

## Datasheet

# 14-port Full Gigabit Managed Industrial Ethernet Switch

SUN-IPS33148FM



SUN-IPS33148FM è uno switch Ethernet industriale gestito gigabit in fibra. Dispone di 10 porte RJ45 adattive 10/100/1000Base-T e 4 porte SFP in fibra 100/1000Base-X. Ogni porta è in grado di supportare l'inoltro wire-speed.

SUN-IPS33148FM dispone di una funzione di gestione della rete L2+, supporta la gestione IPV4/IPV6, l'inoltro di percorsi statici, un meccanismo completo di protezione per la sicurezza, la politica ACL/QoS e la funzione VLAN. Supporta più protocolli di ridondanza di rete STP/RSTP/MSTP (<50ms) e (ITU-T G.8032) ERPS (<20ms) per migliorare il backup dei collegamenti e l'affidabilità della rete. Quando una rete unidirezionale si guasta, può riprendere rapidamente la comunicazione e garantire una comunicazione ininterrotta. È possibile configurare la gestione delle porte, la gestione degli indirizzi di routing, il controllo del traffico delle porte, la divisione VLAN, IGMP e i criteri di sicurezza in base ai metodi di gestione della rete quali Web, CLI, SNMP e Telnet.

SUN-IPS33148FM segue il design e i materiali dei prodotti industriali. L'involucro esterno è realizzato in lega di alluminio per migliorare le prestazioni di dissipazione del calore. Ha un'eccellente adattabilità all'ambiente industriale (stabilità meccanica, adattabilità all'ambiente climatico, adattabilità all'ambiente elettromagnetico, ecc.) e una protezione di grado IP40, supporta la doppia alimentazione ridondante, è privo di ventole per il basso consumo.

#### ■ **Full gigabit port access**

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
- ◇ Support gigabit Ethernet port and gigabit SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

#### ■ **Strong business processing capability**

- ◇ Support ERPS ring network and STP/RSTP/MSTP to eliminate layer 2 loops and realize link backup.
- ◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.
- ◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.
- ◇ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.
- ◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.
- ◇ Support IGMP Snooping V1/V2/V3 multicast protocol IGMP Snooping to meet the high-definition video surveillance and video conference access requirements.

#### ■ **Security**

- ◇ Support port isolation.
- ◇ Support port broadcast storm suppression.
- ◇ Support IP+MAC+port+VLAN quadruple flexible combination binding function.
- ◇ Support 802.1X authentication to provide authentication functions for LAN computers, and

control the authorization status of controlled ports according to the authentication results.

■ **Stable and reliable**

- ◇ CCC, CE, FCC, RoHS.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A.
- ◇ Low power consumption, No fan, aluminum shell, and excellent heat dissipation ensure the stable operation of the switch.

■ **Easy O&M management**

- ◇ CPU monitoring, memory monitoring, Ping detection, cable length detection.
- ◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods, making management more secure.
- ◇ RMON, system log, and port traffic statistics to facilitate network optimization and transformation.
- ◇ LLDP to facilitate the network management system to query and judge the communication status of the link.
- ◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet and other diversified management and maintenance methods.

## TECHNICAL SPECIFICATION

Model	SUN-IPS33148FM
<b>Interface Characteristics</b>	
Fixed Port	Power-off alarm switch (FAULT) 1*RS232 console port (115200,N,8,1) 10*10/100/1000Base-T RJ45 ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data) 2 set of V+, V- redundant DC power interface (6 Pin Phoenix terminal)
Ethernet Port	Port 1-10 support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption

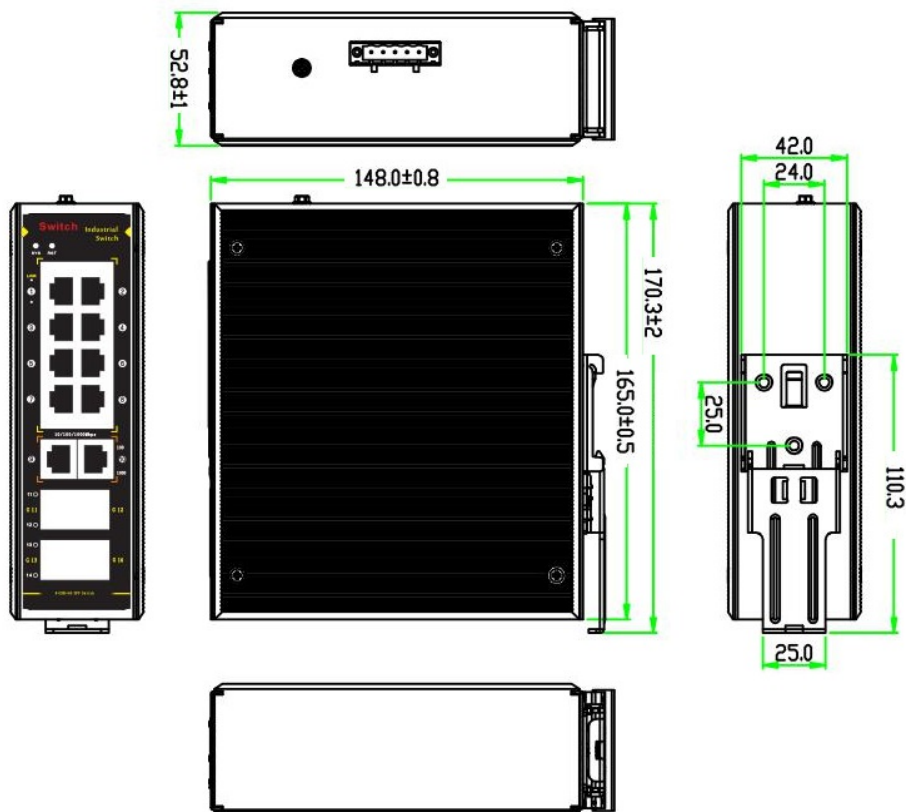
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters)
SFP Slot Port	Gigabit optical fiber port, default no include optical modules (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
SFP Port Expansion	Turbo overclocking 2.5G optical module and ring
Optical Cable/ Distance	Multi-mode: 850nm/ 0-500m Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km.
<b>Chip Parameter</b>	
Network Management Type	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX/FX IEEE802.3ab 1000Base-TX, IEEE802.3z 1000Base-X, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	52Gbps
Forwarding Rate@64byte	20.83Mpps
CPU	416M
DRAM	1G
FLASH	128M
MAC	8K
Buffer Memory	6M
Jumbo Frame	9.6K
LED Indicator	Power: PWR (Green), System: SYS (Green) Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and hold the reset switch for 10s and release it to restore the factory settings
<b>Power Supply</b>	
Working Voltage	DC12-48V, 6 Pin industrial Phoenix terminal, support anti-reverse protection.

Power Consumption	Standby<10W, Full load<15W
Power Supply	No, optional 24V/24W industrial power supply
<b>Physical Parameter</b>	
Operation TEMP / Humidity	-40~+80°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	<1.1kg / <1.4kg
Installation	Desktop, 35mm DIN rail
<b>Certification</b>	
Lightning Protection	<p>Protection level: IP40</p> <p>Lightning protection: 6KV 8/20us</p> <p>IEC61000-4-3 (RS):10V/m (80~1000MHz)</p> <p>FCC Part 15/CISPR22 (EN55022): Class B</p> <p>IEC61000-6-2 (Common Industrial Standard)</p> <p>IEC61000-4-9 (Pulsed magnet field): 1000A/m</p> <p>IEC61000-4-10 (Damped oscillation): 30A/m 1MHz</p> <p>IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV</p> <p>IEC61000-4-4 (EFT): Power cable: ±4kV, data cable: ±2kV</p> <p>IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s</p> <p>IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge</p> <p>IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz)</p> <p>IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s</p> <p>IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV</p>
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock)
Properties	IEC60068-2-32 (Free Fall)
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
<b>Network Management Features</b>	
Interface	IEEE802.3X (Full-duplex)

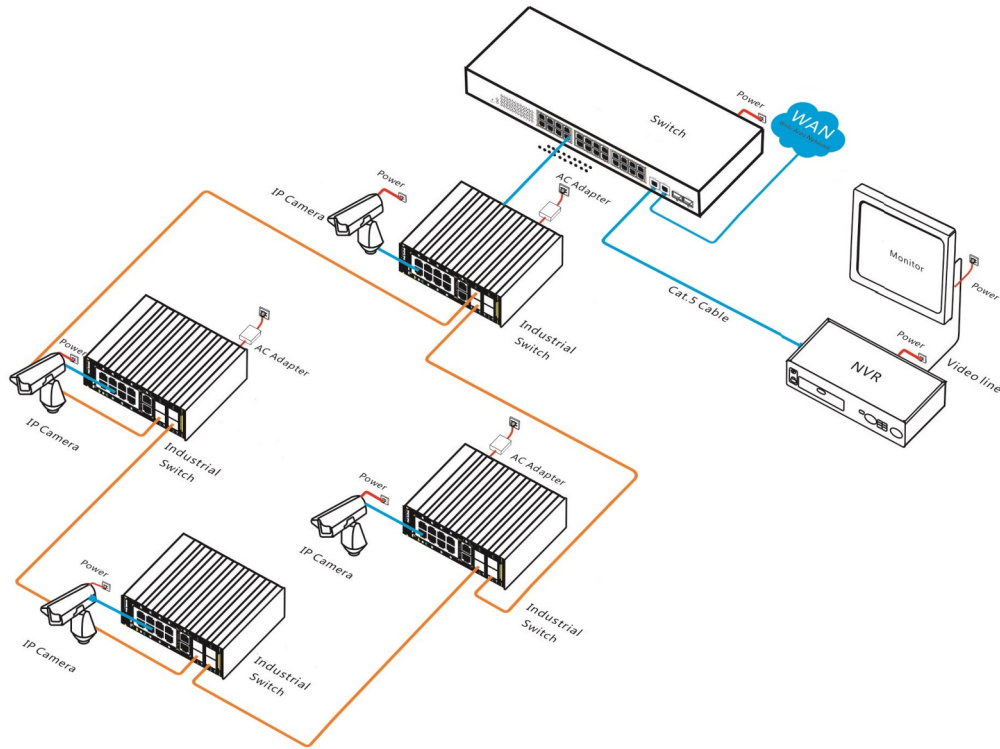
	<p>Port temperature protection setting</p> <p>Port green Ethernet Energy-saving setting</p> <p>Broadcast storm control based on port speed</p> <p>The speed limit of the message flow in the access port, mini particle size is 64Kbps.</p>
Layer 3 Features	<p>ARP protocol max 1024 entries</p> <p>Static routing/ default routing max 128 entries</p> <p>L2+ network management, IPV4/IPV6 dual stack management</p> <p>L3 routing and forwarding, and communication between different network segments and different VLAN</p>
VLAN	<p>Access, Trunk, and Hybrid port configurations</p> <p>Port-based VLAN (4K), IEEE802.1q, QinQ configuration</p> <p>Voice VLAN, Protocol-based VLAN, MAC address-based VLAN</p>
Port Aggregation	<p>LACP dynamic aggregation, Static aggregation</p> <p>Max 8 aggregation groups and 8 ports per group.</p>
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Industrial Ring	Recovery time less than 20ms
Network Protocol	G.8032 (ERPS), 250 Ring at most, Max 250 devices per ring.
Multicast	<p>MLD Snooping v1/v2, Multicast VLAN, Fast log out</p> <p>IGMP Snooping v1/v2, Max 1024 multicast groups</p>
Port Mirroring	Bidirectional data mirroring based on port
QoS	<p>Diff-Serv QoS, Priority mark/ remark</p> <p>Queue scheduling algorithm (SP, WRR, SP+WRR)</p> <p>Flow-based rate limiting, Flow-based packet filtering</p> <p>8*Output queues of each port, 802.1p/ DSCP priority mapping</p>
ACL	<p>Port-based Issuing ACL, ACL based on port and VLAN</p> <p>L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.</p>
Security	<p>Mac black holes, IP source protection</p> <p>IEEE802.1X &amp; MAC address authentication</p>

	<p>Broadcast storm control, Backup for host datum</p> <p>SSH 2.0, SSL, Port isolation, ARP message speed limit</p> <p>User hierarchical management and password protection</p> <p>Anti-DoS attack, AAA&amp; RADIUS &amp;TACACS+ certification</p> <p>IP-MAC-VLAN-Port binding, ARP inspection, MAC learning limit</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	<p>CPU real-time utilization status view, SNMP V1/V2/V3</p> <p>Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration</p> <p>Cable length status detection, NTP clock, One-key recovery, LLDP</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p> <p>Ping detection, System work log, Web network management (HTTPS)</p>
System	<p>Category 5 Ethernet network cable</p> <p>Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later</p> <p>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network</p>

## DIMENSION



## APPLICATION



## ORDERING INFORMATION

Model	Description	Recommended Power Supply
SUN-IPS33148FM	L2+ managed industrial Ethernet fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.	24V/24W

**Note:** The optical module and power supply are not included. need to be purchased separately.



## OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	SUN-2630-G	Industrial SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface. supports DDM function and hot plugging.	PC
	SUN-2632-G	Industrial SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	SUN-2612-T-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	SUN-2613-R-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface. supports DDM function and hot plugging.	PC
	SUN-2612-T-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
	SUN-2613-R-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	PC
Power Module	SUN-2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

## POWER SUPPLY

Product	Model	Description	Unit
24W DIN Rail Industrial Power Supply	SUN-DP24-24	DIN Rail 24W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 0.35A Output Voltage: DC24V, 1A Operation Temperature: -40°C to +70°C	PC

## RELATED PRODUCT

Model	Description
SUN-IPS33064FM	L2+ managed industrial Ethernet fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.
SUN-IPS33084FM	L2+ managed industrial Ethernet fiber switch with 4*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.
SUN-IPS33108FM	L2+ managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.
SUN-IPS33168FM	L2+ managed industrial Ethernet fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.
SUN-IPS33168FM-4GF	L2+ managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M SFP fiber ports. It can support dual DC power input and DIN rail mounting.
SUN-IPS38168FM	L3 managed industrial Ethernet fiber switch with 12*10/100/1000M RJ45 ports and 4*1/10G SFP+ fiber ports. It can support dual DC power input and DIN rail mounting.

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