



## ICS5428 Series

19-inch 1U Rack Mounting

28-port Gigabit/10Gigabit Layer 3 Managed Industrial Ethernet Switch

- Support 4 Gigabit/10Gigabit fiber ports (SFP slots), 8 Gigabit Combo (SFP slots or RJ45) and 16 Gigabit copper ports
- Adopt SW-Ring patented technology, support single ring, coupling ring, chain, Dual-homing, automatic recovery time of network failure < 20ms
- Support ERPS and loop detection, which can eliminate loop effectively and prevent broadcast storm caused by data loop
- 10 Gigabit bandwidth can transmit large amounts of video, voice and data with high performance and high speed
- Support optional dual AC/DC power supply, input voltage: 100~240VAC/ DC or 36~72VDC
- Support -40~75°C wide operating temperature range



## Introduction

ICS5428 series is 28-port Gigabit/10 Gigabit layer 3 managed industrial Ethernet switch. It provides 10 Gigabit SFP slots, Gigabit SFP slots, Gigabit copper ports and Gigabit fiber and copper multiplexing port. It adopts 1U rack mounting. Abundant numbers of interfaces, bandwidth of Gigabit/10Gigabit combination and ability to transmit large amounts of video, voice and data with high performance and high speed meet the application requirements of large-scale industrial network.

Network management system supports a variety of network protocols and industry standards, such as ARP, VRRP, RIP, OSPF, BGP, ERPS, STP/ RSTP/MSTP, 802.1Q VLAN, QoS function, IGMP Snooping static multicast function, LLDP, port trunking, port mirror, etc. It has perfect management functions, supporting port configuration, port statistics, 802.1X authentication, network diagnosis, rapid configuration, online upgrade, loop detection, etc. CLI, WEB, Telnet, SSH, SNMP and other access methods can be supported. It can provide users with good experience with friendly design of network management system interface, simple and convenient operation.

This product supports optional dual AC/DC power supply. The input power supply is two independent power supply circuits which can ensure the normal operation of the device when one power supply fails. When power supply or port has link failure, ALARM indicator will be bright and send out alarm, meanwhile, alarm device connected to the relay will send out alarm for rapid scene troubleshooting. The hardware adopts fanless, low power consumption and wide temperature and voltage design, which has passed rigorous industrial standard tests, and suits for the industrial scene environment with harsh requirements for EMC. It can be widely used in smart grid, railway transportation, smart city, safe city, new energy, intelligent manufacturing and other industrial fields.

## Features and Benefits

- ④ SNMPv1/v2c/v3 is used for network management of various levels
- ④ RMON can be used for efficient and flexible network monitoring
- ④ Port mirroring can conduct data analysis and monitoring, which is convenient for online debugging
- ④ QoS supports real-time traffic classification and priority setting
- ④ LLDP can achieve automatic topology discovery, which is convenient for visual management
- ④ DHCP server can be used for distributing IP address with different strategies
- ④ File management is convenient for the device rapid configuration and online upgrading
- ④ Log management records the information of booting, operation and connection
- ④ Bandwidth management can reasonably distribute network bandwidth, preventing unpredictable network status
- ④ Port statistics can be used for the port real time traffic statistics

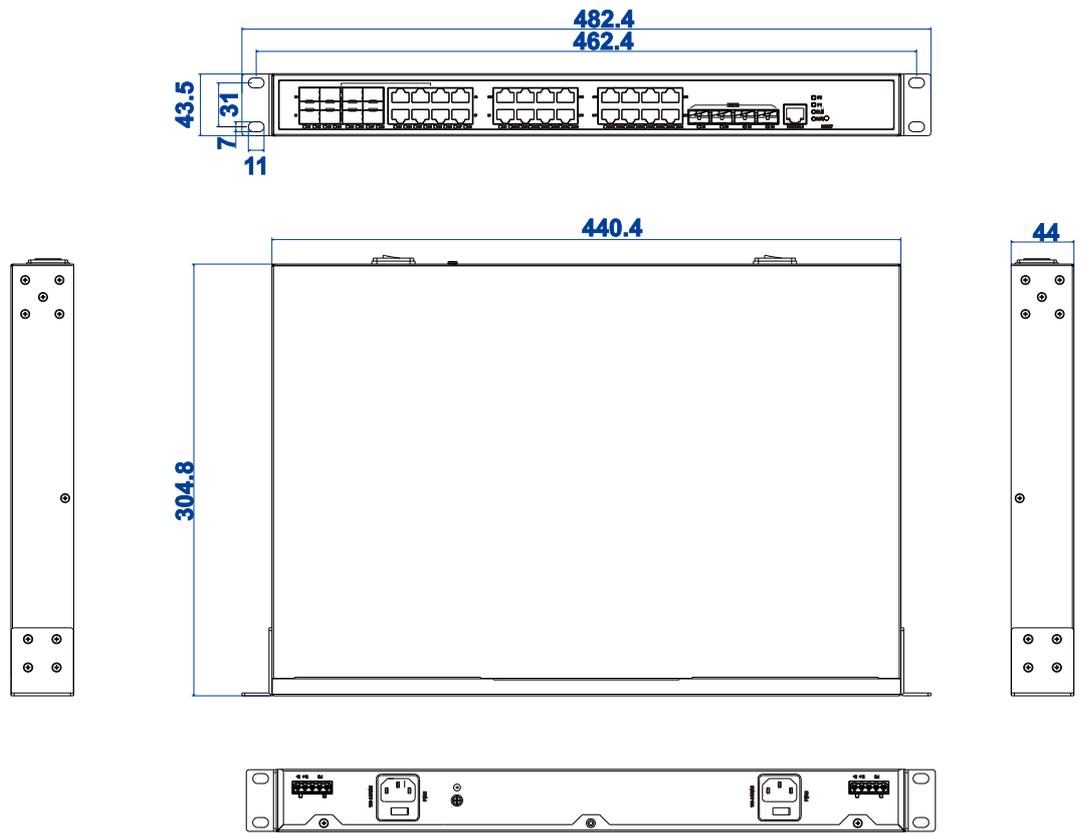
- ⦿ ARP could be used for MAC address resolution
- ⦿ User password can conduct user hierarchical management to improve the device management security
- ⦿ ACL can enhance network flexibility and security
- ⦿ Relay alarm is convenient for troubleshooting of construction site
- ⦿ Storm suppression can restrain broadcast, unknown multicast and unicast
- ⦿ TELNET configuration and HTTPS configuration guarantee secure access to data
- ⦿ VLAN is used for simplifying network planning
- ⦿ Port Trunking and LACP can increase network bandwidth and enhance the reliability of network connection to achieve optimum bandwidth utilization
- ⦿ PIM-DM/PIM-SM/PIM-SSM, IGMP Snooping, GMRP and static multicast can be used for filtering multicast traffic to save the network bandwidth
- ⦿ Bandwidth management and flow control can reasonably distribute network bandwidth, preventing unpredictable network status
- ⦿ Port isolation could achieve port isolation in the same VLAN and save VLAN resources
- ⦿ Ring and STP/RSTP/MSTP can achieve network redundancy, preventing network storm
- ⦿ Ping, Traceroute, Port Loopback and SFP Digital Diagnosis could achieve network diagnosis and troubleshooting
- ⦿ VRRP, RIP, OSPF, BGP could achieve dynamic routing configuration
- ⦿ With high reliability and stability, ERPS could avoid broadcast storm caused by data loopback
- ⦿ Loop detection could efficiently eliminate the influence caused by port loopback by detecting the existence of loopback

## Dimension

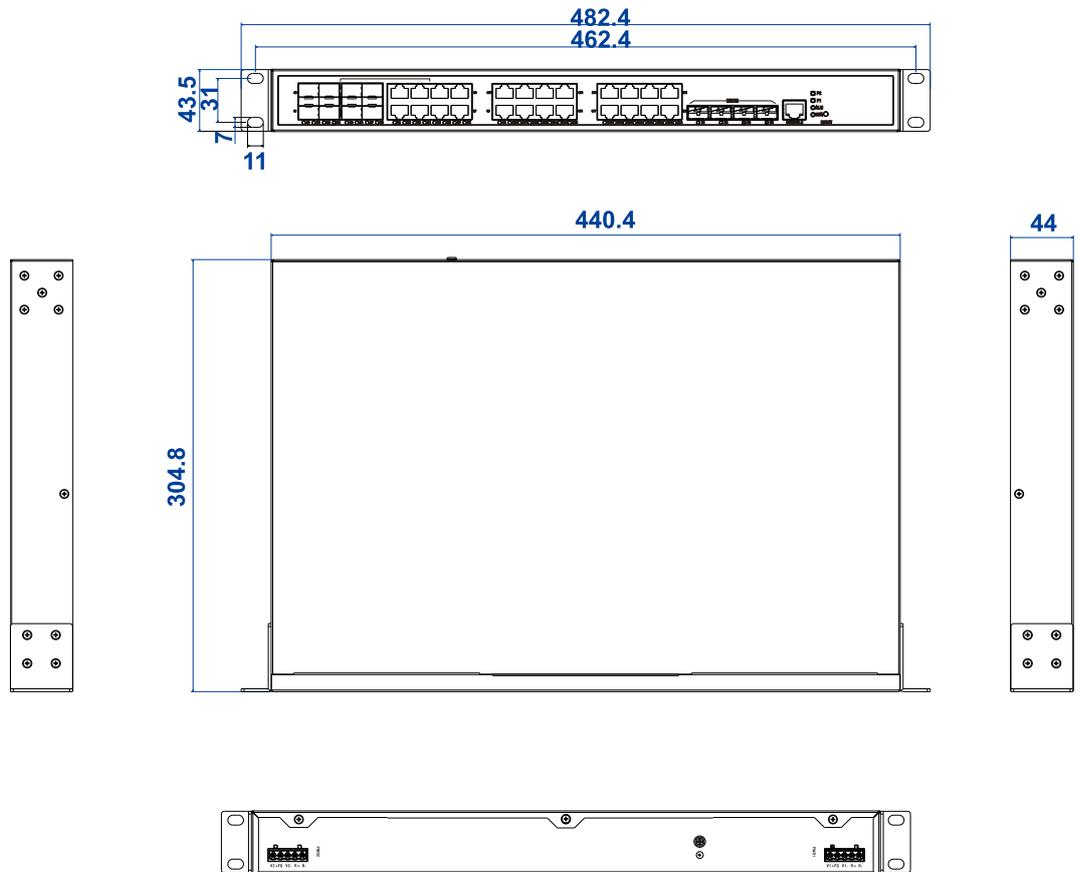
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Unit: mm

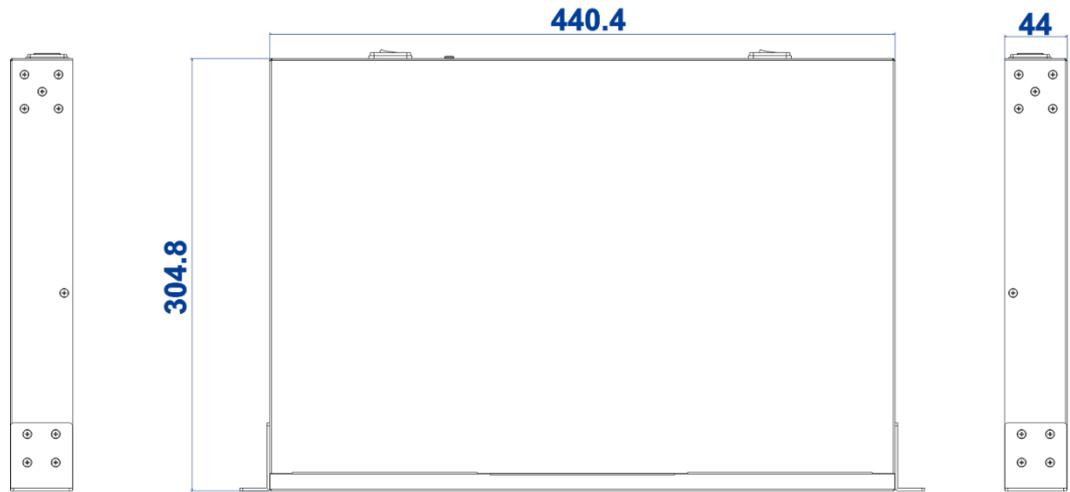
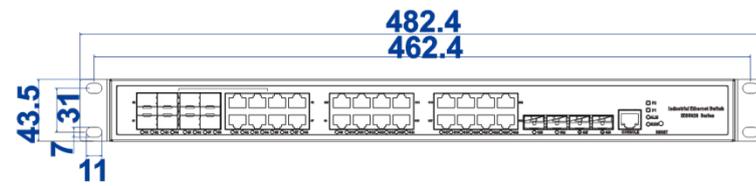
- ICS5428-16GT8GC4XS-2P220



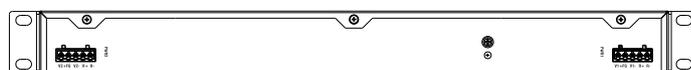
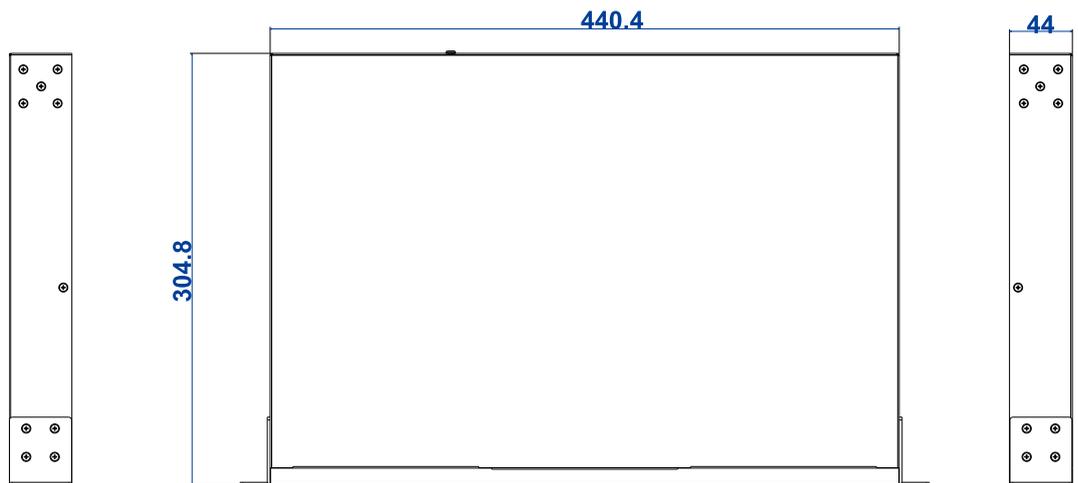
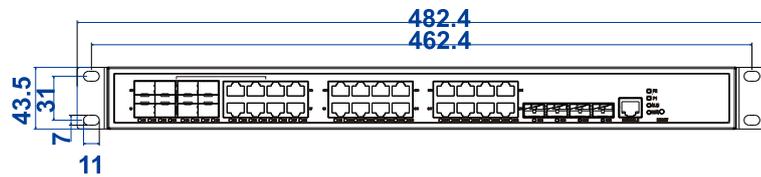
- ICS5428-16GT8GC4XS-2P48



- ICS5428-16GT4GS8GC-2P220



● ICS5428-16GT4GS8GC-2P48



# Specification

Standard & Protocol	<p>IEEE 802.3 for 10Base-T                  IEEE 802.3u for 100Base-TX                  IEEE 802.3ab for 1000Base-T                  IEEE 802.3z for 1000Base-X                  IEEE 802.3ae for 10GbE SFP+                  IEEE 802.3x for Flow Control                  IEEE 802.1D for Spanning Tree Protocol                  IEEE 802.1w for Rapid Spanning Tree Protocol                  IEEE 802.1s for Multiple Spanning Tree Protocol                  IEEE 802.1Q for VLAN                  IEEE 802.1p for CoS                  IEEE 802.1X for 802.1X Authentication                  IEEE 802.1AB for LLDP                  IEEE 802.3ad for LACP</p>
Management	<p>SNMP v1/v2c/v3 Centralized Management Devices, RMON, Port Mirroring, QoS, LLDP, DHCP Server, File Management, Log Management, Port Statistics, ARP</p>
Security	<p>User permission rating, ACL, 802.1X authentication, port alarm, power alarm, storm suppression, Telnet configuration, HTTPS configuration, Link Flapping Protection</p>
Switch Function	<p>802.1Q VLAN, Static/Dynamic Aggregation, Bandwidth Management, Flow Control, Port Isolation</p>
Unicast / Multicast	<p>Static Multicast, GMRP, IGMP-Snooping, PIM-SM, PIM-DM</p>
Redundancy Technology	<p>Ring, STP/RSTP/MSTP, ERPS, Loop Detection</p>
Troubleshooting	<p>Ping, Traceroute, Port Loopback, SFP Digital Diagnosis</p>
Routing Technique	<p>VRRP, RIP, OSPF, BGP</p>
Time Management	<p>NTP</p>
Interface	<p>Copper port: 10/100/1000Base-T(X), RJ45, Automatic Flow Control, Full/Half Duplex Mode, MDI/MDI-X Autotuning                  SFP slot: 10GbE SFP+ or 1000Base-SFP                  Combo port: 10/100/1000Base-T(X) or 1000Base-SFP                  Console port: CLI command line management port(RS-232), RJ45                  Alarm port: 2-pin 5.08mm pitch terminal blocks, support 2 relay alarm outputs, current carrying capacity is 5A@30VDC or</p>

10A@125VAC

<p><b>Indicator</b></p>	<p>Running Indicator, Port Indicator, Power Supply Indicator, Alarm Indicator</p>
<p><b>Switch Property</b></p>	<p>Transmission mode: store and forward                  MAC address: 16K                  Packet buffer size: 12Mbit                  Backplane bandwidth: 128G</p>
<p><b>Power Supply</b></p>	<p>ICS5428-16GT8GC4XS-2P220、ICS5428-16GT4GS8GC-2P220</p> <ul style="list-style-type: none"> <li>● 100~240VAC/DC</li> <li>● Support 2 AC power supply inputs</li> <li>● Support 5A overcurrent protection</li> <li>● Terminal block of AC power supply input: single-phase socket with rocker switch</li> </ul> <p>ICS5428-16GT8GC4XS-2P48、ICS5428-16GT4GS8GC-2P48</p> <ul style="list-style-type: none"> <li>● 36~72VDC</li> <li>● Support 2 DC power supply inputs</li> <li>● Support 3A overcurrent protection</li> <li>● Support anti-reverse connection</li> <li>● DC input terminal: 5-pin 5.08mm pitch terminal blocks</li> </ul>
<p><b>Power Consumption</b></p>	<p>No-load: 10.5W@220VAC                  Full-load: 25.3W@220VAC</p>
<p><b>Working Environment</b></p>	<p>Operating temperature: -40~75°C                  Storage temperature: -40~85°C                  Relative humidity: 5%~95% (no condensation)</p>
<p><b>Physical Characteristic</b></p>	<p>Housing: IP30 protection, metal                  Installation: 19-inch 1U rack mounting                  Weight: 3940g                  Dimension (W x H x D): 440.4mm×44mm×304.8mm</p>
<p><b>Industrial Standard</b></p>	<p>IEC 61000-4-2 (ESD, electrostatic discharge), Level 3</p> <ul style="list-style-type: none"> <li>● Air discharge: ±8kV</li> <li>● Contact discharge: ±6kV</li> </ul> <p>IEC 61000-4-4 (EFT, electrical fast transient), Level 3</p> <ul style="list-style-type: none"> <li>● Power supply: ±2kV</li> <li>● Signal: ±1kV</li> </ul>

	<p>IEC 61000-4-5 (Surge), Level 3</p> <ul style="list-style-type: none"><li>• Power supply: differential mode±1kV, common mode±2kV</li><li>• Signal: differential mode±1kV, common mode±2kV</li></ul> <p>Shock: IEC 60068- 2- 27 Free fall: IEC 60068- 2- 32 Vibration: IEC 60068- 2- 6</p>
<b>Certification</b>	CE, FCC, RoHS
<b>Warranty</b>	5 years



## Ordering Information

Available Models	10Giga bit SFP	Gigabit SFP	Gigabit Combo	Gigabit copper port	Power Supply
ICS5428-16GT8GC4XS-2P220	4	-	8	16	100~240VAC/DC, dual power supply
ICS5428-16GT8GC4XS-2P48	4	-	8	16	36~72VDC, dual power supply
ICS5428-16GT4GS8GC-2P220	-	4	8	16	100~240VAC/DC, dual power supply
ICS5428-16GT4GS8GC-2P48	-	4	8	16	36~72VDC, dual power supply



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