

# IS-RG628P-4C-4F-24 Series

Industrial 28G L2+ Rackmount Managed PoE+ Ethernet Switch



The IS-RG628P is an industrial-grade rackmount 28G switch with 24 Giga PoE+ ports, each can output 30W. The 4 Giga combo ports and 4x100M/1G fiber SFP ports can configure max. 8 fiber Giga ports for more field switches with long-distance fiber connections. Standard redundancy mechanisms are designed with enhancement such as ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) and ERPSv2 Plus, RSTP/MSTP. Many High-level cybersecurity protocols are implemented such as DHCP Snooping, IP Source Guard, Dynamic ARP Inspection. Rugged design and high EMC immunity make IS-RG628P an ideal solution for industrial Critical Surveillance applications.



## Key features

### High Throughput Ethernet Switching

- 28-port Full GbE, by 20-port GbE RJ45 and 4-port GbE RJ45/SFP Combo, and 4 100M/1G SFP fiber ports.
- Up to 24 GbE IEEE 802.3at/af compliant PoE+ ports, up to 30W per port
- Up to 8 100M/1GbE fiber ports add more fiber links to field switches
- DDM function for fiber connectivity monitoring
- Powerful 1.2GHz ARM Cortex-A9 processor
- Energy-Efficient Ethernet for power saving
- Non-blocking switch fabric design
- 8 flexible Class of Service(CoS) queues, 512 L2 Multicast Groups for video applications
- 16K MAC address table, 9Kb Jumbo Frame
- PoE management including per-port Power Budget Control, PoE Scheduling, Priority, PD Alive Check and PoE Status

### ITU-T G.8032 v2 ERPS Ring Redundancy

- ITU-T G.8032 v1/v2 ERPS Standard Ring Redundancy protocol
- Supports HW-based CFM transmission for overcoming GbE copper physical limitation and providing minimum 20ms recovery time, seamless restoration time
- Inter-Operability with 3rd party industrial switch and still remain fast recovery time
- Replace Ring + Chain + Dual Homing

### IEC62443-4-2 Level 3 / 4 Cyber Security

- L2-L7 IPv4/ Access Control List (ACL)
- DHCP Snooping, IP Source Guard, Dynamic ARP Inspection
- 802.1Q VLAN, Private VLAN, Advanced Port Security
- Multi-Level user passwords
- HTTPS/SSH/SFTP, 256-bit encryption
- 802.1X MAB for non-802.1X compliant end devices
- RADIUS/TACACS+ centralized password authentication

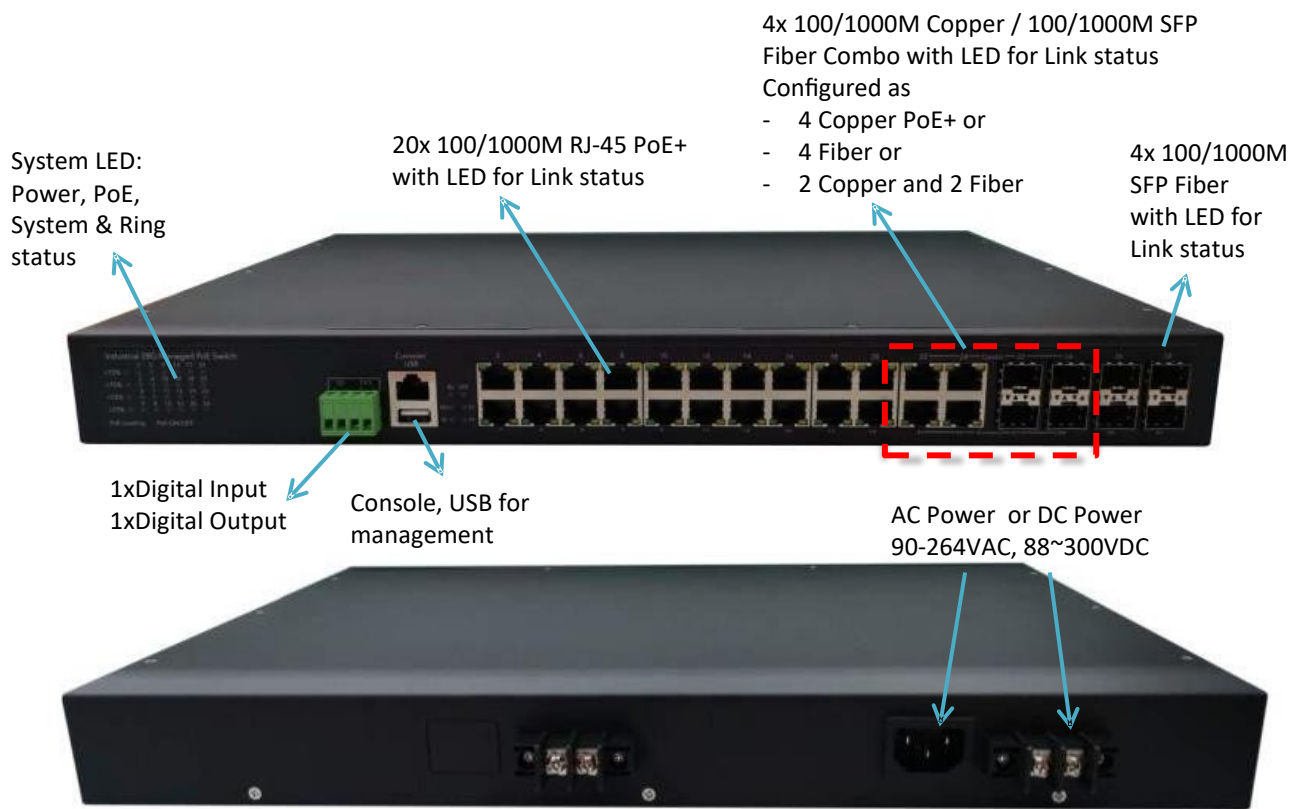
### Industrial Management

- Various configuration paths, including CGI WebGUI, CLI, SNMP and RMON
- LLDP for topology control, auto-topology drawing
- USB for easy field configuration and firmware update

### Rugged Design for Industrial Control Room and Wayside Network Switching

- EN50121-4 compliance for Railway Tracksides, Roadside, Industrial Control Room applications
- Seamless forwarding while EMC attack (TBD)
- Excellent heat dissipation design for operating in -40~70°C environments
- High level EMC protection exceeding traffic control and heavy industrial standards' requirements
- IEC 61000-6-2/4 Heavy Industrial Environment

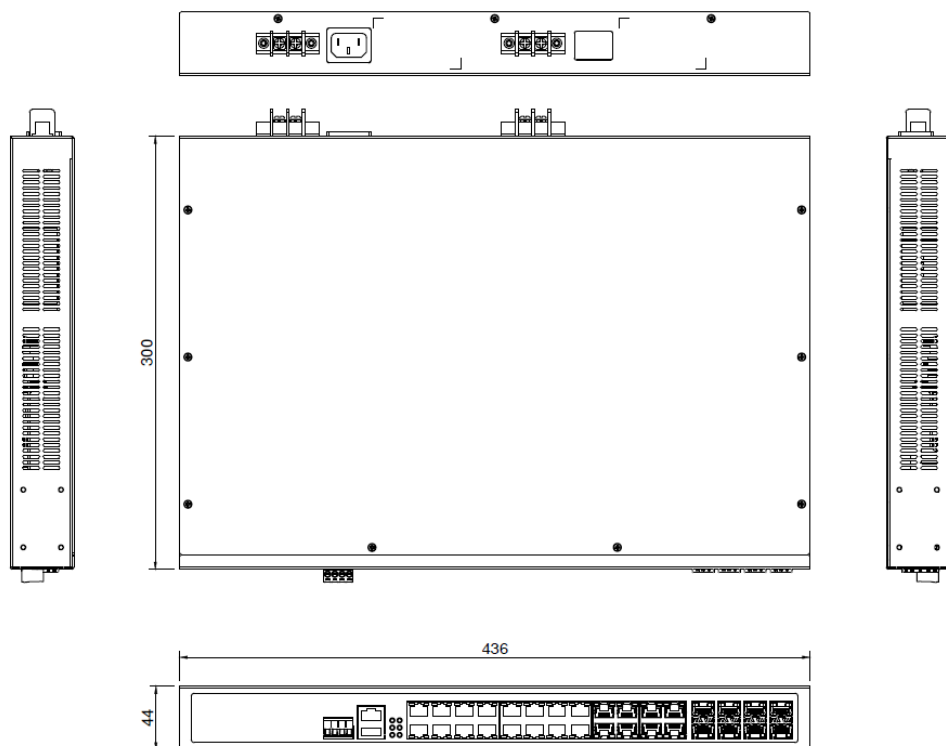
## Interfaces



## Dimension Diagram

(mm)

Dimension: 436 x 44 x 300 mm(W x H x D)



## Specifications

### Technology

<b>Standard</b>	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3u 100Base-FX Fast Ethernet Fiber
	IEEE 802.3ab 1000Base-T Gigabit Ethernet copper
	IEEE 802.3z Gigabit Ethernet Fiber
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.3az (Energy Efficient Ethernet)
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN and GVRP
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1D Spanning Tree Protocol (STP)
	IEEE 802.1w Rapid Reconfiguration of Spanning Tree Protocol (RSTP)
	IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
	IEEE 801.1AX/802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1x Port based Network Access Protocol
IEEE 1588 Precision Time Protocol v2	
ITU-T G.8032 version 2 Ethernet ring protection switching(ERPSv2)	

### Performance

<b>Switch Technology</b>	Store and Forward Technology with 56Gbps Non-Blocking Switch Fabric Internal Packet Buffer: 4Mb Forwarding rate: 41.67Mpps (1,488,000pps/port)
<b>Number of MAC Address</b>	16K
<b>CPU</b>	Cortex-A9, max. 1.2GHz
<b>RAM</b>	DDR3 2Gb
<b>Jumbo Frame</b>	9216 Bytes
<b>VLAN ID</b>	256 VLANs, VLAN ID 1~4094
<b>IGMP Groups</b>	512
<b>Traffic Prioritize</b>	8 Priority Queues per Port

### Interface

<b>Ethernet Port</b>	20 x 10/100/1000M RJ45, Auto Negotiation 24 x 802.3af/at PoE, Auto Negotiation 4 x 100/1000M 802.3af/at PoE RJ45/SFP Combo (4 Copper/4 fiber or 2 copper+2 fiber) 4 x 100/1000M SFP, DDM Energy-Efficient Ethernet for power saving
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<b>System LED</b>	2 x Power (P1/P2): Green On 1 x System Status: Ready: Green On, Firmware Updating: Green Blinking 1 x DI: Green On, 1 x Alarm: Red On 1 x Ring Status: Node Normal: Green On, Owner Normal: Green Blinking, Owner/Node Abnormal: Amber On, Ring Port Fail: Amber Blinking
<b>Giga Ethernet Port LED</b>	Link (Green On), Activity (Green Blinking), Speed 1000M(Amber On), Speed 10M/100M (Amber Off)
<b>Giga SFP LED</b>	Link (Green On), Activity (Green Blinking), Speed 1000M(Amber On), Speed 10M/100M (Amber Off)
<b>PoE LED</b>	PoE Utilization: Low(0~25%, Green On), Middle(26~50%, Green On), High(51~75%, Amber On), Critical (Higher than 75%, Red On) 24x PoE: PoE ON (Amber On)
<b>Console</b>	1 x RJ45 based for System Configuration. Baud Rate: 115200.n.8.1
<b>USB</b>	1 x USB for Configuration/Firmware Update
<b>Digital Input</b>	1x Digital Input. Low: 0~10V, High: 11~30V
<b>Power Requirement</b>	
<b>Operating Voltage</b>	AC Input: 110/220V (90-264VAC), 88~300VDC 2DC Input: 2x 54V Typical (IEEE 802.3at request 50~57V)
<b>Power Consumption</b>	Max. 20W @ 8x SFP plugged without PoE
<b>PoE</b>	
<b>Power forwarding mode</b>	802.3at Alternative A
<b>PoE Power Budget</b>	AC: Up to 310W, Max. 200W@70°C DC: Up to 400W, Max. 400W@70°C
<b>PoE Standard</b>	IEEE 802.3at PoE+, IEEE 802.3af PoE
<b>Management</b>	System/Port Power Budget Control, PoE Scheduling, Priority, PD Alive Check, PoE Status
<b>Software</b>	
<b>Management</b>	CGI WebGUI, Command Line Interface (CLI), IPv4/IPv6(RFC2460), Telnet, SNMP v1/v2c/v3, RMON, LLDP, DHCP server/client/Option 82, TFTP, System Log, SMTP
<b>Traffic Management</b>	Broadcast Storm/Flow Control, Rate Control, Port Mirror, CoS, QoS, RFC 2474 DiffServ
<b>Filter</b>	IGMP Snooping v1/v2/v3, IGMP Snooping Fast-Leave/Immediate-Leave, IGMP Query, GMRP, IEEE802.1Q VLAN, QinQ, GVRP, Private VLAN
<b>Security</b>	IEEE 802.1X/RADIUS, TLS v1.2, HTTPs/SSH
<b>Advanced Security</b>	TACACS+, Mutli-user authentication, IEEE802.1x MAB, DHCP Snooping/IPSG, Dynamic ARP inspection, SFTP
<b>Redundancy</b>	ERPSv2 (HW-based CFM), STP/RSTP/MSTP, Port Trunk/801.1AX/802.3ad LACP
<b>Time Management</b>	NTP, IEEE 1588 Precision Time Protocol v2
<b>IIoT Industrial Protocol</b>	Modbus TCP
<b>MIB</b>	ERPS MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, Private MIB

<b>Mechanical</b>	
<b>Installation</b>	Rackmount
<b>Enclosure Material</b>	Steel Metal
<b>Dimension</b>	431 x 44 x 300 mm(W x H x D)
<b>Ingress Protection</b>	IP31
<b>Weight</b>	3.5KG(IS-RG628P-4C-4F-24-A), 3.8Kg(IS-RG628P-4C-4F-24-AD)
<b>Environmental</b>	
<b>Operating Temperature &amp; Humidity</b>	-40°C~70°C , 0%~95% Non- Condensing
<b>Storage Temperature</b>	-40°C~80°C
<b>MTBF</b>	>445,000 hours
<b>Warranty</b>	5 years
<b>Standard</b>	
<b>EMC</b>	EN50121-4 Compliance for Railway Roadside
<b>EMI</b>	CISPR 22, FCC part 15B Class A

## Ordering Information

Model Name	Description
IS-RG628P-4C-4F-24-A	Industrial 28G L2+ Managed PoE+ Ethernet Switch, 24x802.3at PoE+, AC110/220V input
IS-RG628P-4C-4F-24-AD	Industrial 28G L2+ Managed PoE+ Ethernet Switch, 24x802.3at PoE+, AC110/220V input + Dual 54V input

## Package Checklist

- 1 x Product Unit (Without SFP Transceiver)
- 2 x Power Cord (EU+US plug) Installation Guide
- 1 x Quick Installation Guide