

Industrial L2+ 16-Port 10/100/1000T + 4-Port 100/1000X SFP Managed Switch



PLANET IGS-20040MT is a **fully-managed Gigabit fiber switch** usually designed for the industrial network. It features **16 10/100/1000BASE-T** copper ports, **4 100/1000BASE-X SFP** ports and redundant power system in an IP30 rugged but compact-sized case that can be installed in any difficult environment without space limitation. It provides user-friendly yet advanced **IPv6/IPv4 management** interfaces, abundant **L2/L4 switching functions** and Layer 3 static routing capability. The IGS-20040MT can operate stably under the temperature range from **-40 to 75 degrees C** and allows either DIN-rail or wall mounting for efficient use of cabinet space. With **4 dual-speed SFP fiber slots**, it can be flexibly applied to extend the connection distance.



Network with Cybersecurity Helps Minimize Security Risks

The IGS-20040MT comes with enhanced cybersecurity to fend off cyberthreats and cyberattacks. It supports SSHv2, TLS and SSL protocols to provide strong protection against advanced threats. Served as a key point to transmit data to customer's critical equipment in a business network, the cybersecurity feature of the IGS-20040MT protects the switch management and enhances the security of the mission-critical network without any extra deployment cost and effort.



Physical Port

- **16-Port 10/100/1000BASE-T** RJ45 copper
- **4 100/1000BASE-X mini-GBIC/SFP** slots, SFP type auto detection
- One RJ45 console interface for basic management and setup

Industrial Hardened Design

- Dual power input, redundant power with reverse polarity protection
 - DC 9 to 48 input or AC 24V input
 - Active-active redundant power failure protection
 - Backup of catastrophic power failure on one supply
 - Fault tolerance and resilience
- DIN-rail and wall-mountable designs
- IP30 aluminum case
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature

Industrial Protocol

- Modbus TCP for real-time monitoring in SCADA system
- IEEE 1588v2 PTP (Precision Time Protocol)

Digital Input and Digital Output

- 2 Digital Input (DI)
- 2 Digital Output (DO)
- Integrates sensors into auto alarm system
- Transfers alarm to IP network via email and SNMP trap

Layer 3 IP Routing Features

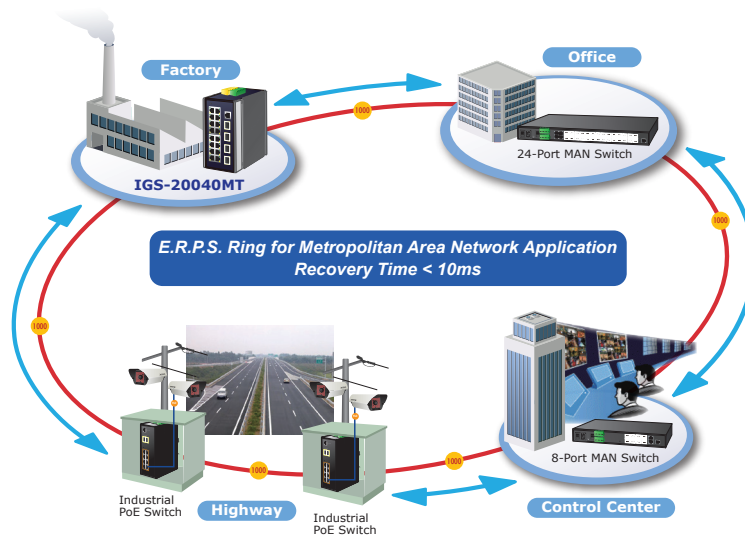
- Supports maximum 32 static routes and route summarization

Layer 2 Features

- High performance of Store-and-Forward architecture and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Storm Control support
 - Broadcast/Multicast/Unknown Unicast
- Supports **VLAN**
 - IEEE 802.1Q tagged VLAN
 - Up to 255 VLANs groups, out of 4095 VLAN IDs
 - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
 - Private VLAN Edge (PVE)
 - Protocol-based VLAN
 - MAC-based VLAN
 - Voice VLAN
 - GVRP (GARP VLAN Registration Protocol)

Redundant Ring, Fast Recovery for Surveillance System

The IGS-20040MT supports redundant ring technology and features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology, Spanning Tree Protocol (802.1s MSTP), and **redundant power** input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In certain simple Ring network, the recovery time of data link can be as fast as 10ms.

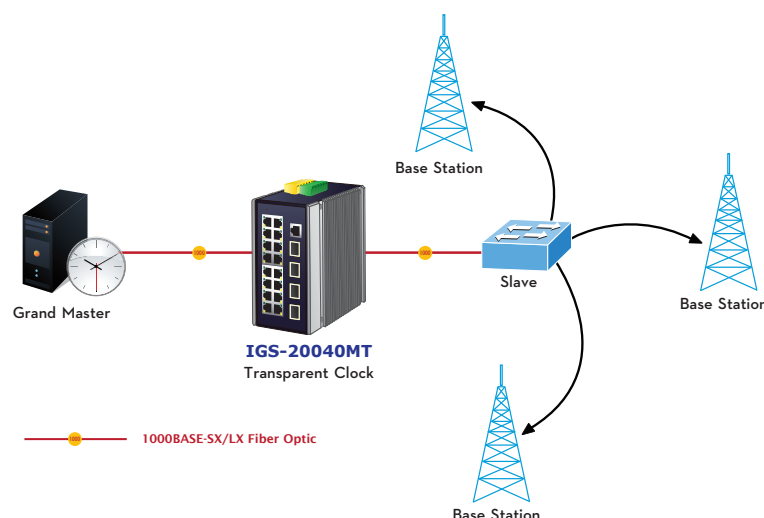


Modbus TCP Provides Flexible Network Connectivity for Factory Automation

With the supported **Modbus TCP/IP** protocol, the IGS-20040MT can easily integrate with **SCADA** systems, **HMI** systems and other data acquisition systems in factory floors. It enables administrators to remotely monitor the industrial Ethernet switch's **operating information, port information, communication status, and DI and DO status**, thus easily achieving enhanced monitoring and maintenance of the entire factory.

1588 Time Protocol for Industrial Computing Networks

The IGS-20040MT is ideal for telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.



- Supports **Spanning Tree Protocol**
 - IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) by VLAN
 - BPDU Guard
- Supports **Link Aggregation**
 - 802.3ad Link Aggregation Control Protocol (LACP)
 - Cisco ether-channel (static trunk)
 - Maximum 10 trunk groups, up to 8 ports per trunk group
 - Up to 16Gbps bandwidth (duplex mode)
- Provides port mirror (many-to-1)
- Port Mirroring of the incoming or outgoing traffic on a particular port
- Loop protection to avoid broadcast loops
- Supports **E.R.P.S. (Ethernet Ring Protection Switching)**
- IEEE 1588 and Synchronous Ethernet network timing
- Compatible with Cisco **Uni-directional link detection (UDLD)** that monitors a link between two switches and blocks the ports on both ends of the link if the link fails at any point between the two devices
- Link Layer Discovery Protocol (LLDP)

Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports
- Traffic classification
 - IEEE 802.1p CoS
 - IP TOS/DSCP/IP Precedence
 - IP TCP/UDP port number
 - Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing policies on the switch port
- DSCP remarking

Multicast

- Supports IPv4 IGMP Snooping v1, v2 and v3
- Supports IPv6 MLD Snooping v1 and v2
- Querier mode support
- IPv4 IGMP Snooping port filtering
- IPv6 MLD Snooping port filtering
- MVR (Multicast VLAN Registration)

Security

- Authentication
 - IEEE 802.1x Port-based/MAC-based network access authentication

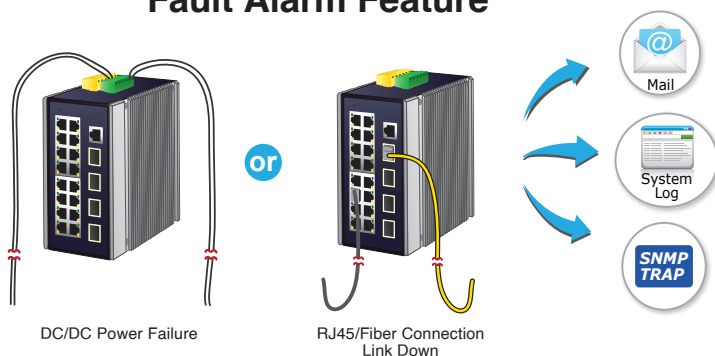
SMTP/SNMP Trap Event Alert

The IGS-20040MT provides SMTP/SNMP event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, or the rebooting response.

Effective Alarm Alert for Better Protection

The IGS-20040MT supports a Fault Alarm feature which can alert the users when there is something wrong with the switches. With this ideal feature, the users would not have to waste time finding where the problem is. It will help to save time and human resource.

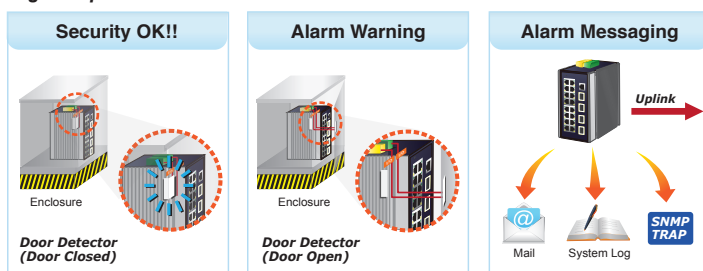
Fault Alarm Feature



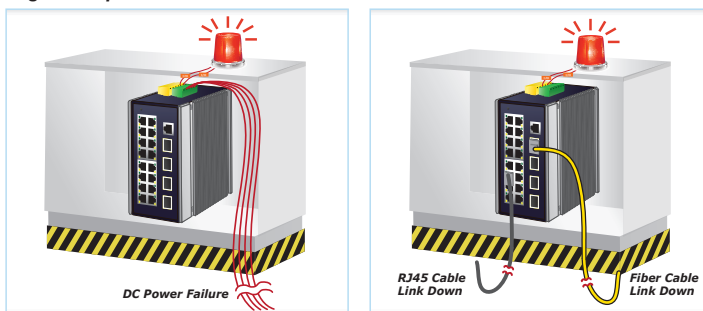
Digital Input and Digital Output for External Alarm

The IGS-20040MT supports Digital Input and Digital Output on its upper panel. The external alarm enables users to use Digital Input to detect external device's status (such as door intrusion detector), and send event alarm to the administrators. The Digital Output could be used to alarm the administrators if the IGS-20040MT port is link-down, link-up or power-dead.

Digital Input



Digital Output



- Built-in RADIUS client to cooperate with the RADIUS servers
- TACACS+ login users access authentication
- RADIUS/TACACS+ users access authentication
- Access Control List
 - IP-based Access Control List (ACL)
 - MAC-based Access Control List (ACL)
- Source MAC/IP address binding
- DHCP Snooping to filter un-trusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP Source Guard prevents IP spoofing attacks
- Auto DoS rule to defend DoS attack
- IP address access management to prevent unauthorized intruder

Management

- IPv4 and IPv6 dual stack management
- Switch Management Interfaces
 - Console/Telnet Command Line Interface
 - Web switch management
 - SNMP v1, v2c, and v3 switch management
 - SSH, TLS and SNMP v3 secure access
- SNMP Management
 - Four RMON groups (history, statistics, alarms, and events)
 - SNMP trap for interface Link Up and Link Down notification
- IPv6 IP address/NTP/DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- System Maintenance
 - Firmware upload/download via HTTP/TFTP
 - Reset button for system reboot or reset to factory default
 - Dual Images
- DHCP Relay and DHCP Option 82
- DHCP Server
- User Privilege levels control
- Network Time Protocol (NTP)
- Network Diagnostic
 - ICMPv6/ICMPv4 Remote Ping
 - Cable diagnostic technology provides the mechanism to detect and report potential cabling issues
- SFP-DDM (Digital Diagnostic Monitor)
- SMTP/Syslog remote alarm
- System Log
- PLANET NMS System and Smart Discovery Utility for deployment management