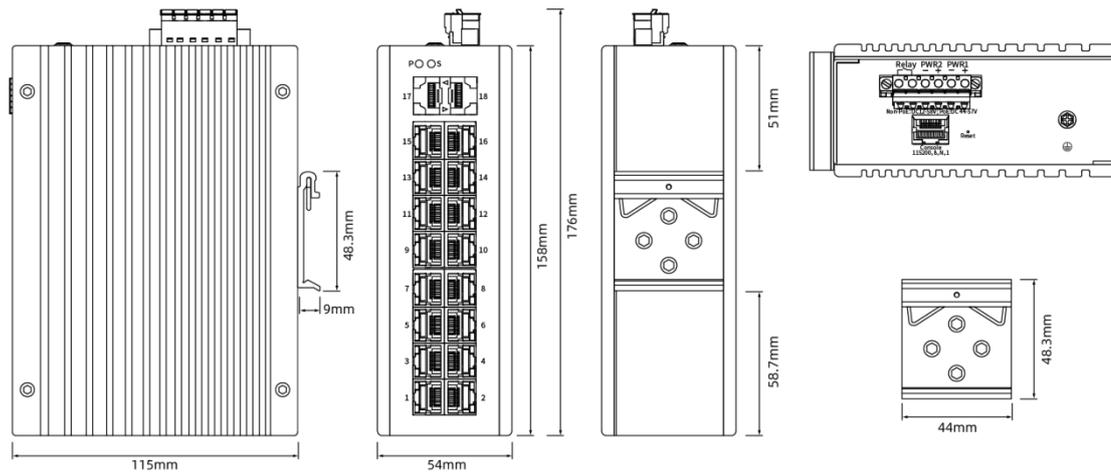- Operation temperature: -40°C ~+75°C

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 • IEEE 802.3ae 10Gb/s 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	• 16 x 10/100/1000Base-T RJ45 PoE(1-16 ports) • 2 x 1G/2.5G/10GBase-X SFP (17-18 ports)
Management port	• 1 x RJ45 Console port (115200,8,N,1)
Alarm port	• One digital output for relay alarm, alarm relay current carry ability: 1A@24VDC
Switching capacity	• 72Gbps
Packet forwarding rate	• 107.13Mpps
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 10GE aggregation • Support static aggregation • Support 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)
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
VLAN	• Support access mode • Support trunk mode • Support hybrid mode
VLAN Classification	• Mac Based VLAN • IP Based VLAN • Protocol Based VLAN
QinQ	• Port-based QinQ • VLAN-based QinQ • Flow-based QinQ
LLDP	• LLDP (Link Layer Discovery Protocol)
Port mirroring	• Many to one port mirroring
Ring network protocol	• Support STP、RSTP、MSTP • Support G.8032 ERPS protocol，single ring, sub Ring and associated sub ring • Recovery time ≤20ms
L2 Multicast	
IGMP snooping	• Support IGMP snooping
Group address	• Support group address
Security functions	
ACL	• IP Standard ACL • MAC extend ACL • IP extend ACL • IPv6 ACL
QoS	• Support QoS Class, Remarking • Support SP, WRR queue scheduling • Ingress Port-based Rate-limit • Egress Port-based Rate-limit • Support Policy-based QoS
802.1x	• Port access control • Mac-address access control • RADIUS server
Port-security	• Port-security
IP source guard	• IP Port/MAC binding
ARP-check	• Support ARP-check and ARP packet filtering for illegal users
Access control	• Support Telnet/SSH/HTTP/HTTPS user access control
Management & Maintenance functions	
User Management	• Support password protection • Support user authorization management
SNMP	• Supporting SNMP V1/V2C/V3 version
Web Management	• Support HTTP V1.1 • Support HTTPS

CLI management	• Console/Telnet command line management
RMON	• Support RMON(Remote Monitoring) alarm
Firmware upgrade	• Firmware upgrade
Fault Detection	• Ping/Traceroute • Dying gasp • Support optical transceiver DDM function
Cable detection	• Support copper port cable detection
PoE management	• Support 802.3af/802.3at • Support PD watchdog • Support PoE priority management • Support Max PoE power configuration for each port • Support alarm waterline configuration • Support reserved power configuration
NTP	• Network Time Protocol
Syslog/Debug	• Syslog/Debug • Syslog send to three servers
Configuration import/export	• Support FTP/TFTP remote import/export
Dual partition management	• Support dual partition switching
Application Protocol Functions	
DHCP Snooping	• DHCP snooping trust port • Support remote-id/circuit-id configuration • DHCP option-82
DHCP client	• Support DHCP client
Telnet server	• Support telnet server
Telnet client	• Support telnet client
SSH server	• Support SSH server
TACACS	• Support TACACS(the terminal access controller accesses the control system)
sflow	• Support network traffic analysis
TFTP	• Support TFTP Client
Layer 3 function	
ARP	• ARP table aging
DHCP server	• Support DHCP server
IPv4 / IPv6	• Static routing
ECMP	• Support ECMP (Equal-cost multi-path routing) • Support the configuration of ECMP Max next-hop • Support capacity balanced configuration
Route policy	• IPv4 prefix-list
VRRP	• virtual router redundancy protocol
Routing Protocol Specification	
RIP	• RIPv1/v2
OSPFv2	• OSPFv2

BGP4	• BGP4 • BGP Support Routing Recursive ECMP • Support to view the number of neighbors and up/down state
IS-IS	• IS-ISv4
Routing Entry	• 13K
Power parameter	
Input voltage	• 44-57VDC(802.3af) • 52-57VDC(802.3at) • redundant power input
Input current	• 5.8A Max
PoE power	• Full loading without PoE≤18W • PoE power budget ≤ 240W
Connector	• Removable 6-pin terminal block, Pin 5/6 for relay alarm output
Reverse polarity protection	• Support
Over-voltage protection	• Support
Over-current protection	• Support
Mechanical structure	
LED Indicators	• P (Power indicator) • S (System status indicator) • 1-16 (Copper ports indicators) Green / (PoE) Yellow • 17-18 (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 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/RoHS

Dimension

Ordering information

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