8-Port 10/100/1000Mbps Managed Industrial Ethernet Switch



Perfect, Slim-type Managed Switch with More Practicability and Convenience

PLANET IGS-801M is an **Industrial 8-Port Full Gigabit Managed Ethernet Switch** specially designed to transmit reliable but high-speed data in heavy industrial demanding environments. It provides **8-Port 10/100/1000BASE-T copper interfaces** delivered in an IP30 rugged strong case with redundant power system. Besides support for 16Gbps switch fabric to handle extremely large amounts of video, voice and important data in a secure topology, the IGS-801M provides user-friendly but advanced **IPv6/IPv4 management** interfaces and abundant L2/L4 switching functions. It is the best investment for industrial business expanding or upgrading its network infrastructure.



Environmentally Hardened Design

With IP30 aluminum industrial case protection, the IGS-801M provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets. It also possesses an integrated power supply source with wide range of voltages (**12 to 48V DC** or **24V AC**) for worldwide high availability applications requiring dual or backup power inputs. Being able to operate under the temperature range from -40 to 75 degrees C, the IGS-801M can be placed in almost any difficult environment.

Robust Layer 2 Features

The IGS-801M can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN and **Q-in-Q VLAN, Multiple Spanning Tree Protocol (MSTP)**, loop and BPDU guard, IGMP snooping, and

Physical Port

- **8-Port 10/100/1000BASE-T** RJ45 copper

Industrial Case/Installation

- IP30 aluminum case protection
- DIN-rail and wall mount design
- Redundant power design
  - 12 to 48V DC, redundant power with polarity reverse protect function
  - AC 24V power adapter acceptable
- Supports EFT 6000VDC protection for power line
- Supports 6000VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

Layer 2 Features

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Protocol VLAN
  - Voice VLAN
  - Private VLAN
  - Management VLAN
  - GVRP
- Supports **Spanning Tree Protocol**
  - STP (Spanning Tree Protocol)
  - RSTP (Rapid Spanning Tree Protocol)
  - MSTP (Multiple Spanning Tree Protocol)
  - STP BPDU Guard, BPDU filtering and BPDU forwarding
- Supports **Link Aggregation**
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops

Quality of Service

- Ingress and egress rate limit per port bandwidth control

MLD snooping. Via the link aggregation, the IGS-801M allows the operation of a high-speed trunk to combine with multiple ports, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



Efficient Traffic Control

The IGS-801M is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice and video solutions. The functionality includes broadcast/multicast **storm control**, per port **bandwidth control**, IP DSCP QoS priority and remarking. It guarantees the best performance for VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

Powerful Security

PLANET IGS-801M offers comprehensive **IPv4/IPv6** Layer 2 to Layer 4 **Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises **802.1X port-based** user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the **protected port** function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, **port security** function allows to limit the number of network devices on a given port.

Advanced Network Security

The IGS-801M also provides **DHCP snooping, IP source guard** and **dynamic ARP inspection** functions to prevent IP snooping from attack and discarded ARP packets with invalid MAC address. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Friendly and Secure Management

For efficient management, the IGS-801M is equipped with **web**, **Telnet** and **SNMP** management interfaces. With the built-in web-based management interface, the IGS-801M offers an easy-to-use, platform-independent management and configuration facility. By supporting the standard SNMP, the switch can be managed via any standard management software. For text-based management, the switch can be accessed via Telnet. Moreover, the IGS-801M offers secure remote management by supporting **SSH**, **SSL** and **SNMP v3** connections which encrypt the packet content at each session.

- Storm control support
  - Broadcast/Unknown unicast/Unknown multicast
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

Multicast

- Supports IPv4 IGMP snooping v2 and v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

Security

- Authentication
  - IEEE 802.1X port-based network access authentication
  - Built-in RADIUS client to co-operate with the RADIUS servers
  - RADIUS/TACACS+ login user access authentication
- Access control list
  - IPv4/IPv6 IP-based ACL
  - MAC-based ACL
- MAC security
  - Static MAC
  - MAC filtering
- Port security for source MAC address entries filtering
- DHCP snooping to filter distrusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP source guard prevents IP spoofing attacks
- DoS attack prevention
- SSH/SSL

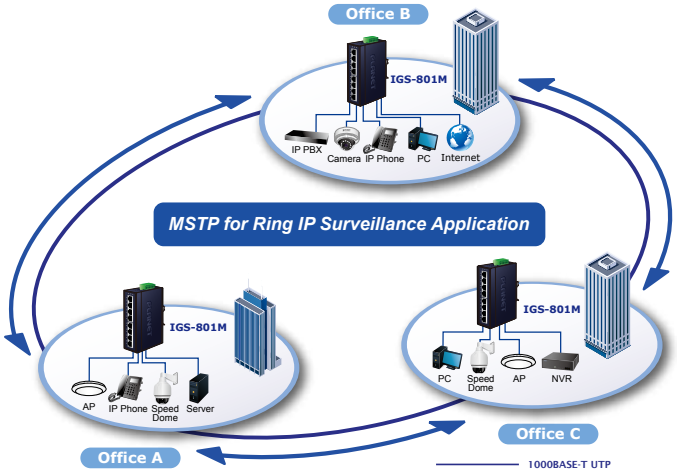
Management

- IPv4 and IPv6 dual stack management
- Switch management interface
  - Web switch management
  - Telnet command line interface
  - SNMP v1, v2c and v3
  - SSH and SSL secure access
- User privilege levels control
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment

Applications

Multiple Spanning Tree Protocol with PoE IP Office Solution for SMBs/Workgroups

The IGS-801M features strong, rapid, self-recovery capability to prevent interruptions and external intrusions. It incorporates Multiple Spanning Tree Protocol (802.1s MSTP) into customer's automation network to enhance system reliability and uptime.

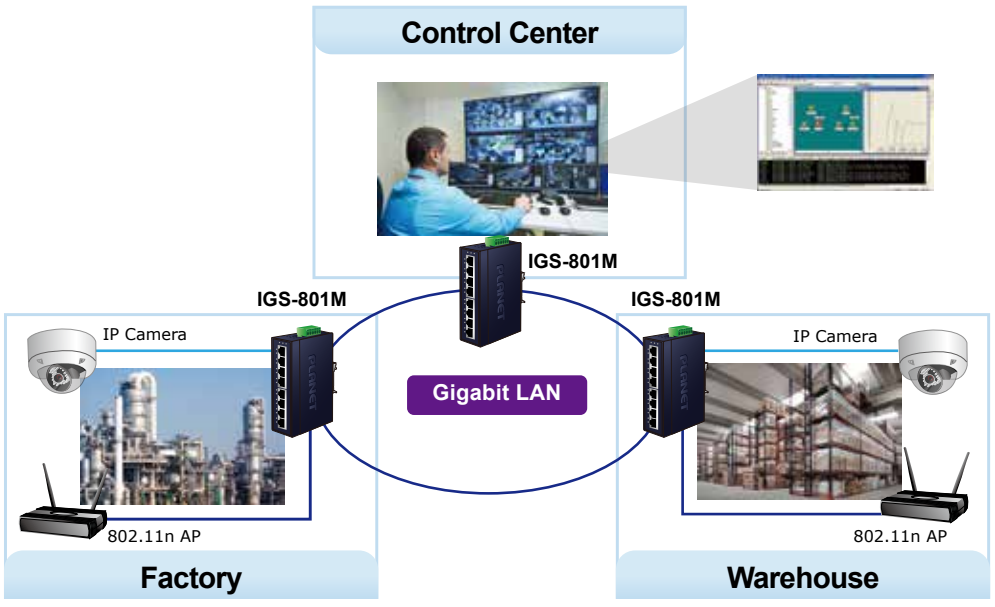


- System maintenance
  - Firmware upload/download via HTTP/TFTP
  - Configuration upload/download through web interface
  - Dual images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Cable diagnostics
- Link Layer Discovery Protocol (LLDP) and LLDP-MED
- SNMP trap for interface link up and link down notification
- Event message logging to remote Syslog server
- Four RMON groups (history, statistics, alarms and events)
- PLANET smart discovery utility

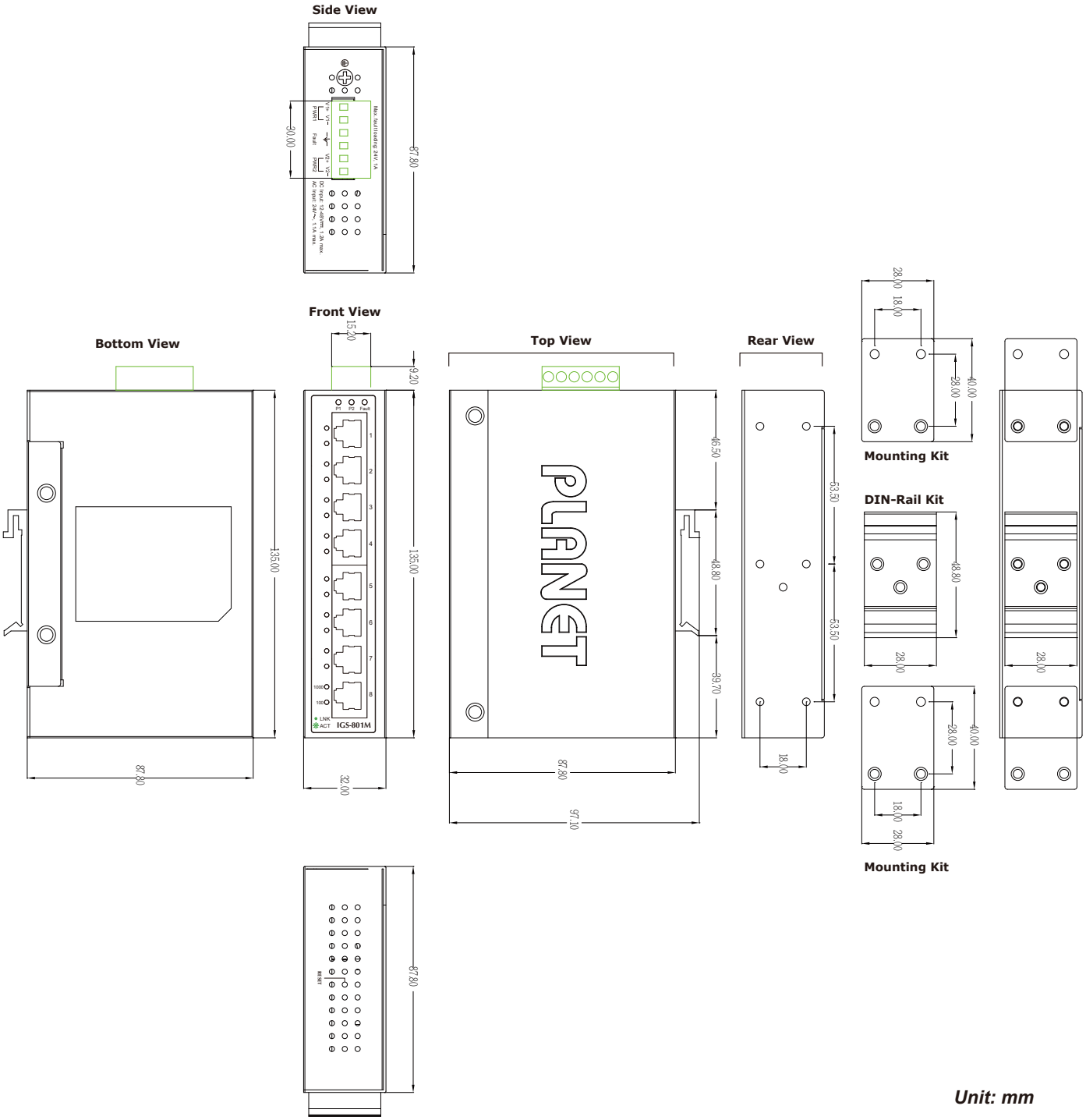
Industrial Area Manageable Switch for Data Collection and Forwarding

The IGS-801M offers high performance and high reliability to make sure the continuous industrial operation in harsh environments such as control cabinet of transportation, factory floors, outdoor space, and the places where the temperature is extremely low or high. With a non-blocking design and desktop size, the installation of PLANET IGS-801M 8-port Gigabit Managed Industrial Ethernet Switch is as easy as that of a Fast Ethernet network and it is helpful to build a Gigabit high-bandwidth switched network quickly.

To further expand the current network, the IGS-801M provides advanced Web and SNMP management interface to meet this kind of demand. With its built-in web-based management, the IGS-801M offers an easy-to-use, platform-independent management and configuration facility. The IGS-801M supports standard Simple Network Management Protocol (SNMP) that makes the managed switch able to be monitored via any standard-based management software. With the IGS-801M, which complies with all the requirements of industrial applications, customers may enjoy high reliability, recovery capability and safe Ethernet network operation.



Diagram


Side View
Front View
Bottom View
Top View
Rear View
Mounting Kit
DIN-Rail Kit
Mounting Kit
IGS-801M
PLANET
Unit: mm

Specifications

Product	IGS-801M
Hardware Specifications	
Hardware Version	2
Copper Ports	8 x 10/100/1000BASET RJ45 auto-MDI/MDI-X port
Switch Architecture	Store-and-Forward
Switch Fabric	16Gbps/non-blocking
Switch Throughput@64Bytes	11.9Mpps
Address Table	8K entries
Shared Data Buffer	4.1 megabits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	10K bytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
ESD Protection	6KV DC
Enclosure	IP30 metal case
Installation	DIN rail kit and wall mount kit
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1; Pin 3/4 for fault alarm; Pin 5/6 for Power 2
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ DC 24V
LED	System: Power 1, Power 2, Fault Alarm Ports: 10/100 Link/Act 1000 Link/Act
Dimensions (W x D x H)	135 x 87.8 x 32 mm
Weight	472g
Power Requirements	DC 12 to 48V AC 24V
Power Consumption/ Dissipation	4.5 watts/15BTU (System on) 10 watts/34BTU (Full loading)
Layer 2 Functions	
Port Mirroring	TX/RX/both Many-to-1 monitor
VLAN	802.1Q tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs 802.1ad Q-in-Q tunneling Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP
Link Aggregation	IEEE 802.3ad LACP and static trunk Supports 8 trunk groups with 8 ports per trunk
Spanning Tree Protocol	STP, IEEE 802.1D Spanning Tree Protocol RSTP, IEEE 802.1w Rapid Spanning Tree Protocol MSTP, IEEE 802.1s Multiple Spanning Tree Protocol
IGMP Snooping	IGMP (v2/v3) snooping IGMP querier Up to 256 multicast groups
MLD Snooping	MLD (v1/v2) snooping, up to 256 multicast groups
Access Control List	IPv4/IPv6 IP-based ACL/MAC-based ACL
QoS	8 mapping ID to 8 level priority queues - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP field in IP packet Traffic classification based, strict priority and WRR
Security	IEEE 802.1X port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS/TACACS+ user access authentication IP-MAC port binding MAC filtering Static MAC address DHCP Snooping and DHCP Option82 STP BPDU guard, BPDU filtering and BPDU forwarding DoS attack prevention ARP inspection IP source guard

Management Functions	
Basic Management Interfaces	Web browser/Telnet/SNMP v1, v2c Firmware upgrade by HTTP/TFTP protocol through Ethernet network Remote/Local Syslog System log LLDP protocol SNTP
Secure Management Interfaces	SSH, SSL, SNMP v3
SNMP MIBs	RFC 1213 MIB-II RFC 1215 Generic Traps RFC 1493 Bridge MIB RFC 2674 Bridge MIB Extensions RFC 2737 Entity MIB (Version 2) RFC 2819 RMON (1, 2, 3, 9) RFC 2863 Interface Group MIB RFC 3635 Ethernet-like MIB
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3x flow control and back pressure IEEE 802.3ad port trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3az Energy Efficient Ethernet (EEE) RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 RFC 3810 MLD version 2
Environments	
Operating	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Ordering Information

IGS-801M	8-Port 10/100/1000Mbps Managed Industrial Ethernet Switch

Related Products

WGS-4215-8T	Industrial 8-Port 10/100/1000T Wall-mount Managed Switch (-40~75 degrees C)
WGS-4215-8T2S	Industrial 8-Port 10/100/1000T + 2-Port 100/1000X SFP Wall-mount Managed Switch (-40~75 degrees C)
IGS-4215-4P4T	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T Managed Switch (-40~75 degrees C)
IGS-4215-4P4T2S	Industrial 4-Port 10/100/1000T 802.3at PoE + 4-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-10020MT	Industrial 8-Port 10/100/1000T + 2 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-10080MFT	Industrial 8 100/1000X SFP + 2-Port 10/100/1000T Managed Switch (-40~75 degrees C)
IGS-12040MT	Industrial 8-Port 10/100/1000T + 4-Port 100/1000X SFP Managed Switch (-40~75 degrees C)
IGS-20040MT	Industrial L2+ 16-Port 10/100/1000T + 4 100/1000X SFP Managed Switch (-40~75 degrees C)

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