



## Overview

The RS-IS-300-12GPX is a 10G uplink L3 managed industrial PoE fiber switch independently developed by Rubisec.

It has 12\*10/100/1000Base-T adaptive RJ45 ports and 4\*1/10G SFP+ fiber ports. Port 1-8 can support IEEE 802.3af/at PoE standard.

Single-port POE power up to 30W. As a PoE power supply device, it can automatically detect and recognize power-compliant devices that meet the standard and supply power through the network cable. It can supply power to POE terminal equipment such as wireless AP, IP camera, VoIP, and industrial sensors through the network cable, and meet the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, and industrial scenes such as shipping, metallurgy, and green energy construction form a cost-effective, stable, and reliable communication network.

The RS-IS-300-12GPX has L3 full network management, supports IPV4/IPV6 management, dynamic routing full line-speed forwarding, complete security protection mechanism, perfect ACL/QoS policy, and rich VLAN functions, easy to manage and maintain. With industry-leading ring network technology. It supports a variety of industrial-grade redundant ring network protocols, and each port can form a ring network, supporting chain ring network, starring network, double starring network, ring network, tangent network ring network, intersecting ring network, coupled ring network, self-healing within 20ms of the ring network. The switches has high reliability, high security, and high manageability, ensures reliable transmission of key data, supports remote management, and cooperates with the ONV-NMS network management platform for cluster management to achieve no blind spot network management throughout the process. The Industrial grade products completely follow the industrial product design and materials. The shell is made of metal material to enhance heat dissipation. It has excellent adaptability to the industrial site environment (including mechanical stability, climate environment adaptability, electromagnetic environment adaptability, etc.). Protection level is IP40, support dual redundant power supply. Low power consumption, heat dissipation technology, MTBF can reach 35 years..

Model	RS-IS-300-12GPX
Interface Characteristics	
Fixed Port	4*1/10G uplink SFP+ ports Power off alarm switch port (FAULT) 8*10/100/1000Base-T PoE ports 4*10/100/1000Base-T uplink RJ45 ports 2 set of V+, V- redundant DC power ports (6 Pin Phoenix terminal)
Ethernet Port	10/100/1000Base-T(x) ports supports auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters)
Optical Fiber Port	Gigabit SFP optical fiber port and 10G SFP+ optical fiber port, default no include optical modules (optional single-mode / multi-mode, single fiber / dual fiber optical module. LC)
Optical Fiber Port Expansion	Turbo overclocking 2.5G optical module expansion and ring network
Optical Cable / Distance	Multi-mode: 850nm/ 0-500m(1G), 850nm/ 0-300m (10G) Single-mode:1310nm/ 0-40km, 1550nm/ 0-120km.

Chipset Parameters	
Network Management Type	L3
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX, IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3ae 10GBase-SR/LR, IEEE802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	104Gbps (Non-blocking)
Forwarding Rate@64byte	77.38Mpps
CPU	500MHz
DRAM	2G
FLASH	128M
MAC	32K
Buffer Memory	32M

Jumbo Frame	9.6K
LED Indicators	Fiber port: L/A (Green), PoE: PoE (Green) Power/ System: SYS (Green), Network: Link (Yellow)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings

## PoE & Power Supply

PoE Port	1 to 8, IEEE 802.3 af/at
PoE Management	PoE output power allocation, on/off & af/at, PoE working status Total power limit of PoE power supply, Delay start of power supply PoE output priority configuration, Scheduling of PoE operation and time
Power Supply Pin	1/2(+) 3/6(-)
Max Power Per Port	30W, IEEE 802.3 af/at
Total PWR / Input Voltage	120W (48VDC) or 240W (48VDC)
Power Consumption	Standby<15W, Full load af<120W, at<240W
Input Voltage / Interface	DC48-57V, 5 Pin industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply

## Physical Parameters

Operation TEMP / Humidity	-40°C~+80°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40°C~+85°C, 5%~95% RH Non condensing
Ingress Protection	IP40
Lighting Protection	4KV 8/20us IEC61000-6-2 (Common Industrial Standard) IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-3 (RS):10V/m (80-1000MHz) IEC61000-4-4(EFT): Power cable: ±4kV; data cable: ±2kV IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV IEC61000-4-6 (Radio frequency transmission): 10V(150kHz-80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s to 3s 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 IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s

<b>Mechanical Properties</b>	IEC60068-2-6 (anti vibration), IEC60068-2-27 (anti shock), IEC60068-2-32 (free fall)
<b>Dimension (L*W*H)</b>	166*150*75mm
<b>Net / Gross Weight</b>	<1.9kg / <2.4kg
<b>Installation</b>	Desktop, 35mm DIN rail

<b>Certification</b>	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
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## Software Features

<b>Interface</b>	<p>IEEE802.3X (Full-duplex)          Port temperature protection setting          No connection port automatic sleep          Port green Ethernet Energy-saving setting          Broadcast storm control based on port speed          SFP+ optical port DDMI real-time digital diagnosis          The speed limit of the message flow in the access port, minimum particle size is 64Kbps.</p>
<b>Layer 3 Features</b>	<p>IPv4 Equal Cost Routing          NG protocol, maximum 1000 entries          ARP protocol, maximum 1000 entries          Pingv6, Telnetv6, TFTPv6, DNSv6, ICMPv6          IPV4/IPV6 VRRP, the maximum group is 255          IPV4/IPV6 VLANIF interface supports up to 128          IPV4/IPV6 static route/default route supports up to 128 entries          IPV4 dynamic routing, RIPv1/v2, OSPFv2, BGP4+, 4000 routing entries          IPV6 dynamic routing OSPFv3, BGP+, RIPng, IPV6 management, 1000 routing entries          L3 network management function, IPV4/IPV6 dual-stack management          L3 routing and forwarding, support communication between different network segments and different VLAN</p>
<b>VLAN</b>	<p>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.</p>
<b>Port Aggregation</b>	<p>802.3ad LACP dynamic aggregation, Static aggregation;          Max. 8 aggregation groups and 8 ports per group.</p>
<b>Spanning Tree</b>	<p>STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)</p>
<b>Industrial Ring Network Protocol</b>	<p>Support ERPS ring network, ring network self-healing time is less than 20ms, ITU-T G.8032; Max. 250 Rings; Max. 250 devices per ring.</p>
<b>Multicast</b>	<p>MLD Snooping v1/v2, Multicast VLAN          IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out</p>
<b>Port Mirroring</b>	<p>Bidirectional traffic mirroring for basic ports</p>

<b>QoS</b>	Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Flow-based Packet Filtering 8*Output queues of each port, 802.1p/DSCP priority mapping
<b>ACL</b>	Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc
<b>Security</b>	Broadcast storm control, Backup for host datum SSH 2.0, SSL, Port isolation, ARP message speed limit AAA & RADIUS, MAC learning limit, Mac black holes User hierarchical management and password protection IP-MAC-VLAN-Port binding, ARP inspection, Anti-DoS attack IP source protection, IEEE802.1X & MAC address authentication
<b>DHCP</b>	DHCP Client, DHCP Snooping, DHCP Server, DHCP relay
<b>Management</b>	Rubisec NMS platform cluster management (LLDP+SNMP) CPU real-time utilization status view, SNMP V1/V2/V3 Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration Cable length status detection, NTP clock, One-key recovery, LLDP FTP, TFTP, Xmodem, SFTP file upload and download management Ping detection, System work log, Web network management (HTTPS)
<b>System</b>	Category 5 Ethernet network cable Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer 10 or later TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network

Packing List	Content	Qty	Unit
Packing List	16-port 10G uplink L3 managed industrial PoE+ switch	1	SET
	RJ45-DB9 Line	1	PC
	User Guide	1	PC
	Warranty Card	1	PC

## Ordering Information

Model	Description
RS-IS-300-12GPX	L3 managed industrial PoE+ switch with 12*10/100/1000Base-T ports and 4*1/10G uplink SFP+ ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC power input and DIN rail mounting.