

Fully Managed L2 Switch, iPECS Ethernet Switch 3500 Series

iPECS ES-3500 Switches are perfect for both LMEs and SMBs looking for solutions with the latest enterprise class switching features.

The iPECS ES-3500 Series are fully managed Layer 2 switches that support enterprise-class Layer 2 switching features including advanced QoS, security and simplified and intuitive management features allowing network administrators to build high performing robust network affordably.

The iPECS ES-3500 Series comes in two models (iPECS ES-3528GP/3552GP) with 56Gbps and 104 Gbps switching capacity repectively. Administrators can extend the existing networks or newly build the reliable and high-performing networks using sophisticated features optimized for all size enterprises and supporting both aggregation and access-level solutions. The iPECS ES-3500 Series also incorporate the Green Ethernet technology for energy efficiency. The Green Ethernet power-saving features and fanless design significantly reduce power consumption.

Enhancing overall network stability and reliability, the iPECS ES-3500 Series ensures fast recovery from filed links. The IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence. Moreover, IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing onredundant linkes up to 64 instances.

HIGHLIGHTS

Enterprise-class Layer 2 Switching with advanced features STP/RSTP/MSTP, IGMP Snooping, VLAN, Link Aggregation, LLDP, Storm Control, Jumbo Frame

Advanced Built-in Security Advanced built-in security like 802.1x RADIUS authentication, filtering, IPv6 ACL

Green Ethernet

Environment friendly design for power saving via link connection, cable length and fanless design

Easy to Install Auto-negotiation, Auto-MDI/MDIX, At-a-glance tri-colored status LED

iPECS ES-3500 Series

ES-3528GP

- 24 ports 10/100/1000 Base-T
- 4 ports Gigabit shared uplinks
- RJ-45 Console port support
- High availability
- IPv4/IPv6 dual protocol stack
- 56 Gigabit switching capacity
- Digital Diagnostic Monitoring on 1G SFP port
- IEEE 802.3az Energy-Efficient

ES-3552GP

- 48 ports 10/100/1000 Base-T
- 4 ports Gigabit shared uplinks
- RJ-45 Console port support
- High availability
- IPv4/IPv6 dual protocol stack
- 104 Gigabit switching capacity
- Digital Diagnostic Monitoring on 1G SFP port
- IEEE 802.3az Energy-Efficient





KEY BENEFITS

Advanced Quality of Service (QoS)

Prioritization of the data on the network is essential in order to ensure that mission critical applications such as voice are delivered in a timely manner. The iPECS Ethernet Switch is able to classify packets into one of four different priority queues and serve each packet in the priority queues using WRR (Weighted Round Robin) or SPQ (Strict Priority Queuing) method.

Green Ethernet

The iPECS ES-3500 Series Gigabit Ethernet Switches incorporate the latest green Ethernet technology to help you save energy costs for your network. It automatically detects link status, allowing each port to power down when the port is not connected or the connected device is not active. In addition, cable length is also automatically detected and adjusts the signal strength accordingly.

Virtual Private Network

The iPECS ES-3500 Series supports Layer 2 VPNs by using Q-in-Q functions, where an 802.1Q tag from a customer VLAN is encapsulated in a second 802.1Q tag. The switch supports rewriting the VLAN tag of egress traffic when the ingress traffic is tagged.

Secure Networking

The iPECS ES-3500 Series support key security features like RADIUS authentication and authorization as well as multi-layer filtering. All these management via web management sessions are secured with HTTPS encryption.

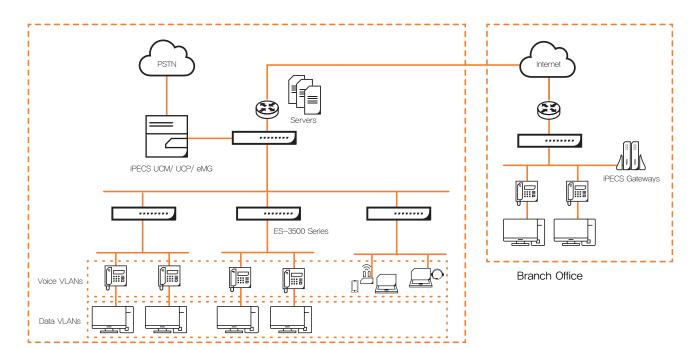
IPv6 Support

The switch supports a number of IPv6 features, including IPv6 Management, DCHPv6 Snooping with Option 37, IPv6 Source Guide, and MVR6.

Easy to Install

The iPECS Ethernet Switches have plug and play capabilities such as Auto-negotiation of speed and duplex mode, Auto-MDI/MDIX, at-a-glance tri-colored intuitive status LEDs right on top of the ports. Its intuitive web user interface makes the installation and administration much easier.

Converged Network using iPECS Ethernet Switch Solutions



Enterprise-class L2 switching features available in iPECS ES-3500 Series

• STP, RSTP, MSTP	Provides path redundancy while preventing undesirable loops in the network, thus improving network resiliency and availability		
 IGMP snooping v1/2/3 	With IGMP Snooping enabled, eliminate unnecessary traffic and improve overall network performance		
Advanced Security	802.1x/Radius/TACACS+ Authentication & encryption, Advanced ACL, Guest VLAN, DHCP Snooping, Dynamic ARP Inspection, SSHv2, HTTPS		
Advanced QoS	Standard L2 QoS Features + Priority marking, L2 Policing (Metering), Time-Based ACL, CPU Interface Filtering		
Link aggregations	gregations Group together any number of ports automatically using LACP, 8 members per group, 16 groups		
• VLAN	Segment the network by grouping users for optimal use of the network - Port/Protocol/MAC/IP based VLAN, 256 VLANs		

Feature Specifications

Spanning Tree Protocols 95,000179/002.10/08779/002.10/08779 Viea Lisk Aggregation (202.34) BEOU Hiteriguard maximum of groups 68 Lisk Aggregation (202.34) Maximum of groups 69 VLAN Maximum of groups 69 VLAN Maximum of another propo 69 VLAN Maximum of another VLAN per Solton 286 VLAN Maximum of another VLAN per Solton 286 VLAN Maximum of another VLAN per Solton 766 VLAN Maximum of multical groups 766 MAX Number of another VLAN per Solton 766 766 IDE (Mo2.14a) IL Ling Operand groups 766 MAX Number of multical groups 766 766 MAX Nu	List	Feature	Detailed list	ES-3500 series
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Rate Limiting / Shaping Port based rate limiting/shaping Yes Storm Control Broadcast and Multicast packet control Yes Port Security Static/Dynamic port security (MAC based) Yes DHCP DHCP Snooping, IP Source Guard (IP Spoofing prevention) Yes DHCP DHCP Snooping, IP Source Guard (IP Spoofing prevention) Yes Authentication Yes Yes Authentication Yes 2012 Authentication Yes 202.1x Extensible Authentication and Accounting Yes 802.1x Kacest VLAN with EAP enabled on port (GVLAN-SHSA) Yes 202.1x Macl based EAP Authentication oper Ort (GVLAN-SHSA) Yes 802.1x MAC based EAP Authentication (Clientites EAP) Yes 202.1x MaC based EAP Authentication (Clientites EAP) Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes 202.1x MaC based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes 202.1x MaC based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes File Transfer FTP (Client, DHCP Snooping, DHCP Provision Yes 202.1x Gauge authentication (upto 5		MAC limit	MAC limit per port, MAC based filtering	Yes
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Port SecurityStatic/Dynamic port security (MAC based)YesPHCPDHCP Snooping, IP Source Guard (IP Spofing prevention)YesPHCPRADIUS/TACACS+ Authentication and AccountingYesNameRADIUS/TACACS+ Authentication and AccountingYes802.1x Extensible Authentication per PortYes802.1x Extensible Authentication per PortYes802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA)Yes802.1x RADIUS assigned VLAN in MHMA modeYes802.1x RADIUS assigned VLAN in MHMA modeYes10.1x Pre/password authentication (up to 5 users)YesMIBTCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502)YesFIGPHTCP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trapYesFIGPDHCP Client, DHCP Snooping, DHCP ProvisionYesFIG TransferFTP Client, TFTP ClientYesFIG TransferFTP Client, TFTP ClientYesFile TransferSNTP (RFC 2030)YesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYes		Rate Limiting / Shaping	Port based rate limiting/shaping	Yes
Automatical section PHCP Snooping, IP Source Guard (IP Spoofing prevention) Yes Security PHCP Dynamic ARP Inspection Yes RADIUS/TACACS* Authentication and Accounting Yes 802.1x Extensible Authentication Yes 802.1x Extensible Authentication per Port Yes 802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA) Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes 901 MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes 1HCP		Storm Control	Broadcast and Multicast packet control	Yes
BHCP Dynamic ARP Inspection Yes Security RADIUS/TACACS+ Authentication and Accounting Yes 802.1x Extensible Authentication Yes 802.1x Extensible Authentication per Port Yes 802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA) Yes 802.1x AC based EAP Authentication (Clientless EAP) Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes User/password authentication (upto 5 users) Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes DHCP DHCP Client, DHCP Snooping, DHCP Provision Yes PIACP PICP Client, TFTP Client Yes PIACP SNTP (RFC 2030) Yes Received traffic, Transmit traffic, Received and Transmit traffic, N:1 milrroring Yes Reckup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes		Port Security	Static/Dynamic port security (MAC based)	Yes
Security Ves Numeric ARP Inspection Yes RADIUS/TACACS+ Authentication and Accounting Yes 802.1x Extensible Authentication Yes 802.1x Extensible Authentication per Port Yes 802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA) Yes 802.1x RADIUS assigned VLAN with EAP enabled on port (GVLAN-SHSA) Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes User/password authentication (upto 5 users) Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes PICP DHCP Client, DHCP Snooping, DHCP Provision Yes File Transfer FTP Client, TFTP Client Yes Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Retury Configuration file upload/download Yes Yes Interver upgrade Firmware backup / upgrade, Dual firmware images Yes	Security		DHCP Snooping, IP Source Guard (IP Spoofing prevention)	Yes
SecurityNote of the securityNote of the securityNote of the securityAuthenticationYesAuthenticationYesAuthenticationYes802.1 x Kultiple Host Multiple Authentication per PortYes802.1 x Guest VLAN with EAP enabled on port (GVLAN-SHSA)Yes802.1 x RADIUS assigned VLAN in MHMA modeYes802.1 x RADIUS assigned VLAN in MHMA modeYes10.1 x PAPURATION (Command Interface)YesMBTCP/IP based internets (RFC 1213), RMON v1/2(RFC 2819 / RFC 4502)YesPICPDHCP Client, DHCP Snooping, DHCP ProvisionYesPort MirroringReceived traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroringYesNetwork TimeSNTP (RFC 2030)YesBackupConfiguration file upload/downloadYesImware upgradeFirmware backup / upgrade, Dual firmware imagesYesIP06 managementTelnet server/ICMPYes		DHCP	Dynamic ARP Inspection	Yes
Security Authentication Res Authentication 802.1x Multiple Authentication per Port Yes 802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA) Yes 802.1x ADIUS assigned VLAN in MHMA mode Yes 802.1x RADIUS assigned VLAN in MHMA mode Yes User/password authentication (upto 5 users) Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2/3, SNMP trap Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes File Transfer FTP Client, TFTP Client Yes File Transfer FTP Client, TFTP Client Yes Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes		Authentication	RADIUS/TACACS+ Authentication and Accounting	Yes
Management Access (Command Interface) MTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trap Yes Management Access (Command Interface) TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes Management FTP Client, TFTP Client Yes File Transfer FTP Client, TFTP Client Yes File Transfer SNTP (RFC 2030) Yes Network Time SNTP (RFC 2030) Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes			802.1x Extensible Authentication	Yes
Management Access (Command Interface) NTP, NTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trap Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes DHCP DHCP Client, DHCP Snooping, DHCP Provision Yes File Transfer FTP Client, TFTP Client Yes Access Configuration file upload/download Yes Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Backup Configuration file upload/download Yes IPv6 management Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes			802.1x Multiple Host Multiple Authentication per Port	Yes
Management Access (Command Interface) HTTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trap Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes DHCP DHCP Client, DHCP Snooping, DHCP Provision Yes File Transfer FTP Client, TFTP Client Yes Network Time SNTP (RFC 2030) Yes Backup Configuration file upload/download Yes Immare upgrade Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes			802.1x Guest VLAN with EAP enabled on port (GVLAN-SHSA)	Yes
Management Access (Command Interface) HTTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trap Yes MIB TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502) Yes DHCP DHCP Client, DHCP Snooping, DHCP Provision Yes File Transfer FTP Client, TFTP Client Yes Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes			802.1x MAC based EAP Authentication (Clientless EAP)	Yes
Access (Command Interface)HTTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trapYesMIBTCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502)YesDHCPDHCP Client, DHCP Snooping, DHCP ProvisionYesFile TransferFTP Client, TFTP ClientYesPort MirroringReceived traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroringYesNetwork TimeSNTP (RFC 2030)YesBackupConfiguration file upload/downloadYesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYesIPv6 managementTelnet server/ICMPYes			802.1x RADIUS assigned VLAN in MHMA mode	Yes
ManagementHTTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trapYesMIBTCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502)YesDHCPDHCP Client, DHCP Snooping, DHCP ProvisionYesFile TransferFTP Client, TFTP ClientYesPort MirroringReceived traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroringYesNetwork TimeSNTP (RFC 2030)YesBackupConfiguration file upload/downloadYesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYesIPv6 managementTelnet server/ICMPYes			User/password authentication (upto 5 users)	Yes
Management DHCP DHCP Client, DHCP Snooping, DHCP Provision Yes File Transfer FTP Client, TFTP Client Yes Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Network Time SNTP (RFC 2030) Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes IPv6 management Telnet server/ICMP Yes			HTTP, HTTPS, Telnet, SSH, SNMP v1/2/3, SNMP trap	Yes
Management File Transfer FTP Client, TFTP Client Yes Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Network Time SNTP (RFC 2030) Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes IPv6 management Telnet server/ICMP Yes		MIB	TCP/IP based internets (RFC 1213), RMON v1/2 (RFC 2819 / RFC 4502)	Yes
Management Port Mirroring Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring Yes Network Time SNTP (RFC 2030) Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes IPv6 management Telnet server/ICMP Yes		DHCP	DHCP Client, DHCP Snooping, DHCP Provision	Yes
Network Time SNTP (RFC 2030) Yes Backup Configuration file upload/download Yes Firmware upgrade Firmware backup / upgrade, Dual firmware images Yes IPv6 management Telnet server/ICMP Yes		File Transfer	FTP Client, TFTP Client	Yes
Network TimeSNTP (RFC 2030)YesBackupConfiguration file upload/downloadYesFirmware upgradeFirmware backup / upgrade, Dual firmware imagesYesIPv6 managementTelnet server/ICMPYes	Management	Port Mirroring	Received traffic, Transmit traffic, Received and Transmit traffic, N:1 mirroring	Yes
Firmware upgradeFirmware backup / upgrade, Dual firmware imagesYesIPv6 managementTelnet server/ICMPYes		Network Time	SNTP (RFC 2030)	Yes
IPv6 management Telnet server/ICMP Yes		Backup	Configuration file upload/download	Yes
		Firmware upgrade	Firmware backup / upgrade, Dual firmware images	Yes
IP Clustering up to 36 switches Yes		IPv6 management	Telnet server/ICMP	Yes
		IP Clustering	IP Clustering up to 36 switches	Yes

Technical Specifications

List	Detailed list	ES-3528GP	ES-3552GP
Product image			
	Switching Fabric Capacity	56Gbps	104Gbps
	Packet Forwarding Throughput	41.6Mpps	77.4Mpps
	Flash Memory	32MB	32MB
Performance	DRAM	256MB	256MB
	MAC Address Capacity	16K	16K
	MTU / Jumbo Frames support	12K	12K
	Auto-negotiation, Auto-MDI/MDIX	Yes	Yes
Port	10/100/1000 Base-T Ports per Unit	24	48
	100/1000 Base-X SFP Ports per Unit	4	4
	Types of GBIC and SFP support	SFP (SX, LX)	SFP (SX, LX)
	19" Rack Space[EIA Standard RU]	Yes	Yes
	Height [mm]	44	44
Dimensions	Width (mm)	440	440
	Depth (mm)	220	220
	Weight (Kg)	2.2	2.5
Power	100-240 VAC, 50/60Hz	Yes (Front Panel)	Yes (Rear Panel)
	Max power consumption (Watts)	20 W	40 W
	PoE budget	190W	370W
Operation	Operating Temperature (°C)	0 to 50 °C	0 to 45 °C
	Storage Temperature (°C)	- 40 to 70 °C	- 40 to 70 °C
	Operating Humidity (non-condensing)	10% to 90%	10% to 90%
Certifications	Storage Humidity (non-condensing)	10% to 90%	10% to 90%
	EMC Compliance - FCC class A, CE	Yes	Yes
	Electromagnetic immunity, Korea [KCC]	Yes	Yes
	Safety Compliance - UL, CB	Yes	Yes
	Environmental Reulation Compliance: WEEE, RoHS	Yes	Yes
	PFOS	Yes	Yes

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