Overview

The RS-ES-300 Series is a 10G uplink full gigabit L3 managed PoE fiber switch family independently developed by Rubisec.

It has 24 or 48 *10/100/1000Base-T adaptive RJ45 ports and 4 *1/10G SFP+ slot ports. The RS-ES-300 Series PoE switches include support for IEEE 802.3af/at and higher power budgets, allowing more PoE devices to be powered by the switch and for devices to be installed in remote locations without immediate access to power outlets. Additionally, an extended Link Layer Discovery Protocol (LLDP) automatically negotiates and manages power fed to IEEE 802.3at PoE+ powered devices for optimal power distribution.

The RS-ES-200 Series Industrial Layer 2+ Gigabit Managed Switch is designed specifically to low power consumption, with fan, galvanized steel casing, and excellent heat dissipation ensure the stable operation. These rugged yet easy to deploy switches have superior environmental specifications compared to those of commercial network switches. With its hardened design combined with high availability network features, these switches form vital parts of any network infrastructure facilitating the increasing demand for smart cities, city-wide surveillance and wireless connectivity.

The RS-ES-300 Series combines comprehensive Layer 3 features of software image into a single, feature-rich, and cost-effective unified software image to enable simplified network installation and versatile integration into a variety of small to medium-sized enterprise applications.

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Models	RS-ES-300-28GPX	RS-ES-300-52GPX
Interface Characteristics		
Fixed Port	1*Console RS232 port 4*1/10G uplink SFP+ ports 24*10/100/1000Base-T PoE+ ports	1*Console RS232 port 4*1/10G uplink SFP+ ports 48*10/100/1000Base-T PoE+ ports
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-LR/SR, IEEE802.3x	
Forwarding Mode	Store and Forward (Full Wire Speed)	
Switching Capacity	128Gbps (Non-blocking)	216Gbps (Non-blocking)
Forwarding Rate@64byte	95.23Mpps	131Mpps
CPU	800MHz	Dual Core 1GHz
DRAM	2G	2G
FLASH	128M	256M
MAC	16K	32K
Buffer Memory	12M	16M

Jumbo Frame	12K	12K
LED Indicators	Power: PWR (Yellow), System: SYS (Yellow) Network: Link/ Act (Yellow), Fiber port: L/A (Green), POE: PoE (Green)	
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 24, IEEE 802.3 af/at	1 to 48, IEEE 802.3 af/at
PoE Management	PoE working status display, Port PoE on/off, af/at power distribution	
Power Supply Pin	1/2(+) 3/6(-)	
Max Power Per Port	30W, IEEE 802.3 af/at	
Total PWR / Input Voltage	600W (AC100-240V)	600W/ (AC100-240V)
Power Consumption	Standby<22W, Full Load<600W	Standby<30W, Full Load<600W
Power Supply	Built-in power supply, AC100~240V 50-60Hz, 6.6A	

Physical Parameters

Operation TEMP / Humidity	-20°C~+55°C, 5%~90% RH Non condensing	
Storage TEMP / Humidity	-40°C~+80°C, 5%~95% RH Non condensing	
Ingress Protection	IP30	
Lighting Protection	4KV 8/20us	
Dimension (L*W*H)	440*290*44.5mm	440*290*44.5mm
Net / Gross Weight	＜5.3kg /＜5.8kg	<4.8kg / <5.5kg
Installation	Desktop, 19-inch 1U cabinet	

Certification	**CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS**

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Software Features		
Interface	IEEE802.3x flow control (Full duplex) Port exception protection mechanism Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate Optical port SFP module DDMI real-time digital diagnosis Limit the rate of incoming and outgoing packet traffic, with min granularity of 16Kbps and max of 1Gbps Port EEE Green Ethernet Energy-Saving configuration and status view Jumbo frame configuration, the largest 12000byte	
Layer 3 Features	Support dual-stack management Support L2+ network management ARP protocol, 1024 entries at most RIPv1/v2, RIPng , OSPFv1/v2, OSPFv3 Support IPv4/ IPv6 static routing, each supporting 128 entries	
VLAN	VLAN based on MAC, VLAN based on the protocol Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol (4K) VLAN ID,1K VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration	
Port Aggregation	802.3ad LACP dynamic aggregation, Static aggregation, 8 ports per group	
Max. Agg. Group	14	26
Spanning Tree	STP BPDU Guard, BPDU filtering and BPDU forwarding STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)	
ERPS Ring Network	Support ERPS ring network, ring network self-healing time is less than 20ms, ITU-T G.8032	
Multicast	MLD Snooping, IGMP Snooping, Multicast VLAN User quick log out, MVR (Multicast VLAN registration) IGMP Snooping v1/v2/v3 and 1024 multicast groups at most	
Port Mirroring	Bidirectional traffic mirroring for basic ports Supports 1-to-multiple mirroring, supports up to 4 port sessions	
QoS	Queue Scheduling Algorithm (SP, WRR, SP+WRR) Flow-based Rate Limiting, Stream based redirection Flow-based Packet Filtering, 8*Output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark, L2-L3-L4 Priority	
ACL	ACL distribution based on port and VLAN L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.	

Security	802.1X Dynamic VLAN and Guest VLAN SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole Anti DoS attack, Port broadcast message suppression Port based and MAC Based IEEE802.1X authentication SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function Port isolation, IP Source Guard, ARP message speed limit function IP Source Guard function, AAA&RADIUS and TACACS+ certification Port Security, Hierarchical user management and password protection
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP relay
Management	Link Layer Discovery Protocol (LLDP) Viewing CPU instant utilization status Web network management (https), syslog Console/ AUX Modem/ Telnet/ CLI configuration Cable status check, Ping detection, System work log NTP clock, One click restore, SNMP V1/V2/V3, RMON4 Rubisec NMS platform cluster management (LLDP+SNMP) FTP, TFTP, Xmodem, SFTP file upload and download management Multiple Configuration File
System	Category 5 Ethernet network cable Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 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	10G uplink L3 managed PoE switch	1	SET
	RJ45-DB9 Line	1	PC
	AC Power Cable	1	PC
	Mounting Kits (Hanging Ear)	1	SET
	User Guide	1	PC
	Warranty Card	1	PC

Ordering Information

Model	Description
RS-ES-300-28GPX	L3 managed PoE switch with 24*10/100/1000BaseT ports and 4*1/10G SFP+ ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. Built-in power supply and support 1U/19-inch cabinet mount.
RS-ES-300-52GPX	L3 managed PoE switch with 48*10/100/1000BaseT ports and 4*1/10G SFP+ ports. Port 1-48 can support IEEE 802.3 af/at PoE standard. Built-in power supply and support 1U/19-inch cabinet mount.