

# IRS3008F4-BP-AC

Rack-mount Industrial L3 Managed Ethernet Switch



The IRS3008F4-BP-AC is an industrial-grade optical fiber bypass switch with built-in 4 duplex LC connectors featuring optical bypass function. It automatically switches optic network traffic to prevent link failure during power loss.

The optical fiber bypass switch can be used in critical and major optical networks where fiber link failures are not tolerated, such as in power substation, train and bus station, IP surveillance system, railway monitoring, communication systems, and factory automation.

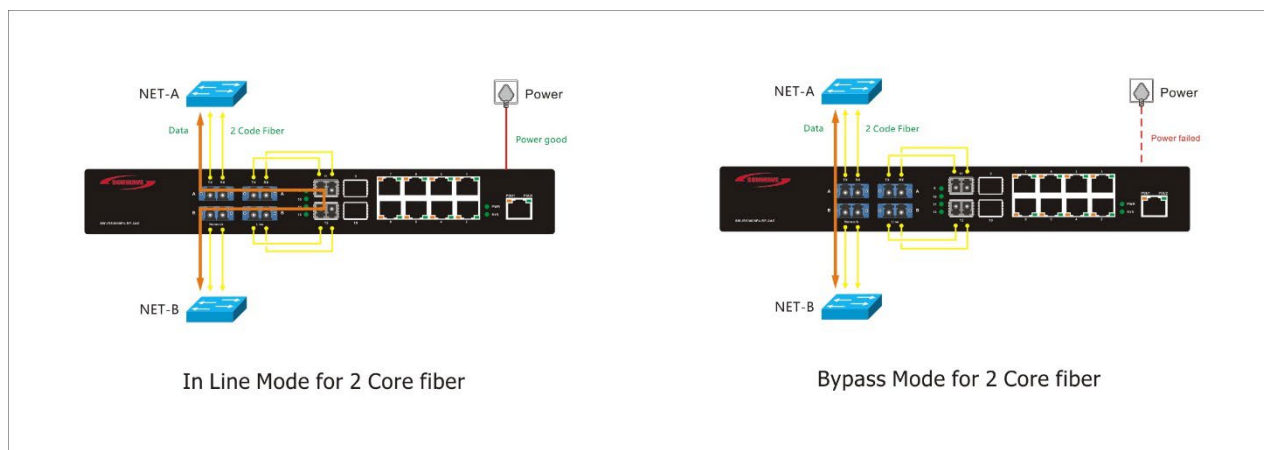
The optical fiber bypass switch applies fiber-to-fiber technology to achieve ultra-low losses and ultra-fast switching time. Two of the fiber ports are used to connect to two remote fiber switches and the other two fiber ports are used to connect to the local fiber ports.

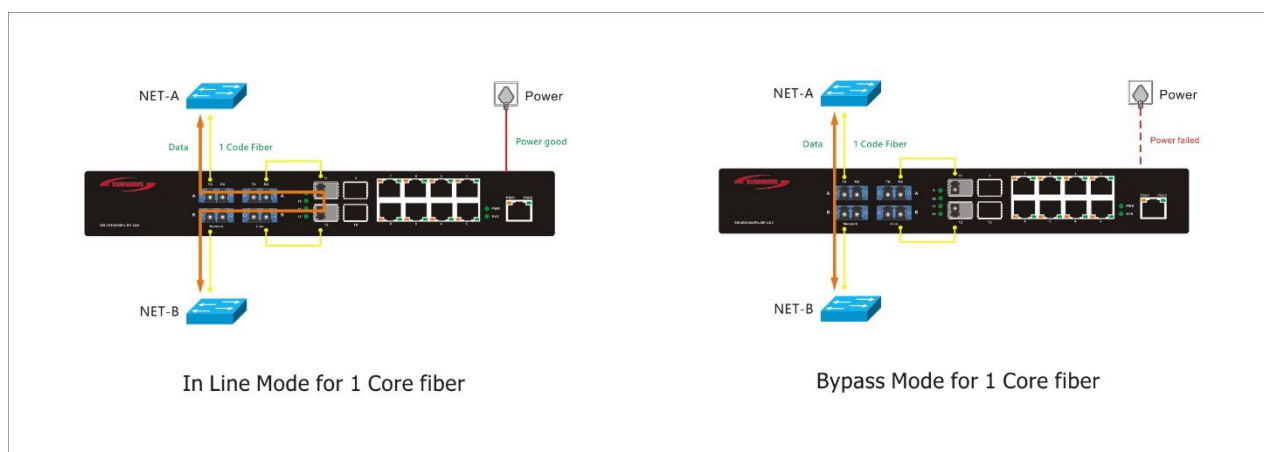
When the system power is on, the switch operates in the "In line mode" and forwards Ethernet packets pass through the switch

When the system power failure occurs, the switch operates in the "Bypass mode" that directly forwards Ethernet packet between two remote network and bypass the local fiber switch.

Once the system power is recovered, the network traffic resumes operation in "In line mode"

Implemented as a Bypass Switch that can use both 2 Core fiber and 1 Core fiber





## Specifications

| Attributes            |                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------|
| Networking Interfaces | 8 x 10/100/1000Mbps RJ45 Ports & 4 x 1Gbps SFP Slots<br>4 x Duplex LC (Support Bypass)                              |
| Management Interface  | Console                                                                                                             |
| LED Indicators        | Power, Link/Act                                                                                                     |
| Optical path          |                                                                                                                     |
| Optic Interfaces      | LC                                                                                                                  |
| Optic Mode            | Single Mode                                                                                                         |
| Optic Wavelength      | 1260~1650nm                                                                                                         |
| Bypass function       | Support auto-detect power supply interruption so that switch to bypass mode to stable network operation is possible |
| Bypass recovery time  | Less than 20ms.                                                                                                     |
| Performance           |                                                                                                                     |
| Switching Capacity    | 24 Gbps                                                                                                             |
| Forwarding Capacity   | 17.9 Mpps                                                                                                           |
| Forwarding Mode       | Store and Forward                                                                                                   |
| Packet Buffer Memory  | 12 Mbit                                                                                                             |
| RAM for CPU           | 2 Gbit                                                                                                              |
| Flash Memory          | 512 Mbit                                                                                                            |
| MAC Address Table     | 16K                                                                                                                 |
| Max. Jumbo Frame size | 16K                                                                                                                 |
| ACL Table             | 1K                                                                                                                  |
| VLAN Quantity         | 4K                                                                                                                  |
| VLAN Interface        | 512                                                                                                                 |
| Multicast groups      | 512                                                                                                                 |
| Routing Host          | 512                                                                                                                 |
| Routing Entries       | 64                                                                                                                  |
| Port Queues           | 8                                                                                                                   |

| Physical                     |                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Dimensions                   | 330 x 200 x 44 mm                                                                                                    |
| Weight                       |                                                                                                                      |
| Operating Temperature        | -40 to 70°C                                                                                                          |
| Storage Temperature          | -40 to 80°C                                                                                                          |
| Operating Humidity           | 5 to 90% Noncondensing                                                                                               |
| Power Method                 | 100-240VAC, 50/60Hz                                                                                                  |
| Max. Power Consumption       | 10W                                                                                                                  |
| EMC Safety                   | FCC, CE, RoHS                                                                                                        |
| Reliability                  | Build-in two AC-DC power supply                                                                                      |
| Port Configuration           |                                                                                                                      |
| Enable and Disable           | Support control enable and disable                                                                                   |
| Auto-Negotiation             | Support force port mode and speed                                                                                    |
| Flow Control                 | Support IEEE802.3x full-duplex<br>Support half-duplex backpressure                                                   |
| Storm Control                | Support broadcast, multicast and DLF package rate limit                                                              |
| Port Mirroring               | Support many to one mirroring                                                                                        |
| Rate Limit                   | Support Port input and output rate limit                                                                             |
| Link Aggregation             | Support manual Link Aggregation<br>Support LACP<br>Up to 8 maximum aggregation groups, each containing up to 8 ports |
| Aggregation Strategy         | Source MAC / Destination MAC / Source Destination MAC<br>Source IP / Destination IP / Source Destination IP          |
| Port Protection              | Each port can be configured into isolated protected port from each other                                             |
| MAC Configuration            |                                                                                                                      |
| MAC Address Table Management | Support                                                                                                              |
| Transfer Mode                | Support IVL transfer mode                                                                                            |
| Static MAC Address           | Support                                                                                                              |
| MAC Binding                  | Support                                                                                                              |
| MAC Address Filter           | Support                                                                                                              |
| MAC Quantity Limitation      | Support limit the number of MAC-addresses Learning per port                                                          |
| VLAN Configuration           |                                                                                                                      |
| VLAN Based on 802.1Q         | Support                                                                                                              |
| MAC-Based VLAN               | Support                                                                                                              |
| IP-Based VLAN                | Support                                                                                                              |
| Protocol-Based VLAN          | Support                                                                                                              |
| Guest VLAN                   | Support                                                                                                              |
| Private VLAN                 | Support                                                                                                              |
| Voice VLAN                   | Support                                                                                                              |
| VLAN Mapping                 | Support 1:1 mapping                                                                                                  |
| QinQ                         | Support basic QinQ<br>Support flexible QinQ                                                                          |
| Reliability Protocol         |                                                                                                                      |
| Spanning Tree                | Support STP/RSTP/MSTP                                                                                                |

|                                            |                                                                                                                                                                         |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BPDU Guard</b>                          | Support                                                                                                                                                                 |
| <b>BPDU Filter</b>                         | Support                                                                                                                                                                 |
| <b>Port Loop Detection</b>                 | Support                                                                                                                                                                 |
| <b>EAPS Protocol</b>                       | Support RFC3619                                                                                                                                                         |
| <b>ERPS Protocol</b>                       | Support                                                                                                                                                                 |
| <b>DLDP Protocol</b>                       | Support DLDP                                                                                                                                                            |
| <b>LLDP Protocol</b>                       | Support LLDP and LLDP-MED                                                                                                                                               |
| <b>UDLD Protocol</b>                       | Totally compatible with UDLD protocol of CISCO                                                                                                                          |
| <b>VLLP (VRRP Layer-2 Loop Protection)</b> | Support, Only used with VRRP                                                                                                                                            |
| <b>L3 Routing</b>                          |                                                                                                                                                                         |
| <b>ARP</b>                                 | Support static and dynamic ARP                                                                                                                                          |
| <b>Static Route</b>                        | Support static route based on IPv4 and IPv6                                                                                                                             |
| <b>RIP</b>                                 | Support RIP v1/v2 & IPv6 RIPng                                                                                                                                          |
| <b>OSPF</b>                                | Support OSPFv2 & IPv6 OSPFv3                                                                                                                                            |
| <b>BGP</b>                                 | Support BGP4 & IPv6 BGP4+                                                                                                                                               |
| <b>Policy Route</b>                        | Support                                                                                                                                                                 |
| <b>VRRP</b>                                | Support                                                                                                                                                                 |
| <b>Multicast</b>                           |                                                                                                                                                                         |
| <b>Static Multicast MAC Address</b>        | Support                                                                                                                                                                 |
| <b>IGMP SNOOPING</b>                       | Support                                                                                                                                                                 |
| <b>IGMP Querier</b>                        | Support                                                                                                                                                                 |
| <b>IGMP Filter</b>                         | Support                                                                                                                                                                 |
| <b>MVR</b>                                 | Support                                                                                                                                                                 |
| <b>GMRP</b>                                | Support                                                                                                                                                                 |
| <b>IGMP</b>                                | Support IGMP v1/v2/v3                                                                                                                                                   |
| <b>PIM-SM</b>                              | Support                                                                                                                                                                 |
| <b>Access Control List (ACL)</b>           |                                                                                                                                                                         |
| <b>Based on Standard IP</b>                | Support                                                                                                                                                                 |
| <b>Based on Extend IP</b>                  | Support                                                                                                                                                                 |
| <b>Based on MAC IP</b>                     | Support                                                                                                                                                                 |
| <b>Based on MAC ARP</b>                    | Support                                                                                                                                                                 |
| <b>Based on time</b>                       | Support                                                                                                                                                                 |
| <b>Port Filtering</b>                      | Support                                                                                                                                                                 |
| <b>Quality of Service (QOS)</b>            |                                                                                                                                                                         |
| <b>Scheduling Mode</b>                     | Support WRR, RR, WDRR, SP                                                                                                                                               |
| <b>Sorting Based on Port</b>               | Support                                                                                                                                                                 |
| <b>Sorting Based on 802.1p</b>             | Support                                                                                                                                                                 |
| <b>Sorting Based on DSCP</b>               | Support                                                                                                                                                                 |
| <b>Sorting Based on ACL</b>                | Support                                                                                                                                                                 |
| <b>QoS Policy</b>                          | Support packets mapping to queue<br>Support COS or DSCP Remarking<br>Support rate limits of data flow<br>Support data flow statistics<br>Support mirroring of data flow |

| DHCP                          |                                                                                                                                                                                                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHCP Client                   | Support                                                                                                                                                                                                    |
| DHCP Relay                    | Support                                                                                                                                                                                                    |
| DHCP Server                   | Support                                                                                                                                                                                                    |
| DHCP option 82                | Support                                                                                                                                                                                                    |
| DHCP Snooping                 | Support                                                                                                                                                                                                    |
| Security                      |                                                                                                                                                                                                            |
| Administrative Security       | Support start and end TELNET, WEB and SNMP serve<br>Support TELNET, WEB and SNMP serve binding with Standard IP ACL<br>Support control the number of user for TELNET                                       |
| CPU Protect                   | Switch self-security protect, forbid flow attack                                                                                                                                                           |
| IP-MAC Address Binding        | Support binding between static configuration IP, MAC and Port                                                                                                                                              |
| AAA                           | Support 802.1x protocol<br>Support RADIUS protocol<br>Support RADIUS server authentication authorization and bill<br>Support MAC-based 802.1X authentication.<br>Support 802.1x guest VLAN                 |
| DHCP SNOOPING                 | Support dynamic ARP binding to prevent ARP spoofing<br>Support dynamic IP, MAC port binding<br>Support stationary port connect to DHCP server, to prevent privately connect to DHCP sever                  |
| Prevent ARP Spoofing          | Support manual configure ACL rule based on MAC ARP prevent ARP spoofing<br>Support DHCP SNOOPING function, switch dynamically binding ARP and port, when the DHCP get IP address , to prevent ARP spoofing |
| IPv6                          |                                                                                                                                                                                                            |
| IPv4/IPv6 Dual Protocol Stack | Support                                                                                                                                                                                                    |
| IPv6 Address                  | Support manual address configuration and stateless address auto-configuration                                                                                                                              |
| IPv6 Neighbor Discovery       | Support                                                                                                                                                                                                    |
| ICMPv6                        | Support                                                                                                                                                                                                    |
| IPv6 Path MTU Discovery       | Support                                                                                                                                                                                                    |
| Management Feature            |                                                                                                                                                                                                            |
| CLI Management                | Support Console, Telnet and SSH<br>Support multiple TELNET connections based on IPv4 and IPv6<br>Support multiple SSH connections based on IPv4 and IPv6                                                   |
| WEB Management                | Support HTTP / HTTPS based on IPv4 and Ipv6                                                                                                                                                                |
| SNMP Management               | Support SNMP protocol<br>Support SNMP TRAP<br>Support standard and private MIB                                                                                                                             |
| User management               | Support multi-user management                                                                                                                                                                              |
| TACACS+                       | Support switch authentication via TACACS+ server remote username and password<br>Support password encryption in PAP and CHAP mode<br>Support TACACS+ server to authorize the switch's commands             |

|                                 |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
|                                 | Support TACACS+ based on IPv4 and IPv6                            |
| Show CPU Utilization            | Support                                                           |
| Show RAM Utilization            | Support                                                           |
| Log Management                  | Support local log management<br>Support SYSLOG                    |
| RMON                            | Support RMON 1, 2, 3 and 9 groups                                 |
| Configuration Download / Upload | Support Web / TFTP transmission based IPv4 and Ipv6               |
| Upgrade Firmware                | Support Web / TFTP transmission based IPv4 and Ipv6               |
| Timer Management                | Support local timer management<br>Support SNTP protocol get clock |
| <b>Debugging Tools</b>          |                                                                   |
| PING                            | Support                                                           |
| PING6                           | Support                                                           |
| TRACEROUTE                      | Support                                                           |
| TELNET Client                   | Support                                                           |
| SSH Client                      | Support                                                           |
| <b>Package List</b>             |                                                                   |
| Switch                          | 1pcs                                                              |
| User Manual                     | 1pcs                                                              |
| Power Cord                      | 1pcs                                                              |
| DB9 to RJ45 Cable               | 1pcs                                                              |
| Rack Mount Kit                  | 2pcs                                                              |
| Rubber Feet                     | 4pcs                                                              |

## Order Information

| <b>Switch Models</b> |                                                                            |
|----------------------|----------------------------------------------------------------------------|
| IRS3008F4-BP-AC      | 8GE+2SFP+4xOptical Bypass Rack-mount Industrial L3 Managed Ethernet Switch |