



RP-ISG6516IX-4F

16-P Gigabit + 4-SFP (1G/2.5G/10G) slot L3 Managed Industrial Switch

The RP-ISG6516IX-4F is a highly reliable Layer 3 managed industrial Ethernet switch with 16-port 10/100/1000-T RJ45 and 4-port 10GBase-X SFP+ interfaces. It supports ERPS for redundant networks with less than 20ms recovery, making it ideal for critical industrial applications requiring high uptime.

The RP-ISG6516IX-4F simplifies operations with USB one-key configuration and upgrading. It supports Layer 3 static and dynamic routing features, along with robust Layer 2 management functions, meeting the specific needs of industrial automation applications.

This cost-effective, easy-to-use device offers essential industrial Ethernet networking functions, including a wide power input range (12-57VDC), redundant power with polarity reverse, over-voltage, and over-current protection, and a durable IP40 fan-less housing. With a wide operating temperature range from -40°C to 75°C, it is the ideal choice for heavy industry, manufacturing, transportation, oil & gas, and IP surveillance systems.

Features

- Redundant power 44-57V input with polarity reverse/over-voltage/over-current protection
- Support USB one key configuration & upgrading
- 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 $\leq 20\text{ms}$
- 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

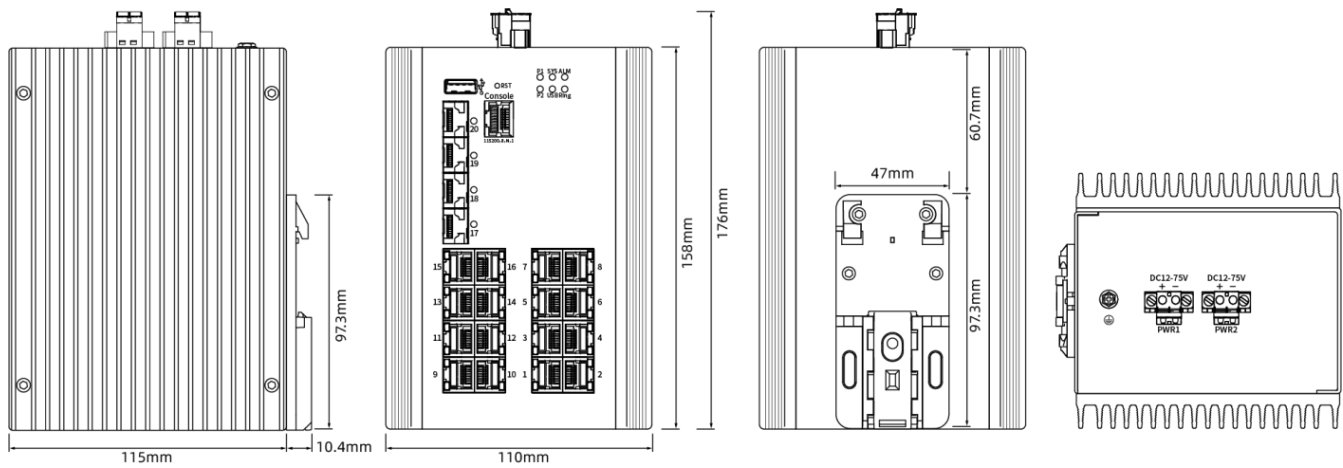
Standards	<ul style="list-style-type: none"> • IEEE 802.3 10Base-T Ethernet • IEEE 802.3u 100Base-TX Ethernet • IEEE 802.3ab 1000Base-T Ethernet • IEEE 802.3z 1000Base-X Ethernet • IEEE802.3x Flow Control and Back Pressure • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree Protocol • IEEE 802.1Q VLAN • ITU-T G.8032 ERPS • IEEE 802.1X Port Authentication Network Control • IEEE 802.1ab LLDP • IEEE 802.3ad LACP
Interface	<ul style="list-style-type: none"> • 16 x 10/100/1000Base-T RJ45 (1-16 ports) • 4 x 1G/2.5G/10GBase-X SFP (17-20 ports)
Management port	<ul style="list-style-type: none"> • 1 x RJ45 Console port (115200,8,N,1) • 1*USB 2.0 for configuration and firmware update
Switching capacity	<ul style="list-style-type: none"> • Gbps
Packet forwarding rate	<ul style="list-style-type: none"> • 166.6Mpps
MAC address table	<ul style="list-style-type: none"> • 16K
VLAN	<ul style="list-style-type: none"> • 4K
Buffer	<ul style="list-style-type: none"> • 12Mbit
Forwarding delay	<ul style="list-style-type: none"> • <5us
Jumbo Frame	<ul style="list-style-type: none"> • Support 10Kbytes
MDX/MIDX	<ul style="list-style-type: none"> • Support
Watchdog	<ul style="list-style-type: none"> • Support
Layer 2 function	
Port aggregation	<ul style="list-style-type: none"> • Support GE port aggregation • Support 2.5GE aggregation • Support 10GE aggregation • Support static aggregation • Support LACP dynamic aggregation • Up to 64 aggregation groups and up to 8 ports per group
Port features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Support access mode • Support trunk mode • Support hybrid mode
VLAN Classification	<ul style="list-style-type: none"> • Mac Based VLAN • IP Based VLAN • Protocol Based VLAN
GVRP	<ul style="list-style-type: none"> • Normal mode • Fixed mode • Forbidden mode
QinQ	<ul style="list-style-type: none"> • Port-based QinQ • VLAN-based QinQ (VLAN-stacking; VLAN-mapping) • Flow-based QinQ
LLDP	<ul style="list-style-type: none"> • LLDP (Link Layer Discovery Protocol)
Port mirroring	<ul style="list-style-type: none"> • Many to one port mirroring
Ring network protocol	<ul style="list-style-type: none"> • Support STP、RSTP、MSTP • Support G.8032 ERPS protocol、single ring, sub Ring and major ring • Recovery time $\leq 20ms$
L2 Multicast	
IGMP snooping	<ul style="list-style-type: none"> • Support IGMP snooping
Group address	<ul style="list-style-type: none"> • Support group address
Security functions	
ACL	<ul style="list-style-type: none"> • IP Standard ACL • MAC extend ACL • IP extend ACL • IPv6 ACL
QoS	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Port access control • Mac-address access control • RADIUS server
Port-security	<ul style="list-style-type: none"> • Port-security
IP source guard	<ul style="list-style-type: none"> • IP Port/MAC binding
ARP-check	<ul style="list-style-type: none"> • Support ARP-check and ARP packet filtering for illegal users
Access control	<ul style="list-style-type: none"> • Support Telnet/SSH/HTTP/HTTPS user access control
Management & Maintenance functions	
User Management	<ul style="list-style-type: none"> • Support password protection • Support user authorization management
SNMP	<ul style="list-style-type: none"> • Supporting SNMP V1/V2C/V3 version
Web Management	<ul style="list-style-type: none"> • Support HTTP V1.1 • Support HTTPS

CLI management	<ul style="list-style-type: none"> • Console/Telnet command line management
RMON	<ul style="list-style-type: none"> • Support RMON(Remote Monitoring) alarm
Firmware upgrade	<ul style="list-style-type: none"> • Firmware upgrade
Fault Detection	<ul style="list-style-type: none"> • Ping/Traceroute • Dying gasp • Support optical transceiver DDM function
Cable detection	<ul style="list-style-type: none"> • Support copper port cable detection
NTP	<ul style="list-style-type: none"> • Network Time Protocol
Syslog/Debug	<ul style="list-style-type: none"> • Syslog/Debug • Syslog send to three servers
Configuration import/export	<ul style="list-style-type: none"> • Support FTP/TFTP remote import/export • Support USB import/export
Dual partition management	<ul style="list-style-type: none"> • Support dual partition switching
Application Protocol Functions	
DHCP Snooping	<ul style="list-style-type: none"> • DHCP snooping trust port • Support remote-id/circuit-id configuration • DHCP option-82
DHCP client	<ul style="list-style-type: none"> • Support DHCP client
Telnet server	<ul style="list-style-type: none"> • Support telnet server
Telnet client	<ul style="list-style-type: none"> • Support telnet client
SSH server	<ul style="list-style-type: none"> • Support SSH server
TACACS	<ul style="list-style-type: none"> • Support TACACS(the terminal access controller accesses the control system)
sflow	<ul style="list-style-type: none"> • Support network traffic analysis
TFTP	<ul style="list-style-type: none"> • Support TFTP Client
Layer 3 function	
ARP	<ul style="list-style-type: none"> • ARP table aging
DHCP server	<ul style="list-style-type: none"> • Support DHCP server
IPv4 / IPv6	<ul style="list-style-type: none"> • Static routing
ECMP	<ul style="list-style-type: none"> • Support ECMP (Equal-cost multi-path routing) • Support the configuration of ECMP Max next-hop • Support capacity balanced configuration
Route policy	<ul style="list-style-type: none"> • IPv4 prefix-list
VRRP	<ul style="list-style-type: none"> • virtual router redundancy protocol
Routing Protocol Specification	
RIP	<ul style="list-style-type: none"> • RIPv1/v2
OSPFv2	<ul style="list-style-type: none"> • OSPFv2
BGP4	<ul style="list-style-type: none"> • BGP4 • BGP Support Routing Recursive ECMP • Support to view the number of neighbors and up/down state
IS-IS	<ul style="list-style-type: none"> • IS-ISv4

Routing Entry	<ul style="list-style-type: none"> • 13K
Power parameter	
Input voltage	<ul style="list-style-type: none"> • 12-75V DC, redundant power input
Input current	<ul style="list-style-type: none"> • 2.5A DC/DC input Max
Power Consumption	<ul style="list-style-type: none"> • Full loading $\leq 24W$
Connector	<ul style="list-style-type: none"> • Removable 2*2-pin terminal block
Reverse polarity protection	<ul style="list-style-type: none"> • Support
Over-voltage protection	<ul style="list-style-type: none"> • Support
Over-current protection	<ul style="list-style-type: none"> • Support
Mechanical structure	
LED Indicators	<ul style="list-style-type: none"> • P1/P2 (Power indicator) Green • SYS (System status indicator) • USB (USB status indicator) Green • ALM(Fault status indicator) Red • Ring(Ring network indicator) • 1-16 (Copper ports indicators) Green: Ring network enable/ Yellow: ports link up • 17-20 (Fiber ports indicators) Green • Power parameter
Case protection	<ul style="list-style-type: none"> • IP40
Installation method	<ul style="list-style-type: none"> • Din-rail
Dimension	<ul style="list-style-type: none"> • 110x158x115mm (WxHxD)
Environment	<ul style="list-style-type: none"> • Operating temperature: $-40^{\circ}C \sim +75^{\circ}C$ • Storage temperature $-40^{\circ}C \sim +85^{\circ}C$ • Operating Humidity: 10 to 90% (Non-Condensing) • Storage humidity: 5%-95% RH
EMS	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • FCC Part 15B Class A
Shock	<ul style="list-style-type: none"> • IEC 60068-2-27
Free fall	<ul style="list-style-type: none"> • IEC 60068-2-32
Vibration	<ul style="list-style-type: none"> • IEC 60068-2-6
Certification	<ul style="list-style-type: none"> • CE/FCC/RoHS

Dimension



Ordering information

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