



Product introduction

L3 multi-functional network management switch adopts Realtek's new generation high-performance platform and new self-developed switch system, and supports flexible network management functions such as 802.1Q VLAN, IGMP, port monitoring, port aggregation, bandwidth control, ring application, etc. This series of switches is specially designed for the construction of high-performance complex network requirements, providing a comprehensive security protection system, perfect qo5 strategy and rich VLAN functions, simple management and maintenance, and can be applied to the core layer of small and medium-sized enterprises, communities and schools. Optional PoE capability provides IEEE 802.3af/at compliant PoE output to device ports to power IP phones, IP cameras and other PoE endpoints. Potential applications include machine tools, oil and gas, food processing machines, elevators, building automation, power utilities, traffic control, transportation and more.

Port performance

- Supply 48*10/ 100/1000M PoE ports, all of which can realize line speed forwarding
- Supply 4 SFP ports for high-speed uplink transmission
- Each port supports MDI/ MDIX auto flip and duplex / rate self negotiation
- Support IEEE 802.3x full duplex flow control and backpressure half duplex flow control

Functional features

- Add a variety of new applications based on IPv6, easily adapt to modern complex network management applications
- Support IEEE 802.1Q VLAN, users can divide VLAN flexibly according to their needs
- Support voice VLAN, configure QoS parameters for voice data stream, improve the transmission priority of voice data stream and ensure the call quality
- It supports QoS, supports port based, 802.1p and DSCP based priority modes to optimize the bandwidth configuration
- It supports ACL, achieves packet filtering by configuring matching rules, processing operations and time permissions, and provides flexible security access control policies
- Support IGMP V1 / V2 multicast protocol, support IGMP snooping, meet the

requirements of multi terminal HD video monitoring and video conference access

- Support multicast VLAN, multicast filtering, efficient data transmission, save network bandwidth, reduce network load
- Support port monitoring, copy the data package of monitored port to the monitoring port to realize network monitoring
- Support the management and maintenance of equipment through web interface
- Supports port convergence, effectively increases link bandwidth, realizes link backup and improves link reliability

Security & Protection

- STP / RSTP / MSTP spanning tree protocol is supported to eliminate layer-3 loops and realize link backup
- Support tree security function, prevent devices in tree network from being attacked by various forms of malicious
- It supports static aggregation and dynamic aggregation, effectively increases link bandwidth, realizes load balancing, link backup, and improves link reliability

Running and Maintenance

- Support web management, CLI command line (console, telnet), SNMP (v1/v2/v3) and other diversified management and maintenance methods
- Supports HTTPS, SSL V3, tlsv1, sshv1/v2 and other encryption methods, and makes management more secure
- Supports RMON, system log and port traffic statistics to facilitate network optimization and transformation
- Users can know the working status of the switch through the power indicator (PWR), port status indicator and system status indicator (sys)

Packing list

- AC power cable
- User manual & warranty card
- Rack hanger

Product Parameter

Product	Full Gigabit 4SFP+48GE L3+ Managed Switch
Fixed port	48*10/100/1000Base-TX port

	4*100/1000/10000M SFP
Poe port	4*BT+44*AF/AT
Console port	1*console port
Reset key	1
Network protocol	IEEE 802.3 IEEE 802.3u 100BASE-TX IEEE 802.3ab1000BASE-T IEEE 802.3x IEEE 802.3z 1000BASE-X IEEE 802.3ad IEEE 802.3q 、 IEEE 802.3q/p IEEE 802.1w 、 IEEE 802.1d 、 IEEE 802.1S STP(Spanning Tree Protocol) RSTP/MSTP(Rapid Spanning Tree Protocol) EPPS ring network protocol EAPS ring network protocol
Bandwidth	512Gbps
Packet forwarding	160.71Mpps
MAC address	32K
Buffer	25M
Transmission distance	10BASE-T : Cat3,4,5 UTP(≤250 meter) 100BASE-TX : Cat5 or later UTP(≤100 meter) 1000BASE-TX : Cat6 or later UTP(≤1000 meter) 1000BASE-SX:62.5μm/50μm MMF(2m~550m) 1000BASE-LX:62.5μm/50μm MM(2m~550m) or 10μm SMF(2m~5000m)
FLASH	512M
RAM	512M
CPU	MIPS-34Kc dual-core 1GHz
DDR	4G DDR3
LED indicator	PWR:Power LED SYS: System LED Link LED; 1000M LED; PoE LED COMBO LED
Power	Built-in power AC: 100-240Vac 50-60Hz 0.7A max 800W
Operating temperature/Humidity	-10~+55°C; 5%~90% RH Non coagulation
Storage temperature/Humidity	-40~+75°C; 5%~95% RH Non coagulation
Product size/ package size (L*W*H)	440mm*360mm*45mm 553mm*403mm*93mm
N.W/G.W (kg)	5.56 /6.35kg
Installation	Rack-mount(optional machine hanger spare parts)
Lightning protection/ protection level	6KV 8/20us; IP30

Warranty	Whole device for 1 year(Accessories not included)
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Software Function

Features	L3 Switch
Port	
Number of Copper Gigabit ports	Maximum 48 ports
Number of Fiber Gigabit ports	Maximum 24 ports
Number of Fiber 10G ports	Maximum 4 ports
Port Shutdown	Support
Port Speed	Support autonegotiate, full-1000, full-100, half-100, full-10, half-10
Flow Control	support full-duplex IEEE 802.3x, half-duplex back pressure
Storm Control	Supports rate limit for broadcast, multicast, and DLF packets
Storm Constrain	Support the detection of broadcast packets, multicast packets, or unicast packets on the port, shutdown the port if the rate is over the threshold.
Port Mirror	Support
Port Rate Limit	Support port ingress and egress rate limit
Link Aggregation	Support manual link aggregation Support LACP dynamic link aggregation Supports up to 32 aggregation groups, each group up to 8 ports Support source MAC, destination MAC, source destination MAC, source IP, destination IP, source destination IP routing strategy
Port Isolate	Support
Jumbo Frame	Support up to 16KB packet
Redundant Port	Support
The DDM of fiber ports	Support
MAC	
MAC Table Capacity	16K
MAC Table Management	Support
Forwarding mode	Support IVL forwarding mode
Static MAC Address	Support
MAC Address Binding	Support
MAC Address Filtering	Support
MAC Learning Control	Control the MAC learning based on port
VLAN	
Number of VLANs	4K
802.1q-based VLAN	Support

MAC-based VLAN	Support
IP-based VLAN	Support
Protocol-based VLAN	Support
PVLAN	Support
Voice VLAN	Support
VLAN Mapping	Support 1:1 mapping
QinQ	Support basic QinQ Support flexible QinQ
Reliability	
Spanning Tree Protocol	Support STP/RSTP/MSTP
Port Loop Detection	Support
EAPS	Support RFC3619
ERPS	Support G.8032/Y.1344
LLDP	Support LLDP & LLDP-MED
UDLD	Fully compatible with CISCO's UDLD protocol
VLLP (VRRP Layer-2 Loop Protection)	Support, Only used with VRRP
L3	
ARP	Support static and dynamic ARP
Static Route	Support static route based on IPv4 and IPv6
VLAN Interface	Support 32 VLAN interfaces
RIP	Support RIP v1/v2 & IPv6 RIPng
OSPF	Support OSPFv2 & IPv6 OSPFv3
BGP	Support BGP4 & IPv6 BGP4+
Policy Route	Support
VRRP	Support
Multicast	
Static Multicast MAC Address	Support
IGMP SNOOPING	Support IGMP SNOOPING v1/v2/v3 Support IGMP Querier Support IGMP SNOOPING Filter
MVR	Support
GMRP	Support
IGMP	Support IGMP v1/v2/v3
PIM-SM	Support
ACL	
Standard IP-based ACL	Support
Extended IP based ACL	Support
MAC IP-based ACL	Support

MAC ARP-based ACL	Support
ACL Port Filtering	Support
Time-based ACL	Support
QoS	
Port Queue Number	8
Port Queue Scheduling Mode	Support WRR, RR, WDRR, SP
Port-based Classification	Support
802.1p-based Classification	Support
DSCP-based Classification	Support
ACL-based Classification	Support
QoS Policy	Support packets mapping to queue Support COS or DSCP Remarking Support rate limits of data flow Support data flow statistics Support mirroring of data flow
DHCP	
DHCP Client	Support
DHCP Snooping	Support
DHCP Relay	Support
DHCP Server	Support
DHCP option 82	Support
Management	
CLI Management	Support Console, Telnet and SSH Support multiple TELNET connections based on IPv4 and IPv6 Support multiple SSH connections based on IPv4 and IPv6
WEB Management	Support HTTP based on IPv4 and IPv6 Support HTTPS based on IPv4 and IPv6
SNMP Management	Support SNMP v1, v2c, v3 Support SNMP TRAP Support lots of standard and private MIBs Support SNMP and TRAP based on IPv4 and IPv6
User Management	Support multiple user management
TACACS+	support switch authentication via TACACS+ server remote username and password Support password encryption in PAP and CHAP mode Support TACACS+ server to authorize the switch's commands Support TACACS+ based on IPv4 and IPv6
Log Management	Support local log management Support SYSLOG
RMON	Support RMON 1, 2, 3 and 9 groups

Cluster Management	Support NDP Support NTDP Support manual and automatic joining of cluster groups Support cluster unified management
Configuration File	Support uploading and downloading configuration file Support TFTP transmission based IPv4 and IPv6
Upgrade software	Support TFTP transmission based IPv4 and IPv6
Clock Management	Support local clock management Support SNTP
Security	
Switch Management Security	Support enabling and disabling TELNET、SSH、HTTP、HTTPS and SNMP services Support TELNET、SSH、HTTP、HTTPS and SNMP services to bind to standard IP ACLs Support for limiting the number of TELNET and SSH connections
CPU Protection	The switch's own security protection prevents large data streams from attacking the switch itself.
AAA	Support 802.1x Support RADIUS Supports authentication, authorization, and accounting through RADIUS server Support port-based and MAC-based 802.1x Support 802.1x guest VLAN
IP MAC Binding	Support static configuration of IP, MAC and port binding
DHCP SNOOPING	Support dynamic ARP binding to prevent ARP spoofing Support dynamic IP, MAC and port binding Support fixed port to connect to DHCP server to prevent private connection to DHCP server
Prevent ARP Spoofing	Support manually configuring MAC ARP-based ACL rules to prevent ARP spoofing. Support the DHCP SNOOPING function. During the process of obtaining an IP address by DHCP, the switch dynamically binds ARP to the port to prevent ARP spoofing.
POE	
Supported PoE chips	MAX5980,LTC4259,LTC4271,TPS23851,TPS23861,TPS23880,TPS23881,IP808,PD69100/69108,PD69200/69208, etc.
Switch Control	Support POE powering of ports on and off
Power Control	Support setting total power
Other Advanced Features	Support POE scheduling policy and PD online query, etc.
IPv6	
IPv4/IPv6 Dual Protocol Stack	Support

IPv6 Address	Support manual address configuration and stateless address auto-configuration
IPv6 Neighbor Discovery	Support
ICMPv6	Support
IPv6 Path MTU Discovery	Support
Debugging	
PING	Support
PING6	Support
TRACEROUTE	Support
TELNET Client	Support TELNET client based IPv4 and IPv6
SSH Client	Support SSH client based IPv4 and IPv6