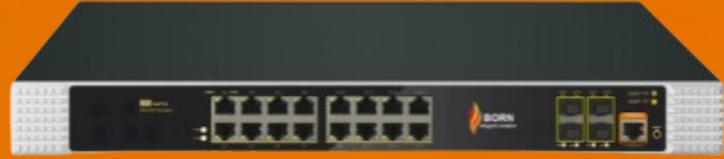


20-port Gigabit L2+ Managed Industrial PoE Fiber Switch (BI8116PGM4F-400WS)



Ideal for:



Telecom



Hotels & Resorts



Universities



Healthcare



Public Places



Airport



Transport



Industries

OVERVIEW

The BI8116PGM4F-400WS is full Gigabit L2+ managed industrial PoE fiber switch. It has 16*10/100/1000Base-T adaptive RJ45 ports and 4*100/1000Base-X SFP fiber ports. Port 1-16 can support IEEE 802.3 af/at PoE standard. Single port PoE power reaches 30W. As a PoE power supply device, it can automatically detect and recognize power-compliant devices that meet the standard and supply power through the network cable. It can supply power to POE terminal equipment such as wireless AP, IP camera, VoIP, industrial sensor through the network cable, and meet the network environment that needs high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, industrial scenes such as shipping, metallurgy, and green energy construction form a cost-effective, stable and reliable communication network.

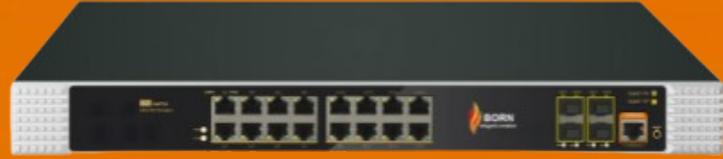
The BI8116PGM4F-400WS has L2+ network management function, supports IPV4 management, static routing forward, complete security protection mechanism, perfect ACL/QoS policy, and rich VLAN functions for easy management and maintenance. It supports multiple network redundancy protocols STP/ RSTP/ MSTP

(<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. When the one-way network fails, the communication can be quickly restored to ensure the uninterrupted communication of important applications. According to actual application needs, PoE power supply management, port management, routing address management, port flow control, VLAN division, IGMP, security policy and other application service configurations are performed through Web, CLI, SNMP, Telnet and other network management methods.

FEATURES

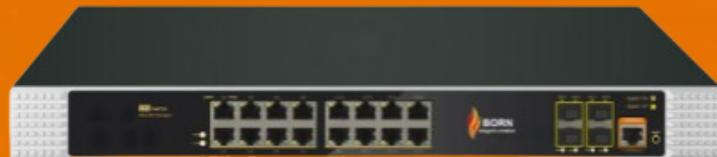
- **Gigabit access and Gigabit SFP uplink**
 - Support non-blocking wire-speed forwarding.
 - Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.
 - Support Gigabit Ethernet port and Gigabit SFP uplink port combination, which enables users to flexibly build networking to meet the needs of various scenarios.
- **Security**
 - Support port isolation.
 - Support port broadcast storm suppression.
 - Support port+MAC binding, IP+MAC+port 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.

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- **Intelligent PoE power supply function**
 - PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.
 - Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.
 - The PoE port supports the priority mechanism. When the remaining power is insufficient, the power of the high-priority port is given priority to avoid overloading of the device.
 - 16*10/100/1000Base-T RJ45 support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, wireless coverage and other scenarios.
- **Stable and reliable**
 - CCC, CE, FCC, RoHS.
 - The user-friendly panel can show the device status through the LED indicator of PWR, Link, PoE.
 - Using self-developed power supply, redundant dual power supply provides long-term stable PoE power output.
 - Low power consumption, with fan, galvanized steel shell, excellent heat dissipation to ensure stable operation of the switch.
- **Easy O&M management**
 - Support NMS platform cluster management.
 - Support CPU monitoring, memory monitoring, Ping detection, cable length detection.
 - Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.
 - Support HTTPS, SSLV3, SSHV1/V2 and other encryption methods, making management more secure.
 - Support LLDP to facilitate the network management system to query and judge the communication status of the link.
 - Support Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet and other diversified management and maintenance.

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TECHNICAL SPECIFICATION

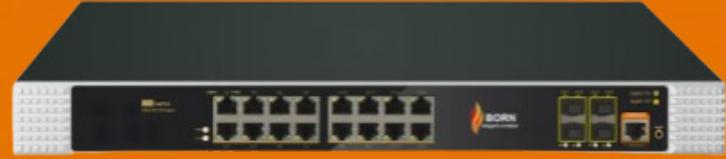
| Model | BI8116PGM4F-400WS |
|----------------------------------|--|
| Interface Characteristics | |
| Fixed Port | 2*AC100-240V input ports Power-down alarm switch port (FAULT) 1*RS232 Console port (115200, N, 8,1) 4*100/1000Base-X uplink SFP ports (Data) 16*10/100/1000Base-T PoE ports (Data/Power) 1 group of DC48-57V input ports (Support reverse polarity protection function) |
| Ethernet Port | Port 1-16 support 10/100/1000Base-T(X) 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) |
| Optical Fiber Port | Gigabit optical fiber port, default no include optical modules (optional single-mode / multi-mode, single fiber / dual fiber optical module. LC) |
| Optical Cable/ Distance | Multi-mode: 850nm/ 0-500m Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km. |
| Chip Parameter | |
| Network Management Type | L2+ |
| Network Protocol | IEEE802.3 10BASE-T, IEEE802.3i 10Base-T, IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T, IEEE802.3z 1000Base-X, IEEE802.3x |
| Forwarding Mode | Store and Forward(Full Wire Speed) |
| Switching Capacity | Store and Forward(Full Wire Speed) |
| Forwarding Rate@64byte | 41.7Mpps |
| CPU | 41.7Mpps |
| DRAM | 41.7Mpps |
| FLASH | 256Mbits |
| MAC | 8K |
| Buffer Memory | 4.1Mbits |
| Jumbo Frame | 10Kbytes |
| LED Indicator | Power: PWR (Yellow), System: SYS (Yellow), PoE: PoE (Green) Network: Link/Act (Yellow), Fiber port: L/A (Green) |
| Reset Switch | Yes, press and hold the switch for 10 seconds and release it to restore the factory settings |
| PoE & Power Supply | |
| PoE Port | Port 1 to 16 IEEE 802.3 af/at |
| PoE Management | Port PoE output on/off, Port PoE working status display |
| Power Supply Pin | 1/2(+) 3/6(-) |
| Max Power Per Port | 30W, IEEE 802.3 af/at |
| Total PWR / Input Voltage | 2*400W(AC100-240V) |
| Power Consumption | Standby<18W, Full Load<380W |
| Power Supply | Built-in power supply, AC100~240V 50-60Hz 5.0A |
| Power Input Port | 1 group of DC48-57V input ports Power-down alarm switch port, 2*AC power input ports Dual input power port: AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection. |

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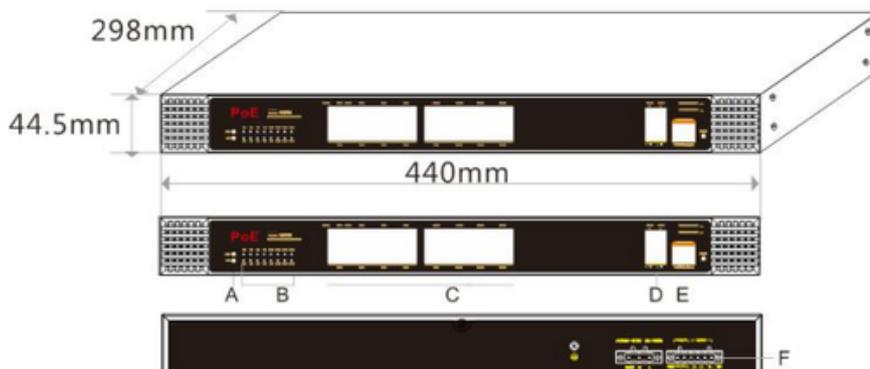
| Physical Parameter | |
|-----------------------------|---|
| Operation TEMP / Humidity | -40°C~+80°C, 5%~90% RH Non condensing |
| Storage TEMP / Humidity | -40°C~+85°C, 5%~95% RH Non condensing |
| Dimension (L*W*H) | 440*378*44.5mm |
| Net /Gross Weight | <5.2kg / <5.5kg |
| Installation | Desktop, 19 inch 1U cabinet |
| Certification & Warranty | |
| Lightning Protection | Protection level: IP30 Lightning protection: 6KV 8/20us IEC61000-4-3 (RS):10V/m (80~1000MHz) FCC Part 15/CISPR22 (EN55022): Class B IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m IEC61000-4-10 (Damped oscillation): 30A/m 1MHz IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV IEC61000-4-4(EFT): Power cable: ±4kV; data cable: ±2kV IEC61000-4-16 (Common-mode transmission): 30V, 300V,1s IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz) IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m,1s to 3s IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV |
| Mechanical Properties | IEC60068-2-32 (Free fall) IEC60068-2-6 (Anti vibration), IEC60068-2-27 (Anti shock) |
| Certification | CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS |
| Warranty | 5 years, lifelong maintenance. |
| Network Management Features | |
| Interface | IEEE802.3x flow control (Full duplex) Port real-time flow management (Flow Interval) Broadcast storm suppression based on port rate Limit the rate of incoming and outgoing packet traffic, with min granularity of 16Kbps and max of 1Gbps |
| Layer 3 Features | IPv4 static route/ default route, max 128 entries L2+ network management, ARP protocol, max 1000 entries |
| VLAN | Port configuration of Access, Trunk, Hybrid VLAN based on the protocol, (4K) VLAN based on port, IEEE802.1q |
| Port Aggregation | LACP dynamic aggregation, Static aggregation Max 10 aggregation groups and maximum 8 ports per group. |
| Spanning Tree | STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s) |
| ITU G.8032 Ring Network | ERPS fast ring network supports up to 250 rings, These rings max support 250 devices, Ring network self-healing time is less than 20ms |
| Multicast | Multicast VLAN, User quick log out IGMP Snooping V1/V2/V3 and max 1024 multicast groups |
| Mirroring | Bidirectional traffic mirroring for basic ports |

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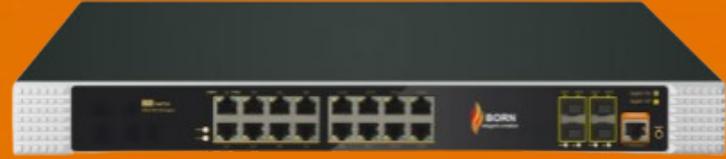


| | |
|------------|---|
| QoS | Queue scheduling algorithm (SP, WRR, SP+WRR) Flow-based rate limiting, Stream based redirection Flow-based packet filtering, 8*output queues of each port 802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark |
| ACL | Support ACL based on port and VLAN L2-L4 packet filtering function, can match the first 80 bytes of the message, provided based on the source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, Define ACLs such as VLAN |
| Security | Port based IEEE802.1X authentication SSL guarantees data transmission security Quad binding function of IP+MAC+VLAN+ports MAC address learning limit, MAC address black hole IP Source Guard function, AAA&RADIUS certification Anti DoS attack, Port broadcast message suppression Hierarchical user management and password protection SSH 2.0 provides a secure encrypted channel for user login Host data backup mechanism, ARP intrusion detection function Port isolation, IP Source Guard, ARP message speed limit function |
| DHCP | DHCP Client, DHCP Snooping, DHCP Server |
| Management | Console/ Telnet/ SSH2.0 CLI configuration NTP clock, One click restore, SNMP V1/V2/V3 FTP, TFTP file upload and download management Web network management (HTTPS), Ping detection View CPU instant utilization status, System work log NMS platform cluster management (LLDP+SNMP) Cable status check, Link Layer Discovery Protocol(LLDP) Cloud network management and mobile APP operation and maintenance (remote O&M) |
| System | Category 5 Ethernet network cable Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network |

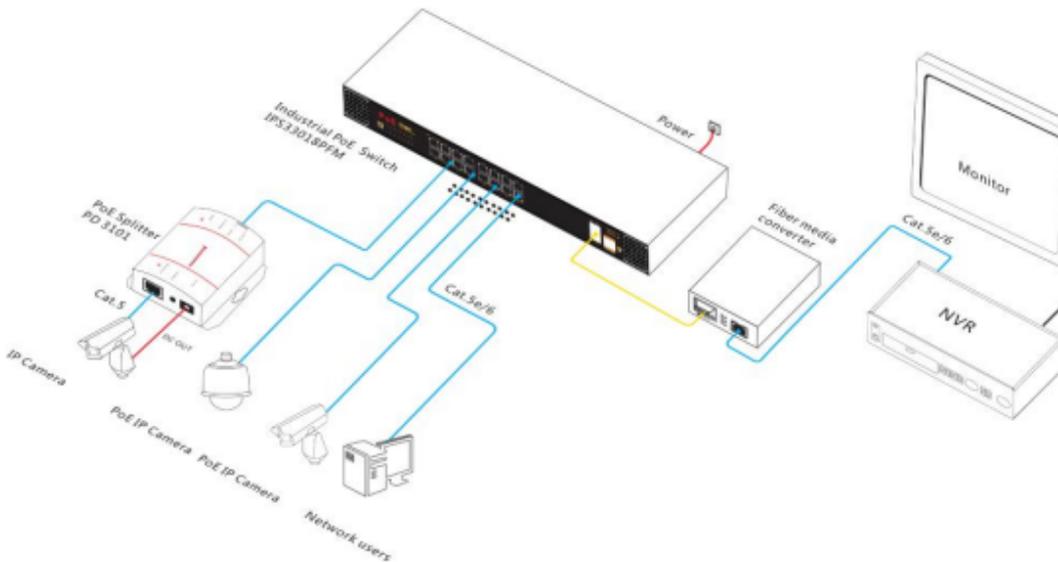
DIMENSION



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APPLICATION



ORDERING INFORMATION

| Model | Description | Power Supply |
|----------------------|---|--------------|
| BI8116PGM4F-400WS-at | L2+ managed industrial PoE switch with 16*10/100/1000M RJ45 ports and 4*100/1000M SFP ports. Port 1-16 support IEEE 802.3 af/at PoE standard. It support 2AC+DC redundant power terminal input and 1U/19-inch cabinet installation. | 2*400W |

Note: The optical module is not included by default and needs to be purchased separately.

PACKING LIST

| | Content | Qty | Unit |
|--------------|---|-----|------|
| PACKING LIST | 20-port Gigabit L2+ managed industrial PoE fiber switch | 1 | SET |
| | RJ45-DB9 Line | 1 | PC |
| | AC Power Cable | 1 | PC |
| | Mounting Kits (Hanging Ears) | 1 | SET |
| | User Guide | 1 | PC |



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