Admas8116BP

16-Port Layer 3 Gigabit Managed Embedded M12 Industrial Ethernet Switch

- Support 4 Gigabit copper ports and 12 100M copper ports

- The Gigabit copper ports support two sets of Bypass functions, which can pass through directly after a power failure, ensuring the normal operation of the network

- Support redundancy protocols such as MW-Ring, EAPS, ERPS, STP/RSTP/MSTP, improving network reliability

- Support static routing, RIPv1/v2, OSPF dynamic routing protocols for routing selection and packet forwarding

- Support DC24V power input

- Support working temperature -40°C to +70°C

⬦ Product Description

Admas8116BP is a layer 3 managed Gigabit embedded industrial Ethernet switch. It supports 4 Gigabit copper ports and 8 100M copper ports, with the interface board featuring 4 Gigabit and 8 100M cooper ports. It uses the M12 connection, meeting the requirements of the rail transportation industry standards, ensuring a secure and tight connection, suitable for environments with strong vibrations. The backplane leads out 4 fast Ethernet ports through Harting connectors. The Gigabit copper ports support 2 sets of Bypass functions, which can pass through directly after a power failure, bypassing the faulty nodes to avoid network interruptions, ensuring normal network operation.

This product uses a store-and-forward mechanism, providing robust bandwidth processing capabilities, automatically detecting packet errors, reducing transmission failures, easily supporting Gigabit networking, and ensuring stable, reliable, and efficient data transmission. The product is equipped with industrial-grade components, combined with high-standard system design and production control. It adopts slide in installation and operates in a wide temperature range from -40℃ to +70℃.

Admas8116BP layer 3 switch adheres to the main communication standards in the industrial field, meeting technical requirements for communication real-time performance and network security. The product offers multiple ways to manage the switch, such as accessing the switch command line (CLI) through CONSOLE port or TELNET/SSH protocols, accessing the switch's web interface via HTTP/HTTPS, and accessing device MIB via SNMP protocol. It also supports various network protocols and industry standards, such as RIP, OSPF, VRRP, PIM, EAPS, ERPS, STP/RSTP/MSTP, VLAN, QoS, LACP, IGMP, IGMP Snooping, GMRP, LLDP, 802.1X, ACL, DHCP, SNTP, port mirroring, Ping, Tracert, etc. It supports system management features like configuration file upload and download, online firmware upgrades, and more. The product can be widely applied in various fields including comprehensive energy, smart cities, rail transportation, intelligent traffic, smart factories, industrial automation, and more.

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⭐ Features and Benefits

- Support storm suppression for broadcast, multicast, and unknown unicast packets, as well as broadcast and multicast data packet storm detection to prevent broadcast storms
- Support both static and dynamic link aggregation (LACP) to increase transmission bandwidth, improve link reliability, and achieve network load balancing
- Support 802.1Q VLAN, providing Access, Trunk, and Hybrid interfaces for easy segmentation of multiple broadcast domains, enhancing network security
- Support VLAN segmentation based on port, MAC address, protocol, IP subnet, and more to adapt to different network environments
- Support GVRP protocol for dynamic distribution, registration, and propagation of VLAN attributes, maintaining dynamic VLANs
- Support MAC address table with aging time limit, static unicast/multicast MAC address binding with interfaces to ensure legitimate user usage
- Support multicast protocols such as PIM, IGMP, GMRP, IGMP Snooping, reducing multicast data broadcast in the network, and saving network resources
- Support LLDP (Link Layer Discovery Protocol) for obtaining neighbor device information, link status monitoring, facilitating topology management, and fault localization
- Support ERPS (Ethernet Ring Protection Switching) for multiple ring network protection, link backup, fast convergence, and improved network stability
- Support EAPS (Ethernet Automatic Protection Switching) and MW-RingV2 private ring network protocols, enhancing system communication reliability
- Support spanning tree protocols like STP, RSTP, MSTP, to eliminate network loops and improve network reliability
- Support VRRP (Virtual Router Redundancy Protocol) for creating a virtual router with multiple router devices, achieving redundancy and backup
- Support IPv4 static route configuration, RIPv1/v2, OSPF dynamic routing protocols for routing selection and packet forwarding
- Support network access via HTTP, HTTPS, TELNET, SSH for secure remote login using SSH
- Support SNMPv1/v2c/v3 for information querying, modification, and troubleshooting through MIB network management system, enabling centralized management
- Support QoS (Quality of Service) to prioritize voice, video, and critical data transmission in network devices to resolve network congestion
- Support ACL (Access Control List) for filtering packets based on source/destination IP and MAC addresses, TCP/UDP/ICMP/IGMP, etc
- Support 802.1X port authentication for authenticating and controlling access for connecting users
- Support DHCPv4 server for centralized dynamic management and configuration of user IP addresses

☑ Specification

| Software	
Switching	Support port configuration, port rate limiting, storm suppression, storm detection, static port aggregation, and LACP. Support 802.1Q VLAN, VLAN partitioning based on port, MAC address, subnet, and protocol, GVRP, and port isolation. Support MAC address aging, static MAC address forwarding and filtering, and MAC address binding with learning restrictions
Redundancy	Support MW-RingV2 private ring network technology Support EAPS and ERPS Support STP, RSTP, and MSTP
Multicast	Support IGMPv1/v2/v3 and IGMP Snooping Support static multicast with GMRP Support PIM-DM (Protocol Independent Multicast - Dense Mode) and PIM-SM (Protocol Independent Multicast - Sparse Mode)
Routing	Support static routing Support RIPv1/v2 and OSPF dynamic routing protocols Support VRRP
Security Management	Support HTTP, HTTPS, TELNET, and SSH access methods Support ACL (Access Control List) for filtering data at Layers 2 to 4 Support 802.1X port authentication and MAC address authentication Support loopback detection and alarms
Management and Maintenance	Support DHCP Client/Server/Relay/Snooping Support QoS (Quality of Service), SNMP v1/v2c/v3, SNMPv1/v2c Traps, and LLDP Support port mirroring, Ping, and Tracert Support user access control, system logs, local time setting synchronization, and SNTP network time synchronization Support online reboot, factory reset, system upgrade, and configuration file upload/download Support centralized management through unified upper-level software
Switch Capability	
Processing Type	Store-and-Forward
Backplane Bandwidth	128Gbps
Buffer Size	12Mbit
MAC Table Size	16K
Interface	
1G Copper Port	4*10/100/1000Base-T(X) auto-sensing copper ports, using M12 (X-Code 8-Pin Female) port, supporting full/half duplex, auto MDI/MDI-X. It supports two sets of Bypass functions, where Port 1 and Port 2 form one set of Bypass, and Port 3 and Port 4 form another set of Bypass

☑ Specification

100M Copper Port	12*10/100Base-T(X) auto-sensing Copper ports, 8*M12 (D-Code 4-Pin Female) ports, and 4 ports are led out through the backplane. support full/half duplex and auto MDI/MDI-X
CONSOLE	1 CONSOLE port, RS232 signal RJ45 port, used for device debugging and command-line configuration
Status LED	Power indicator, Operation indicator, Port indicator

Power Supply	
Input Voltage	DC24V
Power Consumption	＜10W(full load)
Connection	09062486826 (Harting Connector Bent Socket)

Physical Characteristics	
Dimensions	157×104×116.5 mm (the panel excluded)
Installations	Slide in
Weight	0.65kg

Working Environment	
Operating Temp	-40℃~+70℃
Storage Temp	-40℃~+85℃
Relative Humidity	5%~95% (non-condensing)

Industry Standard	
EMC	IEC 61000-4-5 (Surge): Power, Network Port: Common mode ±2kV, Differential mode ±2kV
Certification	CE, FCC, RoHS

Dimensions

Unit: mm
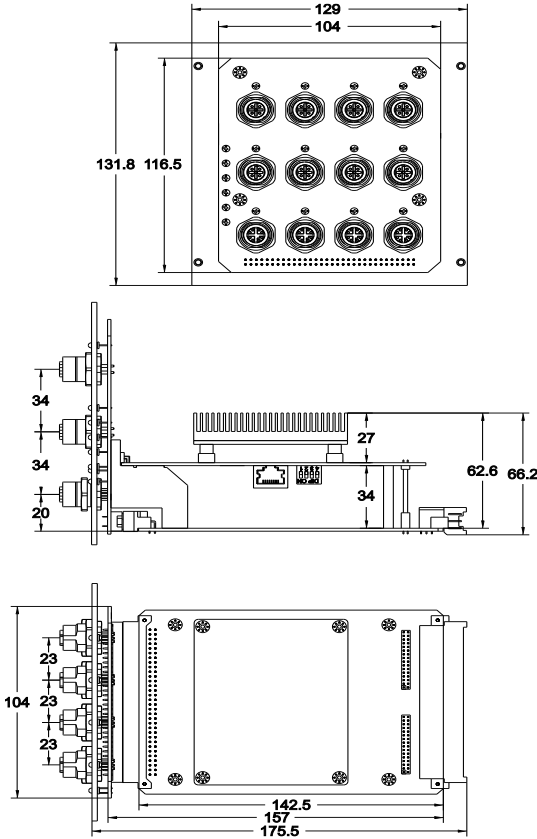
🛒 Ordering Information

Standard Model	Gigabit Copper Port	100M Copper Port	Input Voltage
Admas8116BP	4	12	DC24V

📞 Contact Us

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