REACOMM®

NETWORK & SECURITY

Engineered and
manufactured
in China

Industrial Ethernet

Introduction

The latest trend in Industrial Automation is the vision of “Industry 4.0” that was originated by the German government to create the “Smart Factory” based on the concept of computerized manufacturing. This recent vision of industrial advancement involves creation of the cyber-physical system (CPS). The CPS closely linkes and coordinates the physical components in the real world with the software or computational components in the cyber world to create a mechanism that is controlled and monitored by computer-based algorithms. CPS requires a lot of data exchange among various components in the system. The smart factory with the cyber-physical system can be constructed with the recent technologies such as the Internet of Things (IoT) and the cloud computing. It is envisaged that by the end of the twenty-first century, the smart factory will have more than a billion connected devices. This, therefore, raises a lot of concern on the reliability and the security of network communications.

While Ethernet based networks became the backbone of Industrial Automation, Serial Communication remains relevant to connect legacy devices with the latest equipment. Wireless-based communication is becoming a more reliable and trustable solution not only for application where physical wiring is a problem, but also for customer who require minimal network setup and ease of use.

REACOMM is a leading company into the design and manufacture of Industrial networking devices. We have an entire suite of offerings for both wired and wireless networking. Our range extends from entry level products to high level products. REACOMM offers reliable, secure, and cost-effective solutions for all demanding applications. Our Industrial Ethernet switches with additional advanced features like security, redundancy (through RSTP, ERPS, or MRP Rings), QoS management, VLAN management, LACP link aggregation/port trunking, and Layer-3 routing, provides a backbone to ensure that all information will go through reliably and securely.

REACOMM's added value

a) Reliability

Modern day factories cannot afford any downtime. Unreliable networks lead to delay in production which is not acceptable in the Industry 4.0 era. These events unfortunately do happen.

REACOMM's products that are very reliable with 25 - years MTBF (mean-time-between-failures) helps in reducing the risk. It's not enough. To further minimize the event of downtime we have products that provide redundancy features. In an event of link or device failure, REACOMM's Smart-Redundancy Feature detects the failure and relay's the cause of the failure back to the control center and automatically recover from such failure thereby providing continuous operation.

Whether a network switch fails or a communication link gets broken, REACOMM's device with Ethernet Ring Protection Switching (ERPS), Rapid Spanning Tree Protocol (RSTP) and Media Redundancy Protocol (MRP) ring settings restores the operation and network connectivity instantly.

b) Harsh Environments

Blast furnace? Sub-zero degree processing? No problem. REACOMM's rugged top-of-the-line products are specifically designed to withstand the harshest environments.

With the fanless design and industrial grade components, selected REACOMM products support applications from -40°C to +85°C while guaranteeing a long MTBF. This is achieved by having no moving parts which are usually the causes of breakdowns.

c) Electromagnetic Compatibility EMI/EMS

High-voltages and electromagnetic interferences in factories could be fatal if the devices that are installed are not properly shielded and isolated against electromagnetic susceptibility (EMS).

Without proper design of device and precaution against EMS, equipment breakdown could happen. For instance, if a 2,000-Volt surge is applied to the power supply unit, severe damages could be caused to the system. The devices should be also be designed in a way as to not interfere with the surrounding equipment by generating noise (EMI, Electromagnetic Interference).

REACOMM devices are specifically designed with embedded isolation to withstand the harshest industrial-grade electromagnetic interference and susceptibility.

REACOMM's devices confirm to the electromagnetic compatibility (EMC) Level 3 and Level 4 requirements and they are also compliant with the strictest regulations for susceptibility and interference such as UL61010 and EN61000-6-2 and EN61000-6-4.

d) Security/Encryption

Security of data in network is a very important issue in Industry 4.0. The more the devices that can be remotely controlled in smart factories the more is the are vulnerability to various threats and malicious activities such as network penetration, taking over control of the system, and disrupting the manufacturing process.

REACOMM's security solutions provide seamless and cost-effective encrypted links for LANs through MACsec (IEEE Medium Access Control Security Standard, IEEE 802.1AE) and for WANs and Internet through IPsec (Internet Protocol Security) or OpenVPN.

MACsec or IEEE 802.1AE protocol enhances your network with hop-to-hop AES (128- or 192- or 256-bit) encryption and defines the way Public and Private keys are managed.
If both connected devices support MACsec, the authentication is auto-negotiated through a RADIUS server before establishing a secure connection. From that point on, all data transferred through the link will be encrypted at the source with a high performance computing hardware that guarantees full bandwidth utilization and decrypted at the other end. If the other end does not support the MACsec, the data will be transmitted without encryption.

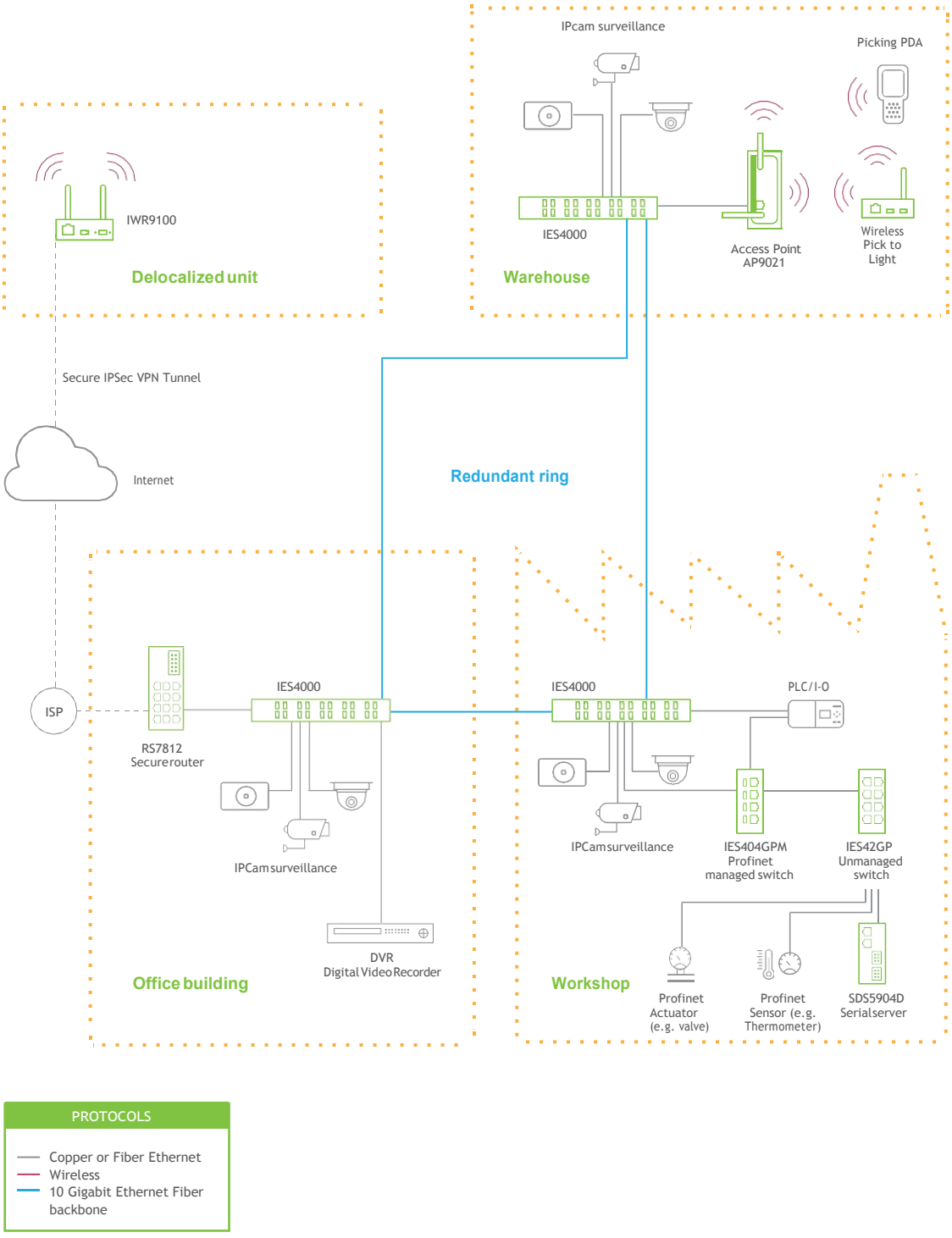
REACOMM is a pioneer in the field of security of network devices. We have introduced a whole new range of products. This includes, Secure L3 Routers, Managed L2 and L3 switches, and a cost-effective unmanaged smart and secure switch. With the 256-bit encryption managed through hardware our solutions provide a seamless experience and unprecedented performance.

REACOMM's Routers and Serial device servers provide embedded security measure through virtual private network (VPN) using IP security (IPSec) encryption so that all information going in and out of the devices can be properly protected from potential attacks.

e) Performance/Fast Responsiveness

Integration of legacy network equipment with new infrastructures always has problems on mismatch of speed or data throughput. While the new technologies offer much wider bandwidth and have more and stricter requirement the legacy equipment are generally slow and do not have frequent data updates. REACOMM managed to solve this problem in several ways. For example, our new network device can autonomously poll data from legacy network device and store them in the internal memory until a master device running on the new protocol or on the new physical layer asks for an update. This helps in reducing bottlenecks and increases system performance.

...our Application Example



Harsh Environments Switches

Introduction

REACOMM's advanced DIN-Rail mount product line offers a range of 14 models with over 60 different configurations to choose from. Our harsh environment switches are the best choice to support networks that are very demanding

Our products support wide operating temperatures ranging from -20 to +70°C and many products supporting -40 to +85 °C; with 4 to 20 Fast Ethernet or Gigabit ports, Relay Outputs, Profinet Packet Priotization for unmanaged switches and Profinet CC-B compatibility for managed switches. Additionally, some selected products are MIL-STD (Military Standard) certified for shock, vibration, temperature, and humidity.

In addition, we also provide Rack-mount configurations. With the modular architecture of the product, it is possible to customize your devices. The same hardware platform can accommodate three different modules that allows flexibly to choose from 4 powerful 10 Gigabit Ethernet (4 x 10GbE) SFP uplink ports or 4 Gigabit Ethernet (4 x 1GbE) SFP uplink ports.

REACOMM's Layer-3 switch series provides advanced features like Static Routing, Dynamic Routing, RFC 2674 VLAN MIB, IPMAC Binding, RIP (Routing Information Protocol) v1/v2, OSPF (Open Shortest Path Frist), DVMRP (Distance Vector Multicast Routing), PIMDM (Protocol Independent Multicast - Dense Mode), PIM-SM (Protocol Independent Multicast – Sparse Mode) and PIM-SSM (Protocol Independent Multicast – Source-Specific Multicast).

REACOMM's managed switches provide flexible advanced network management features to maximize network performance and minimize down-times, such as ERPS/RSTP ring, VLAN, QoS, and trunking.

For high level network security, REACOMM's Secure Managed switch further enhances all the functions of REACOMM's L3 switch with a hardware- based high-performance intelligent security platform, through
(128-,192-, or 256-bit) AES encryption combined with IEEE 802.1AE also known as MACsec protocol. REACOMM's intelligent device handles authentication of the node through a autonomously negotiate key in the RADIUS server, for establishing a secure hop-to-hop link, and automatically decrypt the incoming messages which could be addressed to non-MACsec capable devices.
In case there is no RADIUS server, the Key will be negotiated on a Pre-Shared-Key base.

Layer-2 Managed DIN-Rail Switches

REACOMM's advanced Layer-2 (L2) managed Ethernet switches for harsh environments provide rugged and solid solutions for managing advanced networks. This series of switches can introduce a high degree of link redundancy, flow control, and
configurability to your network. All models in this series are designed to withstand strictest EMC requirements of compliance level 3 and level 4. Our high-performance components guarantee a real-time packet switching, even on full load.

They are available in Fast-Ethernet and Full-Gigabit Ethernet versions with configurations of 4 to 20 ports, with RJ45 or SFP connector, and optional PoE support. REACOMM's L2 managed switch family supports:

- **a.** IEEE802.1d for Spanning Tree Protocol (STP)
- **b.** IEEE802.1w/ IEEE802.1D:2004 for Rapid Spanning Tree Protocol (RSTP)
- **c.** ITU-T
- **c.** IEEE802.1q for VLAN Tagging
- **d.** IEEE802.1p for Class of Service
- **e.** IEEE802.1x for Authentication
- **f.** IEEE802.3ad for Port Trunk with Link Aggregation Control Protocol (LACP)
- **g.** IGMP (Internet Group Management Protocol) v1/v2
- **h.** SNMP (Simple Network Management Protocol) v1/v2/v3
- **i.** GVRP (GARP VLAN Registration Protocol)
- **j.** ICMP (Internet Control Message Protocol)
- **k.** ARP (Address Resolution Protocol)
- **l.** Telnet
- **m.** DHCP (Dynamic Host Configuration Protocol) client
- **n.** TFTP (Trivial File Transfer Protocol)
- **o.** SNTP (Simple Network Time Protocol)
- **p.** SMTP (Simple Mail Transfer Protocol)
- **q.** RMON (Remote Monitoring)
- **r.** HTTP/HTTPS (Hypertext Transfer Protocol) configuration
- **s.** Syslog
- **t.** Profinet CC-B compatible
- **u.** Modbus/TCP
- **v.** Ethernet/IP
- **w.** LLDP (Link Layer Discovery Protocol)
- **x.** IEEE1588v2 (Precision Time Protocol) hardware assisted transparent clock or IEEE1588v1/v2 sw-assisted boundary clock
- **y.** IPv4 (selected versions IPv6)
- **z.** NTP (Network Time Protocol) client
- **aa.** RADIUS (Remote Authentication Dial-In User Service)
- **ab.** EAP
- **ac.** MRP (Client)

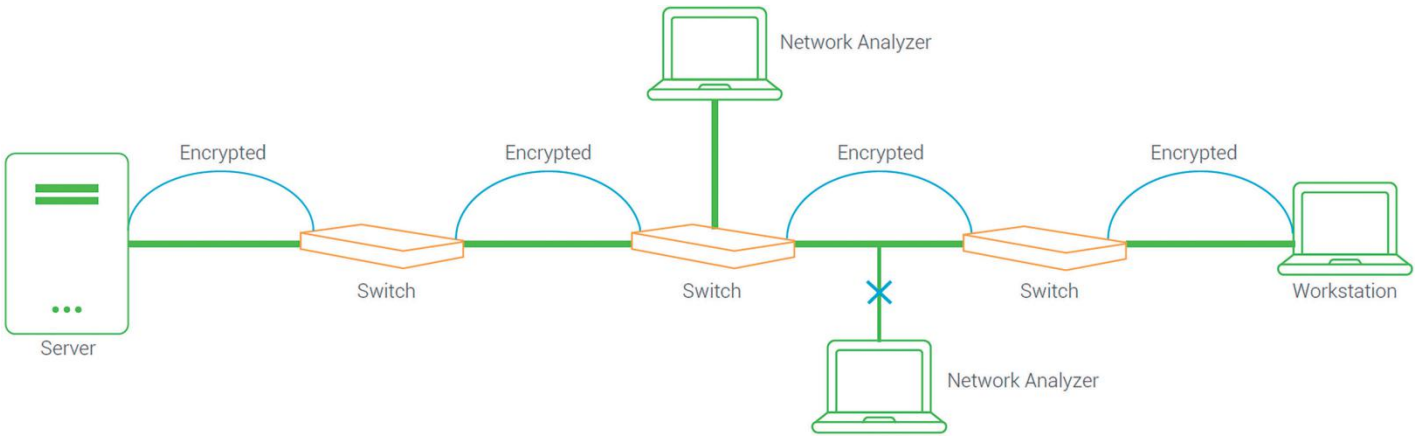
Secure Layer-3 Managed Switches

REACOMM's Secured Layer-3 managed switches add security to the industrial network!

The communication between trusted entities in the network is secured through the combination of the following protocols: IEEE 802.1ae protocol (or MACsec), IEEE 802.1x-2010 protocol for network access control, and strong cryptography of 128-,192-,or 256-bit of GCM-AES.

These products support all authentication, integrity, and confidentiality requirements. Hop-by-Hop encrypted communication with IEEE 802.1x-2010 authentication protocol (i.e., decrypted upon receipt and then encrypted again with a different key before forwarding) protects the network not only from wiretapping, masquerading, man-in-the-middle attacks, and denial-of-service attacks, but also from impersonation and replay attacks.

Security in Short Hops



802. 1AE encrypts frames between network devices, not end to end.

The frames are decrypted in the switches, processed, then re-encrypted and sent to the next device. Network traffic can't be monitored from the wire although a network Analyzer attached to a switch Mirroring port or to a Hub can do this.

Industry-specific Ethernet Switches

Power Networking: IEC 61850-3 made easy

Over the last few decades, various countries around have developed, promoted, and adopted different communication protocols for use between components (such as Control Centers, Remote Terminal Units, Intelligent Electronics Devices) and for network management in electrical power grid. In the North American countries, Distributed Network Protocol (DNP) 3.0 became the standard which was also adopted by IEEE as IEEE Std. 1815-2012, while the European countries relied mainly on IEC 60870-5-101/103/104. The rest of the world adopted MODBUS protocol due to its openness and ease.

Recently, there have been attempts to develop a unified and standardized communication protocol for electrical substation and power grid automation which is called IEC 61850. The new IEC 61850 standard focuses its domain knowledge on the electrical power grid system. It is an object-oriented protocol which utilizes a data modeling scheme that clearly describes each component (such as process objects, protection, and control functionality) of the grid or the substation as standard logical nodes.

This enables data access to the power grid system to yield more details. IEC 61850 Part 3 also defines requirements for network and hardware that are suitable for substation automation. These requirements include electromagnetic immunity (EMI), surge protection, vibration, shock resistance, and temperature ranges that the devices in smart grid system should comply to.

Specifically, an IEC 61850-3 compliant device should:

a. Have a wide temperature range from -40 to 85 °C;
b. Be capable to handle reliable, long distance transmissions through Fiber Optics connectivity.
c. Guarantee QoS (Quality of Service) management and real-time packet switching for GOOSE (Generic-Object-Oriented-Substation-Event).
d. Guarantee a certain level of redundancy in order to minimize packet loss (ring topologies should be supported, and zero-packet-loss technologies such as HSR (High availability Seamlessly Redundancy) or PRP (Parallel Redundancy Protocol) are warmly recommended. REACOMM's devices support RSTP (Rapid Spanning-Tree Protocol) and ERPS (Ethernet Ring Protection Switch) rings.
e. Guarantee a wide tolerance for vibrations and shocks. REACOMM's devices comply with MIL-STD-810F.
f. Comply with the tough electromagnetic immunity and emission standards as shown in detail below due to which PoE is not allowed in IEC 61850-3.

REACOMM provides, aside the certified networking equipment listed in this brochure, additional IEC 61850-3 compliant products. For more information, please check out our Smart Grid Whitepaper or our Protocol Gateway and Real-Time Communication Solutions Brochure.

Test	Version	Item		Value	Level	Criterion
IEC 61000-4-2	2008	ESD	Contact Discharge AirDischarge	±8KV ±15KV	4 4	B B
IEC 61000-4-3	2010	RS	Enclosure Port	10(V/m), 80-1000MHz, 80% AM, 1G-3GHz	3	A
IEC 61000-4-4	2012	EFT	AC Power Port DC Power Port Signal Port	±4.0KV@ 2.5KHz ±4.0KV@ 2.5KHz ±2.0KV@ 5.0KHz	4 4 4	B B B
IEC 61000-4-5	2014	Surge	AC Power Port AC Power Port DC Power Port DC Power Port Signal Port	Line-to Line±2.0KV Line-to Earth±4.0KV Line-to Line±1.0KV Line-to Earth±2.0KV Line-to Earth±4.0KV	4 4 3 3 4	B B B B B
IEC 61000-4-6	2013	CS	AC Power Port DC Power Port Signal Port	10V, 150KHz-80MHz, 80%AM 10V, 150KHz-80MHz, 80%AM 10V, 150KHz-80MHz,80%AM	3 3 3	A A A
IEC 61000-4-8	2009	PFMF	(Enclosure)	100A/m continuous,1000A/m for 3S	5	A
IEC61000-4-10	2000	Damped Oscillatory magnetic Field	(Enclosure)	100A/m,100KHz,1MHz	5	A
IEC 61000-4-11	2004	DIP	AC Power Port	Drop 70% for 3 times/S (1 Period) Drop 40% for 3 times/1mS (50 Period) Drop 100% for 3 times/50mS (5 & 50 Period)	N/A N/A N/A	A A A
IEC 61000-4-12	2006	Damped Oscillatory	AC Power Port Signal Port	2.5KV common,1KV differential mode @ 1MHz 2.5KV common,1KV differential mode @ 1MHz	3 3	B B

Railway Networking: EN50155 Made Easy

EN 50155 is a European norm, but is widely recognized for electronic equipment that is used in any railway application.

This standards cover several criteria that networking devices installed on trains must comply with.

EN 50155 defines product features that include temperature ranges, humidity, shock resistance, vibration resistance, power supply, electromagnetic interference/susceptibility, power surge, electrostatic discharge (ESD) and transient factors.

REACOMM's railway-certified switches combine the powerful platforms of industrial Ethernet switches and all of their advanced features in a robust and reliable unit.

Mechanical requirements

• Rolling equipment:

- Vibration: Category < 0.3 Kg
- Frequency range : 5 – 150 Hz
- Acceleration: 5G
- Shock (half sinus): Long/ Trans. /Vert Axis
- Peak acceleration: 5g/2g/1g
- Duration: 50 ms / 20 ms / 20 ms

• Ground equipment: N/A

Temperature Requirements

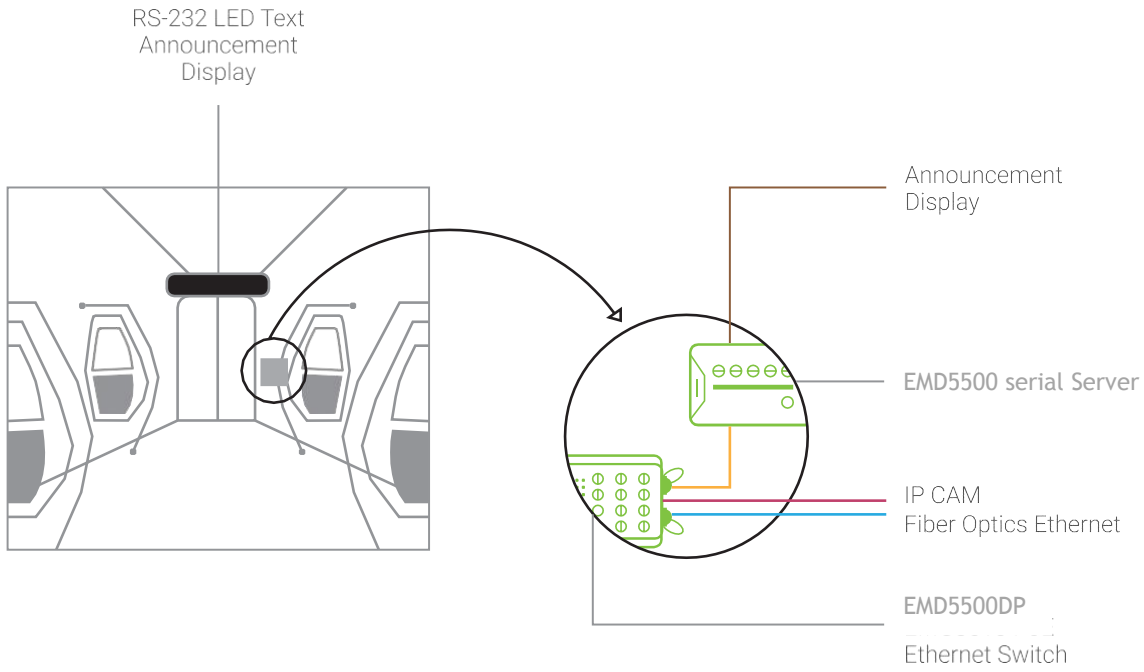
Category	Internal cabinet temperature range	Ambient board temperature range	GAIA converter modules temperature range
T1	-25/55 °C	-25/70 °C	Industrial line: -40/71 °C ambient
T2	-40/55 °C	-40/70 °C	Industrial line: -40/71 °C ambient
T3	-25/70 °C	-25/85 °C	Hi-rel line: -40/85 °C ambient
T4	-40/70 °C	-40/85 °C	Hi-rel line: -40/85 °C ambient

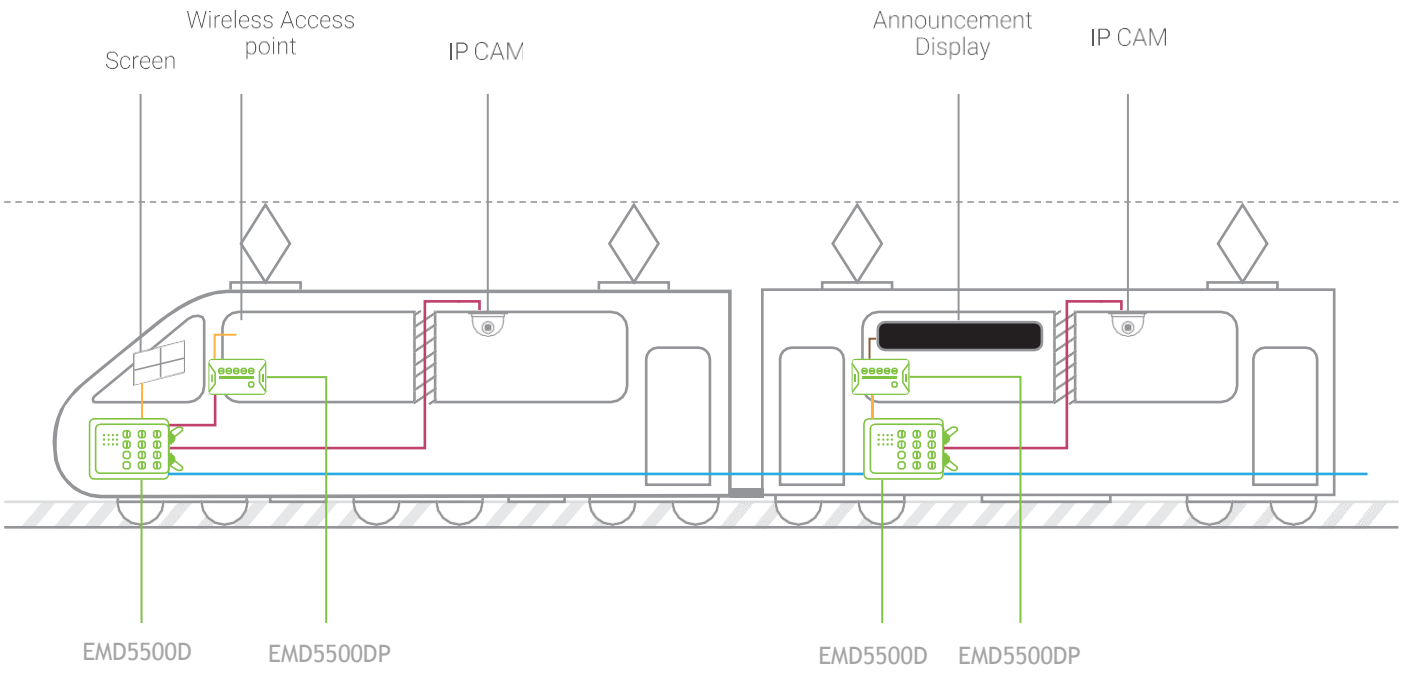
Humidity: EN50155 2 x 25H 40

Electromagnetic compatibility:

- CE/FCC
- 24 VDC: 500 Veff/ 50 Hz/ 1 min
- 48 VDC: 500 Veff/ 50 Hz/ 1 min
- 72~125 VDC : 1,000 Veff/ 50 Hz/ 1 min
- 125~315 V: 1,500 Veff/ 50 Hz/ 1 min
- For other details rely to EN50155

...our Application Example





PROTOCOLS

- Fiber Optics Ethernet
- Twist Pair Ethernet
- PoE
- RS-232 Serial

Fast Unmanaged Industrial Switch

S/N	Model	Product Description	Picture	Specification							
				Power	LED	Physical property	switching characteristics	standard	industrial standard	reliable prediction	environmental requirement
1	RC-IES102	DIN Rail Unmanaged Industrial Switch Fiber Ports: 1 100Base-Fx (FC/SC/ST optional) RJ45 Ports: 2 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: < 2W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: P1 P2 Interface LED: RJ45 (Link&ACT) Fiber: F (Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 84mm*90mm*30mm(L*W*H) Weight: 0.35kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 0.4464Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX 100Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
2	RC-IES104	DIN Rail Unmanaged Industrial Switch Fiber Ports: 1 100Base-Fx (FC/SC/ST optional) RJ45 Ports: 4 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: 4port RJ-45 + 1port Fiber < 2W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 115mm* 90mm*30mm(L*W*H) Weight: 0.45kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 0.74Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX 100Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
3	RC-IES005	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 5 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: 5port RJ45 <1W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) .	Housing: Metal, fanless Protection Class: IP40 Dimensions: 115mm*90mm*30mm(L*W*H) Weight: 0.45kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 0.74Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
4	RC-IES005E	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 5 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: 5port RJ45 <1W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) .	Housing: Metal, fanless Protection Class: IP40 Dimensions: 118mm*89mm*28mm(L*W*H) Weight: 0.4kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 0.74Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -30 to 75°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
5	RC-IES008	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 8 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <2W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 99mm*100mm*45mm (L*W*H) Weight: 0.55kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 1.1904Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
6	RC-IES2208FF	DIN Rail Unmanaged Industrial Switch Fiber Ports: 2 1000Base-Fx (Combo) RJ45 Ports: 8 10/100Base-Tx DC:12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 6W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 175mm*100mm*44.5mm(L*W*H) Weight: 0.8kg Mounting: DIN-Rail or Panel mounting	MAC Table: 16K Packet Buffer: 4M Packet Forwarding Rate: 4.166Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fa	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
7	RC-IES008E	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 8 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <2W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 101mm*87mm*41mm(L*W*H) Weight: 0.45kg Mounting: DIN-Rail or Panel mounting	MAC Table: 1K Packet Buffer: 448K Packet Forwarding Rate: 1.1904Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common m	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -30 to 75°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
8	RC-IES016	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 16 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 158mm*100mm*44.5mm (L*W*H) Weight: 0.75kg Mounting: DIN-Rail or Panel mounting	MAC Table: 3K Packet Buffer:1.3M Packet Forwarding Rate: 2.38Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
9	RC-IES016E	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 16 10/100Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 161mm x 99mm x 42mm(L*W*H) Weight: 0.65kg Mounting: DIN-Rail or Panel mounting	MAC Table: 3K Packet Buffer:1.3M Packet Forwarding Rate: 2.38Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -30 to 75°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
10	RC-IES1116FR	Desktop Industrial Switch Fiber Ports: 1 1000Base-Fx (Combo) RJ45 Ports: 8 10/100Base-Tx AC:100-240V		Power Terminal: 10 A plug Full load power consumption: <12W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) . Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 280mm*132mm*44.5mm (L*W*H) Weight: 2.5kg Mounting: Rack mouting	MAC Table: 4K Packet Buffer:1M Packet Forwarding Rate:5.3568Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI:FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS:IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)

11	RC-IES4416FR	Rack mount Unmanaged Industrial Switch Fiber Ports: 4 1000Base-Fx (Combo) RJ45 Ports: 16 10/100Base-Tx AC:100-240V		Power Terminal: 10 A plug Full load power consumption: <14W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions:430mm*220mm *44.5mm(L*W*H) Weight: 3.2kg Mounting: Rack mouting	MAC Table: 16K Packet Buffer:4M Packet Forwarding Rate: 8.3328Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
12	RC-IES4424FR	Rack mount Unmanaged Industrial Switch Fiber Ports: 4 1000Base-Fx (Combo) RJ45 Ports: 24 10/100Base-Tx AC:100-240V		Power Terminal: 10 A plug Full load power consumption: <14W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions:430mm*220mm*44.5mm(L*W*H) Weight: 3.3kg Mounting: Rack mouting	MAC Table: 16K Packet Buffer:4M Packet Forwarding Rate: 8.3328Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)

Gigabit Unmanaged Industrial Switch

S/N	Model	Product Description	Picture	Specification							
				Power	LED	Physical property	switching characteristics	standard	industrial standard	reliable prediction	environmental requirement
1	RC-IES1002F	DIN Rail Unmanaged Industrial Switch Fiber Ports: 1 1000Base-Fx (SFP) RJ45 Ports: 2 10/100/1000Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: < 3W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: P1 P2 Interface LED: RJ45(Link&ACT) Fiber: (Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions :84mm*90mm*30mm(L*W*H) Weight: 0.35kg Mounting: DIN-Rail or Panel mounting	MAC Table: 4K Packet Buffer: 1M Packet Forwarding Rate: 4.464Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
2	RC-IES2004F	DIN Rail Unmanaged Industrial Switch Fiber Ports: 2 1000Base-Fx (SFP) RJ45 Ports: 4 10/100/1000Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: < 4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 134mm*90mm*30mm (L*W*H) Weight: 0.50kg Mounting: DIN-Rail or Panel mounting	MAC Table: 4K Packet Buffer: 1M Packet Forwarding Rate: 8.928Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
3	RC-IES1005F	DIN Rail Unmanaged Industrial Switch Fiber Ports: 1 1000Base-Fx (SFP) RJ45 Ports: 5 10/100/1000Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: < 4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 134mm*90mm*30mm (L*W*H) Weight: 0.50kg Mounting: DIN-Rail or Panel mounting	MAC Table: 4K Packet Buffer: 1M Packet Forwarding Rate: 8.928Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
4	RC-IES0008	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 8 10/100/1000Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 99mm*100mm*44.5mm(L*W*H) Weight: 0.55kg Mounting: DIN-Rail or Panel mounting	MAC Table: 8K Packet Buffer: 2M Packet Forwarding Rate: 11.904Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
5	RC-IES2008F	DIN Rail Unmanaged Industrial Switch Fiber Ports: 2 1000Base-Fx (SFP) RJ45 Ports: 8 10/100/1000Base-Tx DC:12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 6W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions:166mm*100mm*44.5mm(L*W*H) Weight: 0.8kg Mounting: DIN-Rail or Panel mounting	MAC Table: 16K Packet Buffer: 2M Packet Forwarding Rate: 14.88Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
6	RC-IES0008E	DIN Rail Unmanaged Industrial Switch RJ45 Ports: 8 10/100/1000Base-Tx DC:12-36V		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: <4W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 101mm*87mm*41mm (L*W*H) Weight: 0.45kg Mounting: DIN-Rail or Panel mounting	MAC Table: 8K Packet Buffer: 2M Packet Forwarding Rate: 11.904Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -30 to 75°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)

Unmanaged Industrial PoE Switch

S/N	Model	Product Description	Picture	Specification							
				Power	LED	Physical property	Switching characteristics	Standard	Industrial standard	reliable prediction	environmental requirement
1	RC-IES1014PF	DIN Rail Unmanaged Switch Fiber Ports: 1 1000Base-X (SFP) RJ45 Ports: 5 10/100/1000Base-Tx with 4 PoE Ports		Power Terminal: 5-pin 3.81mm-spacing plug-in terminal block Full load power consumption: < 4W (POE:< 75W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 134mm*90mm*30MM(L*W*H) Weight: 0.50kg Mounting: DIN-Rail or Panel mounting	MAC Table: 4K Packet Buffer: 1M Packet Forwarding Rate: 8.928Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
2	RC-IES2028PF	DIN Rail Unmanaged Switch Fiber Ports: 2 1000Base-X (Combo) RJ45 Ports: 8 10/100/1000Base-Tx with 8 PoE Ports		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 6W (POE:< 120W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 175mm*100mm*45MM(L*W*H) Weight: 0.8kg Mounting: DIN-Rail or Panel mounting	MAC Table: 16K Packet Buffer: 4M Packet Forwarding Rate: 4.166Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
3	RC-IES2008PF	DIN Rail Unmanaged Switch Fiber Ports: 2 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx with 8 PoE Ports		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 6W (POE:< 120W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 166mm*100mm*44.5MM(L*W*H) Weight: 0.8kg Mounting: DIN-Rail or Panel mounting	MAC Table: 16K Packet Buffer: 2M Packet Forwarding Rate: 14.88Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
4	RC-IES2028PR	Desktop Unmanaged Switch Fiber Ports: 2 1000Base-X (Combo) RJ45 Ports: 8 10/100Base-Tx with 8 PoE Ports		Power Terminal: 10 A plug Full load power consumption: <10W (POE:<120W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT), Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 280mm*200mm*44.5MM(L*W*H) Weight: 3kg Mounting: Rack mouting	MAC Table: 16K Packet Buffer:4M Packet Forwarding Rate: 4.166Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
5	RC-IES2008PR	Desktop Unmanaged Switch Fiber Ports: 2 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx with 8 PoE Ports		Power Terminal: 10 A plug Full load power consumption: <12W (POE:<120W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 280mm*200mm*44.5MM (L*W*H) Weight: 3kg Mounting: Rack mouting	MAC Table: 16K Packet Buffer:2M Packet Forwarding Rate: 14.88Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fal	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
6	RC-IES4416PR	Rack mount Unmanaged Switch Fiber Ports: 4 1000Base-X (Combo) RJ45 Ports: 16 10/100Base-Tx with 16 PoE Ports		Power Terminal: 10 A plug Full load power consumption: <15W (POE:<200W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 430mm*220mm*44.5MM(L*W*H) Weight: 3.6kg Mounting:Rack mouting	MAC Table: 16K Packet Buffer:3M Packet Forwarding Rate: 8.3328Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)
7	RC-IES4424PR	Rack mount Unmanaged Switch Fiber Ports: 4 1000Base-X (Combo) RJ45 Ports: 24 10/100Base-Tx with 24 PoE Ports		Power Terminal: 10 A plug Full load power consumption: <17W (POE:<400W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional): portsIEEE 802.3.af: Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions: 430mm*300mm*44.5MM(L*W*H) Weight: 4.2kg Mounting: Rack mouting	MAC Table: 16K Packet Buffer:4M Packet Forwarding Rate: 9.5232Mpps Switching Delay: <5us	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact) , ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz) ; 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.) , 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -45 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)

Gigabit Managed Industrial Switch

S/N	Model	Description	Picture	Specifications								
				Power	LED	Physical property	Switching characteristics	Standard	Industrial standard	Reliable prediction	Environmental requirement	Management function
1	RC-IES2204	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 2 100Base-Fx (FC/SC/ST optional) RJ45 Ports: 4 10/100Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 8W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 105mm*100mm*44.5mm(L*W*H) Weight: 0.65kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX 100Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
2	RC-IES2204F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 2 1000Base-X (SFP) RJ45 Ports: 4 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 8W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 105mm*100mm*44.5mm(L*W*H) Weight: 0.65kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
3	RC-IES2206	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 2 100Base-Fx (FC/SC/ST optional) RJ45 Ports: 6 10/100Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 8W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 165mm*100mm*44.5mm(L*W*H) Weight: 0.75kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
4	RC-IES22006F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 2 1000Base-X (SFP) RJ45 Ports: 6 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 8W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 165mm*100mm*44.5mm(L*W*H) Weight: 0.75kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
5	RC-IES2306	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 3 100Base-Fx (FC/SC/ST optional) RJ45 Ports: 8 10/100Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 12W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 165mm*100mm*44.5mm(L*W*H) Weight: 0.80kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
6	RC-IES22008F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 2 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 10W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 166mm*100mm*44.5mm(L*W*H) Weight: 0.80kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
7	RC-IES23008F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 3 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 5-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 12W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : 165mm*100mm*44.5mm(L*W*H) Weight: 0.80kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
8	RC-IES24008F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 5-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 13W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT) , Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions : : 179mm*100mm*45mm(L*W*H) Weight: 0.80kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics

9	RC-IES24008PF	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx PoE RJ45 ports DC: 12-36V		Power Terminal: 5-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 13W (POE: < 120W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional)： portsIEEE 802.3.af： Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：179mm*100mm*45mm(L*W*H) Weight: 1.0kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
11	RC-IES24016F	DIN Rail Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 16 10/100/1000Base-Tx RJ45 ports DC: 12-36V		Power Terminal: 4-pin 5.08mm-spacing plug-in terminal block Full load power consumption: < 20W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：199mm*100mm*45mm(L*W*H) Weight: 0.9kg Mounting: DIN-Rail or Panel mounting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
10	RC-IES24008R	Desktop Managed Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 8 10/100/1000Base-Tx RJ45 ports AC: 100-240V		Power Terminal: 10 A plug Full load power consumption: < 13W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：280mm*200mm*44.5mm(L*W*H) Weight: 2.5kg Mounting: Rack mouting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
12	RC-IES24016R	Desktop Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 16 10/100/1000Base-Tx RJ45 ports AC: 100-240V		Power Terminal: 10 A plug Full load power consumption: < 20W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：280mm*200mm*44.5mm(L*W*H) Weight: 2.6kg Mounting: Rack mouting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
13	RC-IES24016PR	Desktop Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (SFP) RJ45 Ports: 16 10/100/1000Base-Tx PoE RJ45 Ports AC: 100-240V		Power Terminal: 10 A plug Full load power consumption: < 20W (POE: < 200W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional)： portsIEEE 802.3.af： Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：430mm*202mm*44.5mm (L*W*H) Weight: 3.5kg Mounting: Rack mouting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
14	RC-IES22424PR	Desktop Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (Combo) 2 1000Base-X (SFP) RJ45 Ports: 20 10/100/1000Base-Tx PoE RJ45 Ports AC: 100-240V		Power Terminal: 10 A plug Full load power consumption: < 22W (POE: < 400W) Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support POE function(optional)： portsIEEE 802.3.af： Supported 15.4W IEEE 802.3.at: Supported 30W	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：430mm*202mm*44.5mm(L*W*H) Weight: 3.8kg Mounting: Rack mouting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics
15	RC-IES2424R	Desktop Managed Industrial Switch Console Ports: 1 RS-232(RJ45) Fiber Ports: 4 1000Base-X (Combo) 2 1000Base-X (SFP) RJ45 Ports: 20 10/100/1000Base-Tx RJ45 ports AC: 100-240V		Power Terminal: 10 A plug Full load power consumption: < 22W Overload Protection: Support Reverse Connection Protection: Support Redundancy Protection: Support	Power LED: PWR Interface LED: RJ45(Link&ACT)，Fiber(Link&ACT)	Housing: Metal, fanless Protection Class: IP40 Dimensions：430mm*202mm*44.5mm(L*W*H) Weight: 3.2kg Mounting: Rack mouting	1.Forward frame length: maximum 9K bytes 2.MAC: 2K MAC address 3.VLAN: 4K 4.VLAN model: Acess/Trunk/Hybrid 5.QINQ: support 6.Bandwidth management: Port speed limit in and out direction 7.Rate-limiting granularity: 0~1G, Step 100Kbps 8.Expand loopback(PORT): support 9.Trunk/LACP: load balancing，Port protect 10.Spanning tree: STP, RSTP, MSTP 11. Loop protection: ERPS,Convergence time＜20ms 12.QOS traffic classification: support	IEEE 802.3 10Base-T IEEE 802.3u 100Base-T IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-X	EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A EMS: IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air) IEC61000-4-3 (RS): 10V/m (80MHz-2GHz) IEC61000-4-4 (EFT): Power Port: ±4kV; Data Port: ±2kV IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM; Data Port: ±2kV IEC61000-4-6 (CS): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)	Machinery: IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)	Operating Temperature: -40 to 85°C Storage Temperature: -40 to 85°C Ambient Relative Humidity: 5 to 95% (non-condensing)	1.EMS management system: REACOMM-emscluster management system 2.Command line management: Console, Telnet 3.SNMP management: support 4.WEB management: support 5.System upgrade: support BOOTROM down Xmodem / TFTP upgrade;Supports uploading and upgrading system files and configuration files 6.User management: User classification and password protection, Port Insulate, Network fault warning, Interrupt Power Warn 7.System maintenance: Optical module diagnosis, ping, port statistics