



## ■ Overview

**RS-ES-450 Series switch supports fixed 24/48 port 10/100/1000M Base-T interfaces and 4 port 10G SFP+ uplink interfaces POE/POE+ models.**

RS-ES-450 series switch is a high-performance stackable L3 Lite access routing switch developed by Maipu. It is applied in enterprise campus network and easy to deploy Layer2/3 switching solution that offers enhanced security and 10GE uplinks, Static Route/RIP/OSPF, L2 Multicast, RST/M-LAG stacking enabled and flexible management like SDN management and Cloud managed. The RS-ES-450 series switch can be used as access devices on enterprise branch networks. The switches help build highly reliable enterprise campus networks that are easy to expand and manage.

RS-ES-450 series switch offers advanced redundancy and reliability features, catering to diverse networking requirements. In addition to supporting traditional spanning tree protocols such as STP, RSTP, and MSTP, the switch also complies with the ITU-T G.8032 international standard. This Ethernet Ring Protection Switching (ERPS) protocol enables rapid 50ms failover within Ethernet ring network topologies, ensuring seamless connectivity and minimal downtime.

RS-ES-450 series switch offers a comprehensive suite of security features, including user authentication, port security, ACLs, loopback detection, and 802.1X authentication. It also incorporates IP Source Guard, DHCP/ND Snooping, Host Guard, Dynamic ARP Inspection, and PPPoE+ security mechanisms. These robust security functions ensure user access and network protection.

Additionally, the switch supports MAC+IP+VLAN binding, 802.1X authentication, and countermeasures against network storm, DOS/DDOS, ARP, and protocol packet attacks. This makes the RS-ES-450 series ideal for large-scale, multi-service, and complex-traffic networks.

Models	RS-ES-450-28GPX	RS-ES-450-54GPX
<b>Hardware Specification</b>		
Physical Traffic Port	24*10/100/1000M Base-T interfaces 4*10G SFP+ interfaces	48*10/100/1000M Base-T interfaces 4*10G SFP+ interfaces,
Extension Slot	N/A	1
Power Supply	Dual Fixed AC	Dual Modular
PoE Power Consumption	380W	380W/760W
PoE Standard	IEEE 802.af/at	IEEE 802.af/at
Power Consumption	≤29W	≤46W
(Without PoE)	442*380*44.2	442*420*44.2
Dimension (W*D*H)mm	442*380*44.2	442*420*44.2
Physical Management Port	1*RJ45 Console 1*USB2.0 Port	
Input Voltage	AC:100—240V/50-60Hz	
Temperature	Work Temperature: -5 C° to 50 C° Storage Temperature: -40 C° to 70 C°	
Humidity	Work Humidity:10% ~ 90%, non-condensing Storage Humidity:5% ~ 95%, non-condensing	
Anti-Lightning	6KV	
Anti-Static	6KV	

<b>Performance Parameters</b>		
Switching Capability	128Gbps	216Gbps
MAC Address Entry	16K	32K
Jumbo Frame	12K	12K
ARP Entry	2K	8K
ND Entry	1.5K	8K
VLAN Entry	4K	4K
LACP Group	64	64
LACP Member in Group	8	8
MSTP Instance	64	64
L2 Multicast Entry	3K	6K

Software Specification		
Interface	Physical Interface	Auto MDI/MDIX, Port Type UNI/NNI, Port Speed, Port MTU, Switch Port, Port Loopback, Port Energy Control
	Logic Interface	Loopback Interface, L2/L3 VLAN Interface, L3 Ethernet Interface
	MAC Address Management	Storm Control, Flood Control, MAC Address Aging Time, Mac Address Learning on/off, Mac Address Learning Limitation, Mac Address VLAN Bunding, MAC Debug
VLAN	VLAN Management	VLAN, QinQ, Flexible QinQ, VLAN PVID, VLAN Tag/Untag, VLAN Trunk, MAC VLAN, Protocol VLAN, Subnet VLAN, Super VLAN, Voice VLAN, Private VLAN, Guest VLAN, VLAN Debug, GVRP, VLAN Isolation
Ring Protection	Spanning Tree Protocols	STP/RSTP/MSTP, BPDU Guard, Flap Guard, Loop Guard, Root Guard, TC Guard
	Other Ring Protocols	VIST/VIST+, G.8032(ERPSv1&v2)
Link Aggregation	LACP Configuration	LACP Link Aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug
Error Handling	Error-disable Configuration	Error-disable Based on bpduguard Dai DHCP Snooping Link-Flap Loopback-detect Port Security Storm Control Transceiver Power, Error-disable Recovery
Fault Detection	Fault Detection Features	ULFD, Track, Loop-back Detection, CFM(802.1ag)
IP Services	IP Protocol	ARP, DNS, NTP Server/Client, ICMP
	Routing Protocol	Static Routing v4/v6, RIP/RIPng, OSPF v2/v3
	DHCP Service	DHCP v4/v6 Server, DHCP v4/v6 Client, DHCP v4/v6 Relay, DHCP Snooping, DHCP Option51/82
Multicast Protocols	L2 Multicast Protocols	IGMPv1/v2/v3 Snooping, IGMP Snooping Proxy, MLD Snooping, MVR, MVP
QoS	Priority Mapping	802.1P Priority, DSCP priority
	Traffic Classification	Three Color Marker, Priority Remark, Traffic Redirect, Traffic Meter, Traffic Mirror
	Traffic Control	Rate Limit, Traffic Shaping
	Scheduling Algorithm	SP, RR, WRR, WDRR, SP+WRR, SP+WDRR
	Congestion Management	Tail-drop, RED, WRED
Security	Port Security	Port Security On aging deny permit violation ACL
	Network Access Control	IP Source Guard(ISG), DHCP Snooping, ND Snooping, Host Guard
	Threat Prevention	Dynamic ARP Inspection(DAI), ARP Check, AARF ARP-Guard, ARP Speed Limit, ARP Source Suppression, PPPoE+
	Access Control List	Standard IP ACL, Extended IP ACL, Standard MAC ACL, Extended MAC ACL, Standard Hybrid ACL, Extended Hybrid ACL, Standard IPv6 ACL, Extended IPv6 ACL, Time-based ACL
	Anti-Attack	Anti-Attack Detect Drop Flood Log, URPF, White List, Black List

**Software Specification**

	AAA	AAA, Radius, TACACS+, 802.1x, Portal
High Availability	Device Virtualization	H-VST, M-VST
	Multi-Active Detection	MAD LACP, MAD BFD, MAD Fast-Hello, MAD LACP
	High Availability Protocols	HA, ULFD, UDLD, G.8032, ULPP, Monitor Link, EEP, BFD with Static Route
Configuration and Maintenance	Monitoring and Diagnostics	SPAN, RSPAN, VLAN SPAN, sFlow, Telemetry, LLDP
	Device Management	TR069, SNMP v1/v2/v3, MIB, RMON, SYSLOG, WEB(HTTP/HTTPS), CLI, Telnet, FTP/SFTP/TFTP/FTPS, Debug, Telemetry, ISSU, Hot Patch, Keepalive Gateway
	Zero Touch Provisioning	ZTP Provisioning Through DHCP Server, ZTP Provisioning Through USB Flash Disk, Cloud Management
Network Virtualization	Software Defined Networking (SDN)	Netconf/Yang

Model	Description
<b>Order Information</b>	
RS-ES-350-28GPX	24*100/1000M Base-T interfaces, 4*10G SFP+ interfaces, PoE Enable, Fixed Dual AC Power Supply.
RS-ES-350-54GPX	48*100/1000M Base-T interfaces, 4*10G SFP+ interfaces, One Extension Slot, PoE Enable, Dual Power Slots.
RS-EXP-SFP-2X	2-Port 10G SFP+ Extension Module (For RS-ES-350-54GPX)
RS-PWR-45-500	500W AC Power Module (For RS-ES-350-54GPX)

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Visit our website or contact your local Rubisec representative for more information.

Email: info@rubisec.com

Call us at: +382 69 050381

Main office: XVI Ulica, Lokal br. 7 Budva - Montenegro

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