RP-PG2852X

48-P Gigabit + 4-SFP+ (1G/10G) Slot L2+ Managed PoE+ Switch

RP-PG2852X L2+ managed GbE PoE+ switch is the next-generation Ethernet Switches offering full suite of L2 features, additional 10GbE uplink connections, better PoE functionality and usability, including advanced L3 features such as Static Route. In addition to the extensive management features, RP-PG2852X also provide carrier Ethernet features such as ERPS/EPS/PTPv2, of which make them suitable for carrier Ethernet applications.

RP-PG2852X delivers 48 (10M/100M/1G) RJ45 with 48 PoE+ (Support 802.3at/af, and total up to 740W or 370W) ports, 4 10GbE SFP+ ports and RJ45 Console port. RP-PG2852X provides high HW performance and environment flexibility for SMBs and Enterprises.

The embedded Device Managed System (DMS) features provides users with the benefits of easy-to-use/configure/install/troubleshoot in the video surveillance, wireless access, and other SMBs and Enterprises applications. RP-PG2852X is ideal to deliver management simplicity, better user experience, and lowest total cost of ownership.

Feature

- L2+ Managed features provide easier manageability, robust security and QoS.
- Built in Device Management System (DMS)
- ITU-T G.8031 Ethernet Linear Protection Switching (EPS)
- ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
- IEEE 1588v2 PTP
- DHCP Server
- IPv4/IPv6 Management
- PoE Port configuration and scheduling
- 802.3at high power PoE plus standard
- IEEE 802.3az EEE Energy Efficient Ethernet standard for green Ethernet

Specification

Standards	• IEEE 802.3/3u 10Base-T, 100Base-TX Ethernet • IEEE 802.3ab 1000Base-T Ethernet • IEEE 802.3z 1000Base-X Ethernet • IEEE 802.3x Flow Control capability • IEEE802.3at/af PoE standard • IEEE802.3az Energy Efficient Ethernet
Interface	• Port 1 to 48: RJ-45 10/100/1000Mbps with 802.3af/at PoE, auto MDI/X, • Port 49 to 52: SFP+(1G/10G Mbps) slot • RJ-45 Console port
Forwarding Capacity	• 130.944 Mpps
Switching Capacity	• 176 Gbps
Jumbo frames	• 14000 Bytes
MAC Table	• 32K MAC addresses
Ring Management	
ITU-T G.8031	• Supports ITU-T G.8031 Ethernet Linear Protection Switching
ITU-T G.8032	• Supports ITU-T G.8032 Ethernet Ring Protection Switching
Layer 2 Switching	
Spanning Tree Protocol (STP)	• Standard Spanning Tree 802.1d • Rapid Spanning Tree (RSTP) 802.1w • Multiple Spanning Tree (MSTP) 802.1s
VLAN	• 802.1Q tag-based VLAN: Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) • Port-based VLAN: A port member of a VLAN can be isolated to other isolated ports on the same VLAN and Private VLAN • Private VLAN Edge (PVE): Private VLANs are based on the source port mask, and there are no connections to VLANs. This means that VLAN IDs and Private VLAN IDs can be identical • Voice VLAN: The Voice VLAN feature enables voice traffic forwarding on the Voice VLAN • Guest VLAN: The IEEE 802.1X Guest VLAN feature allows a guest VLAN to be configured for each 802.1X port on the device to provide limited services to non-802.1X-compliant clients • Q-in-Q (double tag) VLAN: Business customers of service providers often have specific requirements for VLAN IDs and the number of VLANs to be supported • 802.1v Protocol VLAN: Classifying multiple protocols into a single VLAN often imposes VLAN boundaries that are inappropriate for some of the protocols, requiring the presence of a non-standard entity to relay between VLANs the frames bearing the protocols for which the VLAN boundaries are inappropriate • MAC-based VLAN: The MAC-based VLAN feature allows incoming untagged packets to be assigned to a VLAN and thus classify traffic based on the source MAC address of the packet • IP Subnet-Based VLAN: In an IP subnet–based VLAN, all the end workstations in an IP subnet are assigned to the same VLAN. In this VLAN, users can move their workstations without reconfiguring their network addresses

	• Management VLAN: Management VLAN is used for managing the switch from a remote location by using protocols such as telnet, SSH, SNMP, syslog etc

LACP Trunking	• Link Aggregation Control Protocol (LACP) IEEE 802.3ad: Controls whether LACP is enabled on this switch port. LACP will form an aggregation when 2 or more ports are connected to the same partner
	  ▪ Up to 26 groups
	  ▪ Up to 16 ports per group

GARP VLAN Registration Protocol (GVRP)	• GVRP stands for GARP (Generic Attribute Registration Protocol) VLAN Registration Protocol. It's a Layer 2 network protocol, for automatic configuration of switches in a VLAN network
DHCP Relay	• Relay of DHCP traffic to DHCP server in different VLAN. • Works with DHCP Option 82
IGMP v1/v2/v3 snooping	• IGMP limits bandwidth-intensive multicast traffic to only the requesters • Supports 1024 multicast groups
IGMP Querier	• IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
IGMP Proxy	• IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 snooping	• Deliver IPv6 multicast packets only to the required receivers
Multicast VLAN Registration (MVR)	• It uses a dedicated manually configured VLAN, called the multicast VLAN, to forward multicast traffic over Layer 2 network in conjunction with IGMP snooping
Layer 3 Switching	
IPv4 Static Routing	• IPv4 Unicast: Static routing
IPv6 Static Routing	• IPv6 Unicast: Static routing
Quality of Service	
Hardware Queue	• Supports 8 hardware queues
Classification	• Port based: Traffic QoS by Port • 802.1p: VLAN priority based Layer 2 CoS QoS, Class of service is a parameter used in data and voice protocols to differentiate the types of payloads contained in the packet being transmitted • DSCP based Differentiated Services (DiffServ) Layer 3 DSCP QoS: IP packets can carry either an IP precedence (IPP) value or a Differentiated Services Code Point (DSCP) value. QoS supports the use of either value because DSCP values are backward-compatible with IP precedence values • Classification and re-marking TCP/IP ACLs: QoS by ACL
Rate Limiting	• Ingress policer • Egress shaping and rate control • Per port
Scheduling	• Strict priority and weighted round-robin (WRR): Weighted Round Robin is a scheduling algorithm that uses weights assigned to queues to determine how much data will be emptied from a queue before moving to the next queue
Security	

ACLs	• Supports up to 512 entries. Drop or rate limitation based on:
	  ▪ Source and destination MAC, VLAN ID or IP address, protocol, port
	  ▪ Differentiated services code point (DSCP) / IP precedence

	■ TCP/ UDP source and destination ports ■ 802.1p priority ■ Ethernet type ■ Internet Control Message Protocol (ICMP) packets ■ TCP flag
Port Security	• Locks MAC addresses to ports, and limits the number of learned MAC address
IP Source Guard	• Prevents illegal IP address from accessing to specific port in the switch
Storm Control	• Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
IEEE 802.1X	• IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions • Supports IGMP-RADIUS based 802.1X • Dynamic VLAN assignment
TACACS+	• Supports TACACS+ authentication. Switch as a client
Secure Shell (SSH)	• SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	• SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch
HTTPs and SSL (Secured Web)	• Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP
BPDU Guard	• The BPDU guard, an enhancement to STP, removes a node that reflects BPDUs back in the network. It enforces the STP domain borders and keeps the active topology predictable by not allowing any network devices behind a BPDU guard-enabled port to participate in STP
DHCP Snooping	• A feature acts as a firewall between untrusted hosts and trusted DHCP servers
Loop Protection	• To prevent unknown unicast, broadcast and multicast loops in Layer 2 switching configurations.
Management	
IEEE 1588v2 PTP	• Support IEEE 1588 v2 PTP (Precision Time Protocol)
DHCP	• DHCP Server: Support DHCP server to assign IP to DHCP clients • DHCP client: The Dynamic Host Configuration Protocol (DHCP) is a standardized network protocol used on Internet Protocol (IP) networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services
Event/Error Log	• Support SNMP Trap/Syslog/SMTP
SNMP	• SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Remote Monitoring (RMON)	• Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
Firmware Upgrade	• Web browser upgrade (HTTP/ HTTPs) and TFTP • Upgrade through console port as well
Configuration Export/Import	• update of the firmware controlling the switch
Port Mirroring	• Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports

	can be mirrored to single destination port. A single session is supported
IEEE 802.1ab (LLDP)	• Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network • Support LLDP-MED (ANSI/TIA-1057) extensions
UPnP	• The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play
CDP Aware	• The CDP operation is restricted to decoding incoming CDP frames (The switch doesn't transmit CDP frames). CDP frames are only decoded if LLDP on the port is enabled
s-Flow	• The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
Web GUI Interface	• Built-in switch configuration utility for browser-based device configuration
CLI	• For users to configure/manage switches in command line modes
Dual Image	• Independent primary and secondary images for backup while upgrading
NTP	• Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched
Switch Management	• HTTP/HTTPs • SSH • DHCP Client/ DHCPv6 Client • Telnet Client • IPv6 Management
Diagnostics	• Cable diagnostics • Ping • Syslog
Power over Ethernet (PoE)	
Port Configuration	• Supports per port PoE configuration function
PoE Scheduling	• Supports per port PoE scheduling to turn on/off the PoE devices (PDs)
Auto-checking	• Check the link status of PDs. Reboot PDs if there is no responses
Power Delay	• The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs
PoE Power Budget	• 740 Watts or 370Watts
Power Supply	• Internal Power supply 100~240VAC, 50/60 Hz
Environment	• Operating temperature: 0°C to 50°C • Storage Temperature: -20 to 70°C • Operating Humidity: Up to 95% (Non-Condensing)
Dimension	• 442 x 44 x 375mm (WxHxD)
Certification	• FCC, CE, EN61000-4-5 (for RJ45 Port, Surge 6KV)

Ordering information

RP-PG2852X 48-P Gigabit + 4-SFP+ (1G/10G) slot L2+ Managed PoE+ Switch (740W)

RP-PG2852XL 48-P Gigabit + 4-SFP+ (1G/10G) slot L2+ Managed PoE+ Switch (370W)

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