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# DATASHEET ER-3824M16GE-IPS



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# ER-3824M16GE-IPS

## FEATURES:

- 16\*10/100/1000M + 8\*Giga SFP fiber Port Industrial PoE Switch, 1-16 ports support IEEE 802.3af/at;
- PoE port support AF/AT intelligent recognition. Standard power is 15.4W/port, Maximum power: 30W/port;
- Only support 1,2(+)/3,6(
- Support L2+ full network management, PoE
- network
- management and configuration;
- Switching capacity:368Gbps, MAC table24K;
- Input voltage: DC48-57V, Redundant dual power 6-bit industrial terminals;
- IP protection level: IP40; Rail-type installation;

## INTRODUCTION:

The ER-3824M16GE-IPS is a full Gigabit managed industrial PoE switch. It has 16\*10/100/1000M PoE ports +8\*GigaSFP fiber slot ports. Port 1-16 can support IEEE 802.3af/at standard POE power supply, single port POE power up to 30W, and the maximum POE output power of the whole machine is 240W (at-480W). As a POE power supply device, it can automatically detect and identify the electrical equipment that meets the standard and supply power through the cable. It can supply the POE terminal equipment, such as wireless AP, network camera, network telephone, industrial sensor and so on, to meet the demand for high density PoE power supply network environment. It is suitable for intelligent transportation, rail transportation, electric power industry, mining mining, metallurgy and green energy construction and so on. A reliable communication networks. The ER-3824M16GE-IPS has the leading ring network technology, supporting a variety of industrial redundant ring network protocol, any port can be a ring, support chain type, star type, double star type, ring

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type, tangent ring, intersecting ring, coupling ring, ring network 50ms self-healing. This series of models have high reliability, high security and high manageability, ensure reliable transmission of key data, support remote management, and can manage cluster management with optical network NMS network management platform to achieve the whole process without blind point network management. ER-3824M16GE-IPS industrial series products fully follow industrial product design and material. The shell uses aluminum alloy to enhance heat dissipation. It has excellent industrial field environment adaptability (including mechanical stability, climate and environment adaptability, electromagnetic environment adaptability, etc.), protection level to IP40, support dual redundancy power supply, low Power consumption without fan heat dissipation technology, MTBF average fault free working time can reach 35 years.

| Model                  | ER-3824M16GE-IPS   |
|------------------------|--|
| Interface              | 16*10/100/1000M PoE ports (Data/Power);8*Giga uplink SFP+fiber slot ports (Data); 1*Console RS232 port (115200,N,8,1);<br>2 sets of V+, V- redundant DC power interface (6 Pin Phoenix terminal) |
| PoE Port               | Port 1-16 can support POE @ IEEE802.3af/at   |
| Network Protocol       | IEEE802.3 10BASE-T;<br>IEEE802.3i 10Base-T;<br>IEEE802.3u 100BaseTX;<br>IEEE802.3ab 1000Base-T;<br>IEEE802.3z 1000Base-X;<br>IEEE802.3ae 10GBase-LR/SR<br>IEEE802.3x                             |
| PoE Standard           | IEEE802.3af/at   |
| Ethernet Port          | Port 1-16 can support 10/100/1000BaseT (X) automatic detection, full / half duplex<br>MDI/MDI-X adaptive   |
| SFP Port               | Gigabit SFP+ optical fiber interface, default matching optical modules, need to buy separately, (optional order mode / multi-mode, single fiber / double fiber optical module.                   |
| Forwarding Mode        | Store and Forward (full wire speed)  |
| Switching Capacity     | 368Gbps  |
| Forwarding Rate@64byte | 77.38Mpps  |

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|                           |  |
|---------------------------|--|
| MAC                       | 24K  |
| Buffer Memory             | 24M  |
| Twisted Pair Transmission | 10BASE-T: Cat3,4,5 UTP(≤100 meter)<br>100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-T: Cat5e or later UTP(≤100 meter)                         |
| Optical Cable             | Multi mode: 850nm 0 ~ 550M, single mode: 1310nm 0 ~ 40KM, 1550nm 0 ~ 120KM.  |
| Power Supply Pin          | Only support 1/2 (+), 3/6 (-)  |
| Max Power Per Port        | 30W; IEEE802.3af/at  |
| Total PWR / Input Voltage | 240W/480W (48-57VDC)   |
| Power Consumption         | Standby:<16W; Full load:<240W  |
| LED                       | Power indicator : PWR (green); System indicator :(green); Network indicator: Link (yellow); SFP indicator: L/A (green); PoE indicator: PoE (green) |
| Power Supply              | No, see accessories information table to buy and use   |
| Operation TEMP / Humidity | -40~+80°C;5%~90% RH Non condensing   |
| Storage TEMP / Humidity   | -40~+85°C;5%~95% RH Non condensing   |
| Dimension                 | 165*148*68.5mm   |
| Net /Gross Weight         | <2kg / <2.5kg  |

|   |  |
|---|--|
| Lightning protection / protection level | Lightning protection: 6KV 8/20us;Protection level: IP40<br>IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge<br>IEC61000-4-3(RS):10V/m(80~1000MHz)<br>IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV<br>IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV<br>IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz) IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s<br>IEC61000-4-9(pulsed magnet field):1000A/m<br>IEC61000-4-10(damped oscillation):30A/m 1MHz<br>IEC61000-4-12/18(shockwave): CM 2.5kV,DM 1kV<br>IEC61000-4-16(common-mode transmission):30V; 300V,1s<br>FCC Part 15/CISPR22(EN55022):Class A<br>IEC61000-6-2(Common Industrial Standard) |
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| Mechanical Properties | IEC60068-2-6 (anti vibration) IEC60068-2-27 (anti shock)<br>IEC60068-2-32 (free fall) |
| Certification         | CCC; CE mark, commercial; CE/LVD EN60950; FCC Part 15 Class B; RoHS;                  |
| Warranty              | 5 years , lifelong maintenance.   |
|                       |   |

### Business features (only restricted management function models)

|                  |   |
|------------------|---|
| Port             | Support IEEE802.3x flow control (full duplex)<br>Support for broadcast storm suppression based on port rate<br>support speed limit for incoming and offline message traffic, with a minimum particle size of 64Kbps. Support port temperature protection settings<br>Support port IEEE green Ethernet energy saving configuration |
| PoE Management   | Support total power limit configuration for POE power supply Support PoE output power allocation per port, close / start af/at<br>Support PoE output priority configuration per port<br>Support PoE work status per port display<br>Support power delay start   |
|                  | Support PoE work and time scheduling  |
| Layer 3 Function | Support L2+ Layer 3 soft routing forwarding, non-linear speed<br>Support static routing / default routing 128, 1024 ARP software forwarding   |
| VLAN             | Support port based VLAN (4K), IEEE802.1q Support protocol based VLAN<br>Support Access, Trunk, Hybrid three types of port configuration<br>Support QinQ configuration   |

|                                  |  |
|----------------------------------|--|
| Port Aggregation                 | Support LACP<br>Support static polymerization<br>Support the largest 8 aggregation groups, each aggregation group supports 8 ports.                  |
| Spanning Tree                    | Support STP (IEEE802.1d)<br>Support STPRSTP (IEEE802.1w) Support STPMSTP (IEEE802.1s)  |
| Industrial Ring Network Protocol | Support G.8032 (ERPS), support 255 loops at most, and supports 1024 devices per ring.<br>The self healing time of the ring network is less than 20ms |



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| Multicast              | Support IGMP Snooping V1/V2 and support 1024 multicast groups at most. Support the user's quick departure mechanism<br>Support MLD Snooping V1/V2<br>Support multicast VLAN   |
| Mirror                 | Bi-directional traffic mirroring supporting the basic port  |
| QoS                    | Support Diff-Serv QoS<br>Each port supports 8 output queues Support 802.1p/DSCP priority mapping<br>Support queue scheduling mechanism (SP, WRR, SP+WRR) Support priority tag Mark/Remark<br>Support stream based packet filtering Support for stream based redirection<br>Support flow based speed limit   |
| ACL                    | Support L2 to L4 packet filtering function, can match the first 80 bytes of the message, provide 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, VLAN and other definition ACL.<br>Support ACL based on port and VLAN  |
| Safety Characteristics | Support user grading management and password protection<br>Support IEEE802.1X authentication / centralized MAC address authentication<br>Support AAA&RADIUS authentication<br>Support the number of MAC address learning restrictions<br>Support MAC address black hole<br>Support SSH 2 to provide secure passwords for user login.<br>Support SSL to ensure data transmission security<br>Support port isolation<br>Support the speed limit function of ARP message<br>Support IP source address protection<br>Support ARP intrusion detection function |
|                        | Support against DoS attacks<br>Support port broadcast message suppression<br>Support host data backup mechanism Binding capabilities of IP+MAC+VLAN+ ports  |
| DHCP                   | Support DHCP Client Support DHCP Snooping<br>Support DHCP Serve<br>Support DHCP Relay   |



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| Management And Maintenance | <p>Support Console/AUX Modem/Telnet/SSH2.0 CLI command line configuration</p> <p>Support WEB networkmanagement (HTTPS)</p> <p>Support FTP, TFTP, Xmodem, SFTP file download management</p> <p>Support SNMPV1/V2C/V3</p> <p>Support one bond reduction</p> <p>Support NTP clock</p> <p>Support system work log Support Ping detection Support cable state detection</p> <p>Support CPU instant utilization status view</p> <p>Support linklayer discovery protocol LLDP</p> <p>Support NMS intelligent management center</p> |
| System Requirements        | <p>Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later;</p> <p>Cat5e or later Ethernet cable;</p> <p>TCP/ IP, network adapter and network operating system (Microsoft Windows, Linux or Mac OS X) installed on every computer in the network.</p>   |



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