28-port Full Gigabit Layer 3 Managed Industrial Ethernet Switch

- 16 fixed 10/100/1000M Ethernet ports; rate self-adaption, full/half duplex mode, MDI/ MDI-X self-adaption;
- 4 fixed 1000M SFP interfaces, adaptable to 1000M SFP optical module(support SM/MM)and 1000M SFP electrical interface module(Support twisted pair transmission);
- Optional 8*1000BASE-X Full duplex optical interfaces(default SC interface, FC/ST optional, transmission up to 120 km)or 8*10/100/1000M Ethernet RJ45 ports or 8*1000M SFP interfaces;
- Support Web, CLI and SNMP three management modes, and CLI supports Telnet and console log in;
- Layer 3 switching with static routes, RIP and OSPF routing
- Support QoS, IGMP, 802.1Q VLAN function ;
- Support RSTP and CK-Ring for Ethernet redundancy;
- Support relay alarm output for power supply, port and ring network status alarm;
- Support redundant wide range voltage 100~220V AC power input(220V DC or 48V DC optional);
- Adopt with high strength IP40 housing and industrial EMC design;
- Support 1U standard rack installation;
- Working temperature range: -40~75℃, meet various industrial site requirements

Product Overview

CRS9228 series is 28-port Gigabit/10 Gigabit layer 3 industrial Ethernet switch. It provides Gigabit copper ports and Gigabit SFP slots. It adopts 1U rack mounting, abundant numbers of interfaces and Gigabit bandwidth to meet the application requirements of large-scale industrial network.

Network management system supports a variety of network protocols and industry standards, such as ARP, RIP, OSPF, NAT, ERPS, STP/RSTP/MSTP, 802.1Q VLAN, QoS function, IGMP Snooping static multicast function, 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. Hardware adopts fanless, low power consumption, wide temperature and voltage design and has passed rigorous industrial standard tests, which can suit for the industrial scene environment with harsh requirements for EMC. It can be widely used in smart grid, rail transit, smart city, safety city, new energy, intelligent manufacturing and other industrial fields.

Features

Basic Switching Features

- Conform to IEEE802.3/802.3u /802.3ab/802.3z standard, store and forward switching
- Provide 16 fixed 10/100/1000M self-adaptive Ethernet ports, Auto MDI/MDIX
- Provide 4 fixed 1000M SFP interfaces(optional 1000base-X or 1000base-T module)
- Optional 8*1000BASE-X optical interfaces (default SC interface, FC/ST optional) or 8*10/100/1000M self-adaptive Ethernet ports or 8 fixed 1000M SFP interfaces(optional 1000base-X or 1000base-T module)
- Adopt with high strength IP40 housing and industrial EMC design
- Support redundant wide range voltage 100~240V AC power input(220V DC or 48V DC optional)
- -40~75℃ working temperature range

Advanced Industrial Redundant Ethernet Network Features

- Support Web, CLI and SNMP three management modes, CLI supports Telnet and Console log in
- Layer 3 switching with static routes, RIP and OSPF routing
- Support store and forward mechanism
- Support common port feature settings, such as port enabling, adaptive or forced, flow control, etc

- Support port mirroring for online debugging and monitoring of network data status
- Support the function of port bandwidth limitation and optimize bandwidth utilization
- support port aggregation function to expand network bandwidth and improve network transmission efficiency.
- Support port priority QoS settings to improve network service quality
- Support port MAC address learning and data statistics functions
- Support 802.1Q VLAN setting and effectively control broadcast domain
- Support unicast / multicast MAC address management
- Support static IGMP multicast filtering, which is used to filter the multicast traffic in the industrial Ethernet protocol.
- Support broadcast storm suppression function
- Support SNMP V1 / V2C / V3 to make different levels of network management secure
- Support RSTP to avoid message proliferation and infinite loop in the loop network
- supports plug and play redundant self-healing Ethernet ring network technology, and supports three ring network modes: single ring, tangent and intersection.
- Support relay alarm output
- Support the whole network system management

Specification

Technology

- Standard: IEEE802.3、IEEE802.3u、IEEE 802.3ab、IEEE 802.3z 、 IEEE802.3x 、 IEEE802.1Q 、 IEEE802.1p 、 IEEE802.1d、IEEE802.1w

Interfaces

- RJ45 port:10/100/1000BASE-T rate self-adaption, Full/half duplex mode，MDI/MDI-X self-adaption.
- SFP interfaces:1000BASE-X or SFP Copper 1000Base-T (Support twisted pair transmission)
- Optical interfaces: 1000Base-X full Duplex (default SC interface, FC/ST optional), transmission up to 120 km
- Console: RS-232 (RJ45 connector) debugging serial ports

Exchange Property

- 10M forwarding speed:14881pps
- 100M forwarding speed:148810pps
- 1000M forwarding speed:1488096pps
- Transmission way:Store and forward.
- System switching bandwidth:56Gbps
- Cache size:1.5Mbits
- MAC address table:16K

Power Supply

- Alternating current power supply: redundant wide range voltage 100~240V AC(50～60Hz 1.2A) power input, with three-wire single-phase power cord
- Direct-current power supply: redundant wide range voltage 220V DC (48VDC optional)power input, with 2 cores 7.62mm spacing industrial terminal,power supply supports reverse connection protection and non polarity function

Relay

- Relay alarm output: alarm output of port failure, power failure and ring network failure
- Max. contact capacity:1A@24VDC

Mechanical Properties

- Dimension(W×H×D): 482.6mm×44mm×275mm
- Net weight: 3.15 Kg
- Housing: IP40 protection, metal housing
- Installation:1U standard rack installation

Operating Environment

- Working temperature:-40℃~75℃
- Storage temperature: -40℃~ 85℃
- Relative humidity: 5% ~ 95% (no condensation)

Warranty

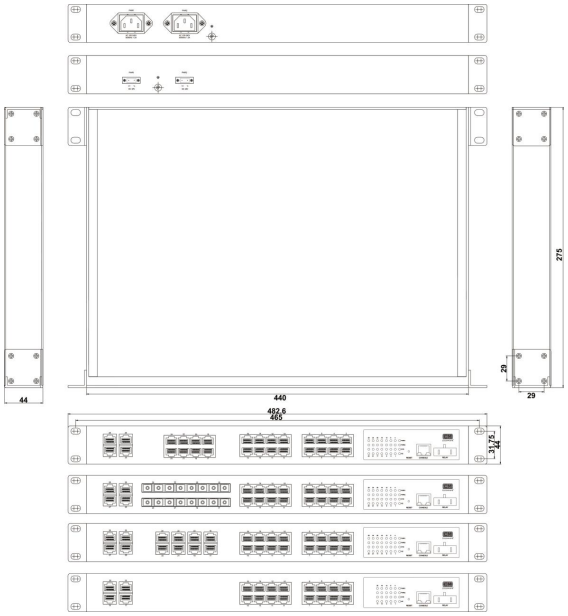
- Warranty: 5 years

Standard

- IEC61000-4-2(ESD): ±6KV Contact Discharge, ±15KV Air Discharge
- IEC61000-4-3(RS): 10V/M (80-1000MHZ)
- IEC61000-4-4(EFT): Power Cable ±4KV, Data Cable ±2KV
- IEC61000-4-5(Surge): Power Cable ±4KV CM/±2KV DM, Data Cable: ±4KV
- IEC61000-4-6(Radio Frequency Conduction): 3V (10KHZ-150KHZ), 10V (150KHZ-80MHZ)

- IEC61000-4-16(Common Mode Conduction ）：30V(cont.),300V(1s)
- IEC60068-2-6（Vibration）
- IEC60068-2-27（Shock）
- IEC60068-2-32（Free fall）
- IEC61000-6-2(General Industrial Standards), IEC61850-3(Transformer Substation), IEEE1613(Power Substation)
- EN50121-4(Rail Transit)

Dimension(mm)



Product Models

Product Models	Specification & Descriptions
CRS9228-8TX	Industrial Layer 3 Managed Switch,24*10/100/1000M self-adaptive Ethernet ports,4*1000M SFP interfaces (1000Base-X or 1000Base-T module optional),1U standard rack installation
CRS9228-8FX	Industrial Layer 3 Managed Switch,16*10/100/1000M self-adaptive Ethernet ports,8*1000BASE-FX optical interfaces (default SC interface, FC/ST optional), 4*1000M SFP interface s (1000Base-X or 1000Base-T module optional), 1U standard rack installation
CRS9228-8SFP	Industrial Layer 3 Managed Switch,16*10/100/1000M self-adaptive Ethernet ports,12*1000M SFP interfaces(1000Base-X or 1000Base-T module optional), 1U standard rack installation

Package List

- 28 Port Full-Gigabit Layer 3 Managed Industrial Ethernet Switch 1pcs (with three-wire single-phase power cord or industrial power terminal and debugging serial port wire)
- Product Manual 1pcs