

# OSIRIS 1012-POE+



Positron Access Solutions’ next generation OSIRIS 1012-POE+ Ethernet Switch Platform improves and simplifies the installation, operation, provisioning and powering of Ethernet devices. This managed POE+ switch offers powerful Layer-2 features with the basic Layer-3 features needed by most MTU-MDU and business customers. It is also a great fit for wireless sites that incorporate multiple radio devices that need Power over Ethernet (POE/POE+) and aggregation services. It delivers the best cost performance and lower total cost of ownership and is the ideal companion to the carrier-grade OSIRIS 1024-F 10 Gigabit optical Ethernet switch.

The OSIRIS 1012-POE+ supports 8 Gigabit Ethernet ports (RJ-45) with POE+ as per IEEE 802.3af (POE with 15W per port) and IEEE 802.3at (POE+ with 30W per port) for a total of 130W to all the POE ports. It also includes two (2) dual-footprint (RJ-45 and SFP) Gigabit optical ports for fast aggregation of the POE+ ports to the OSIRIS 1024-F. With support for Energy Efficient Ethernet (as per IEEE 802.3az), customers can reduce their power consumption and take advantage of the state-of-the-art features of the OSIRIS 1012-POE+.

The OSIRIS 1012-POE+ delivers advanced functionality including Layer-3 static routing, DHCP Server, IPv6 support, Link Layer Discovery, etc. It offers comprehensive Quality of Service (QoS) and Security features such as IP Source Guard and Access Control List to protect your network from unauthorized access.

Feature	Description
<b>Performance</b>	
Switching Capacity and Forwarding Rate	Capacity in Millions of Packets per Second (Mpps) (64-byte packets)
	17.8 Mpps
Switching Capacity in Gigabits per Second (Gbps)	
24 Gbps	
<b>Layer 2 Switching</b>	
Spanning Tree Protocol	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad <ul style="list-style-type: none"> <li>• Up to 6 groups</li> <li>• Up to 8 ports per group</li> </ul>
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) <ul style="list-style-type: none"> <li>• Port-based VLAN</li> <li>• IEEE 802.1Q tag-based VLAN</li> <li>• IEEE 802.1ad (Q-in-Q) double tag VLAN</li> <li>• MAC-based VLAN</li> <li>• Management VLAN</li> <li>• Private VLAN Edge (PVE)</li> </ul>
Voice VLAN	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS
Generic VLAN Registration (GVRP)	Protocols for automatically propagating and configuring VLANs in a bridged domain

DHCP Server	Supports DHCP server to assign addresses to IPv4 client devices
DHCP Snooping	DHCP snooping provides security by filtering un-trusted DHCP messages and by building and maintaining a DHCP snooping binding table
DHCP Relay	By supporting DHCP option 82, it is possible to forward DHCP requests to another specific DHCP server via DHCP relay. The DHCP servers may be on another network
IGMP v1/v2/v3 snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
IGMP Query	IGMP query is used to support layer-2 multicast domain in the absence of a multicast router
MLD v1/v2 snooping	Deliver IPv6 multicast packets only to the required receivers
<b>Layer 3 Support</b>	
IPv4 Static Routing	Static routing of IPv4 unicast traffic
IPv6 Static Routing	Static routing of IPv6 unicast traffic
<b>Security</b>	
Secure Shell (SSH) Protocol	SSH secures Telnet traffic in or out of the switch, SSH v1, 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
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
Layer 2 Isolation Private VLAN Edge (PVE)	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN, supports multiple uplinks
Port Security	Locks MAC Addresses to ports and limits the number of learned MAC addresses
IP Source Guard	Prevents datagram with spoofed addresses from being in the network
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. OSIRIS 1012-POE+ switch acting as a RADIUS client
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
ACLs	Supports up to 256 entries Drop or rate limitation based on: <ul style="list-style-type: none"> <li>• Source and destination MAC, VLAN ID or IP address, protocol, port</li> <li>• Differentiated Services Code Point (DSCP)/ IP precedence</li> <li>• CP/ UDP source and destination ports</li> <li>• 802.1p priority</li> <li>• Ethernet type</li> <li>• Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag</li> </ul>

<b>Quality of Service</b>	
Hardware Priority Queue	Support 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service (802.1p/ CoS)
Classification	Port based: 802.1p VLAN priority based; IPv4/IPv6 precedence/ Type of Service (ToS)/ DSCP based Differentiated Services (DiffServ); Classification and re-marking ACLs; Trusted QoS
Rate Limiting	Ingress policer Egress shaping and rate control per VLAN, per port and flow based
<b>Management</b>	
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPS). Supports configuration, system dashboard, maintenance and monitoring
CISCO-like CLI	Facilitates the use of scripting to configure and manage the OSIRIS 1012-POE+ from the secure command line
Dual Image	Dual image provides independent primary and secondary OS files for backup while upgrading
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Remote Monitoring (RMON)	Embedded RMON software agent supports RMON groups 1,2,3,9 (history, statistics, alarms and events) for enhanced traffic management, monitoring and analysis
IPv4 and IPv6 Dual Stack	Coexistence of both protocol stacks to migration
Firmware Upgrade	Web browser upgrade (HTTP/ HTTPS) and TFTP Upgrade through console port as well
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.
Network Time Protocol (NTP)	NTP for clock synchronization over packet switched networks
Other Management	HTTP/HTTPS; SSH; RADIUS; DHCP Client/ DHCPv6 Client; SNMP; cable diagnostics; ping; syslog; Telnet client (SSH secure support), IPv6 management
uPnP	Support the Universal Plug and Play (uPnP) Forum standard to enable device-to-device interoperability
s-Flow	The industry standard technology for monitoring high speed switched networks. It is enabling performance optimization, accounting/billing for usage, defense against security threats
<b>Green Ethernet</b>	
Energy Detect	Compliant IEEE 802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or idle of client. Active mode is resumed without loss of any packets when the switch detects the link up
Cable Length Detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables

General	
Jumbo Frames	Frame sizes up to 9 KB supported on Gigabit interfaces
MAC Table	Up to 32 K MAC addresses
Discovery	
Link Layer Discovery Protocol (LLDP) (IEEE 802.1ab) with LLDP-MED Extensions	Used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802.1ab local area network, principally wired Ethernet
Power Over Ethernet (POE)	
Port Configuration	Supports per-port configuration of the POE settings
POE Scheduling	Support per-port POE scheduling to turn on/off user devices powered via POE
Auto-Checking	Verifies the link status between the POE ports and the connected powered devices. When there is no response from the powered device, the POE port can automatically reboot the powered device
Power Delay	The POE port can be configured to delay providing power to the remote device when the OSIRIS 1012-POE+ switch reboots. This help control the required power drawn simultaneously by the POE devices

Interface				
Model Name	Total System Ports	UTP (100M/GigE) with POE	1GigE Dual Footprint RJ-45 and SFP	Console port
OSIRIS 1012-POE+	10	8 Gigabit ports (RJ-45) with support for IEEE 802.3at – POE+	2	RJ-45

Environmental	
Dimensions	8.7" (220 mm) Width x 1.73" (44 mm) Height x 9.53" (242 mm) Depth
Weight	5.1 lbs (2.3 kg)
Power	100-240 VAC 50~60 Hz, internal, universal
IEEE 802.3af (POE) and IEEE 802.3at (POE+)	8 ports with IEEE 802.3at (POE+) up to 30W per port Total POE power available: 130W
Certification	CE Mark, FCC Part 15 Class A

Part Number	Speed	Wavelength	Media Type	Reach
SFP-850-500M-1G	1 Gb/s	850nm	Multimode	550 m
SFP-1310-10K-1G	1 Gb/s	1310nm	Single Mode	10 km
SFP-1310-1490-10K-1G	1 Gb/s	1310 - 1490nm	Single Mode	10 km
SFP-1490-1310-10K-1G	1 Gb/s	1490 - 1310nm	Single Mode	10 km
SFP-1310-1490-20K-1G	1 Gb/s	1310 - 1490nm	Single Mode	20 km
SFP-1490-1310-20K-1G	1 Gb/s	1490 - 1310nm	Single Mode	20 km
SFP-1310-1490-40K-1G	1 Gb/s	1310 - 1490nm	Single Mode	40 km
SFP-1490-1310-40K-1G	1 Gb/s	1490 - 1310nm	Single Mode	40 km
SFP-1490-1590-80K-1G	1 Gb/s	1490 - 1590nm	Single Mode	80 km
SFP-1590-1490-80K-1G	1 Gb/s	1590 – 1490nm	Single Mode	80 km

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