4-Port 10/100/1000Mbps + 4-Port Gigabit TP/SFP Combo Managed Industrial Switch with Wide Operating Temperature

Full Gigabit Performance for Industrial Network

PLANET IGS-8044MT is a Layer 2 fully Gigabit Managed Industrial switch that equipped with 4 **10/100/1000Mbps** Ethernet ports and 4 **100/1000Mbps** TP/SFP combo interfaces. The 4-Port 100/1000Mbps combo Fiber interface delivers data in high speed transmission, and complies with both Gigabit and Fast Ethernet fiber devices. The IGS-8044MT is also an industrially (substation) hardened managed Ethernet Switch specifically designed with a rugged high-strength protection case, and to operate reliably in electrically harsh, and climatically demanding -40 to 75 Degree C wide temperature environments. The IGS-8044MT is the most reliable choice for highly-managed, and Fiber Ethernet application by offering the powerful features:

- Redundant Ethernet Network
- Manageable
- Power Redundant
- Fully Gigabit throughput capability
- Dual Speed Fiber interfaces support
- -40 to 75 Degree C wide operation temperature
- 12V to 48V DC wide range power supported
- IP30 metal case

Redundant Ring, Fast Recovery to a Redundant Ethernet Network

The IGS-8044MT supports multiple redundant ring technology and features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced **Redundant Ring** technology, Spanning Tree Protocol (802.1w RSTP), and redundant power supply system into customer's industrial automation network to enhance system reliability and uptime in the harsh factory environments. The IGS-8044MT also protects customer's industrial network connectivity with switching recovery capability that is used for implementing fault tolerant ring and mesh network architectures. If the Industrial network was interrupted accidentally, the fault recovery times could be **less than 20ms** to quickly bring the network back to normal operation.

Environmentally Hardened Design

With IP30 aluminum industrial case protection, the IGS-8044MT possesses 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. The IGS-8044MT features wide operating temperature range from -40 to 75 Degree C and allows itself to be placed in almost any difficult environment.

Robust Layer 2 Features and Advanced Security

The IGS-8044MT supports robust advanced features including IEEE 802.1Q VLAN, GVRP, Port link aggregation, QoS, broadcast storm control, MAC address filtering, IGMP snooping enhanced security and bandwidth utilization to fit a variety of network applications. The IGS-8044MT allows the operation of high-speed trunk combining multiple ports. Maximum up to 4 ports of the IGS-8044MT can be assigned for 4 trunk groups and support fail-over as well. Additionally, its standard-compliant implementation ensures interoperability with equipments from other vendors.

Easy Installation and Dual-Redundant Power Supply

The IGS-8044MT is packaged in a compact case that allows either DIN rail or panel mounting for efficient usage of cabinet space. It provides an integrated power supply with a wide range of voltages for worldwide operation. In addition, the IGS-8044MT offers dual-redundant, reversible polarity **12~48V** DC power supply inputs for high availability applications requiring dual or backup power inputs.

Key Features

PHYSICAL PORT

- 8-Port 10/100/1000Base-T RJ-45
- 4 Shared 100/1000Base-X SFP Slot
- 1 RJ-45 Console interface for basic switch management and setup

INDUSTRIAL CONFORMANCE

- 12 to 48V DC, redundant power input interface with polarity reverse protection
- Stable operation during wide range of temperature from -40 to 75 Degree C
- IP30 metal case
- Relay alarm for port breakdown, power failure
- Supports Ethernet ESD protection
- FCC Class A, CE compatibility
- Free fall, Shock and Vibration Stability
- EMS EN6100-4-2 (ESD), EN6100-4-3(RS), EN6100-4-4 (EFT), EN6100-4-5 (Surge), EN6100-4-6(CS), EN6100-4-8, EN6100-4-11 certified

RAPID RING

- Redundant Ring, Dual Homing, Coupling Ring Topology
- Provides redundant backup feature and the recovery time less than 20ms

LAYER 2 FEATURES

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab 10/100/1000Base-T and 100Base-FX, IEEE 802.3z 1000Base-SX / LX Ethernet standards
- Auto-Negotiation and Half-Duplex / Full-Duplex modes for all 10/100Base-TX and 1000Base-T ports
- Auto-MDI/MDI-X detection on each RJ-45 port
- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- Supports VLANs
  - IEEE 802.1Q Tagged based VLAN
  - Port-Based VLAN
  - GVRP
  - Up to 255 VLANs groups, out of 4K VLAN IDs
- Spanning Tree Protocol
  - RSTP, IEEE 802.1w Rapids Spanning Tree Protocol
- Link Aggregation
  - Up to 4 Trunk groups
  - Up to 4 ports per trunk group with 1600Mbps bandwidth (Full Duplex mode)
  - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  - Static Port Trunk supported

QUALITY OF SERVICE

- 4 priority queues on all switch ports
- Traffic classification by
  - Port-Based priority
  - IEEE 802.1p Class of Service
  - TOS / DSCP priority
- Strict priority and Weighted Round Robin (WRR) policies
- Ingress / Egress Bandwidth control on each port

MULTICAST

- IGMP Snooping v2 and v3 for filtering multicast traffic
- IGMP Query mode for Multicast Media application

SECURITY

- IEEE 802.1x Port-Based Authentication
- MAC address Filtering
- IP address security management to prevent unauthorized intruder
- Port Monitoring to monitor the incoming or outgoing traffic on a particular port

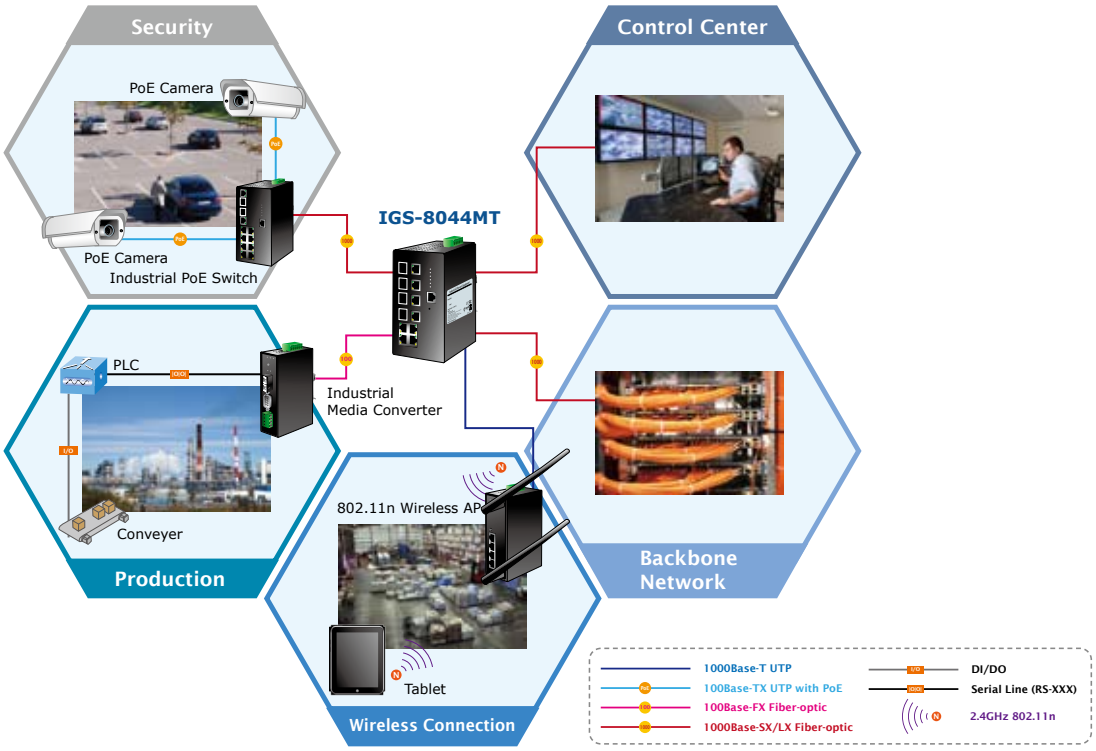
MANAGEMENT

- WEB-Based, Telnet, Console Command Line management
- Access through SNMP v1 / v2c / v3 set and get requests
- SNMP Trap / SMTP email for alarm notification of events
- System Log Server / Client
- Configuration backup / restore
- TFTP firmware upgrade
- Supports LLDP (Link Layer Discovery protocol) to advise the Switch identification and capability on the LAN

APPLICATIONS

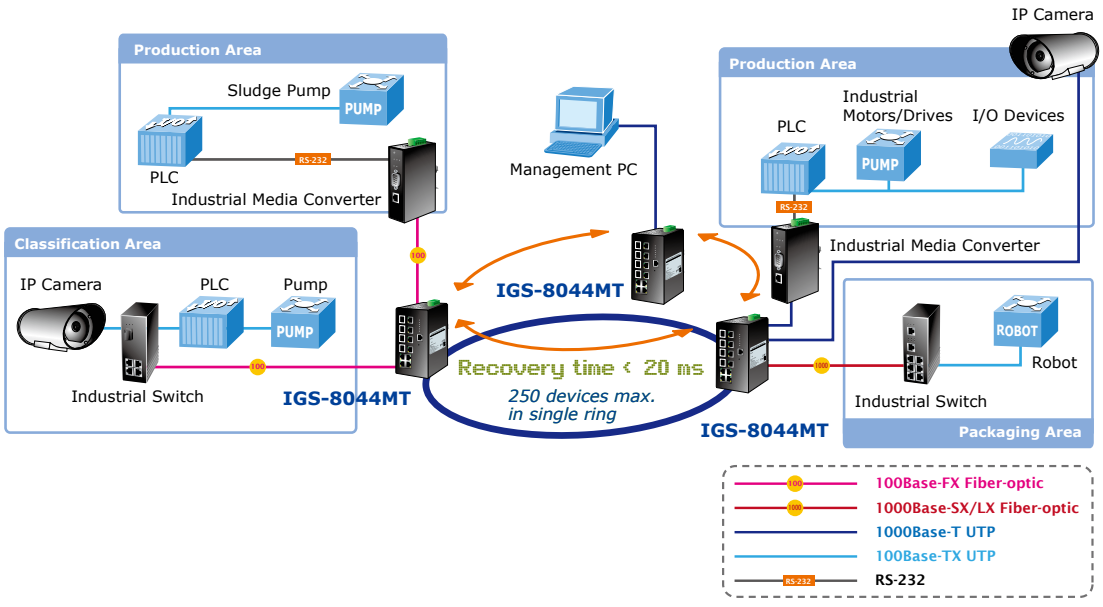
Harden Environment Core Switch Application

The IGS-8044MT Managed Industrial Ethernet Switch offers full port Gigabit speed. It is not only a **core switch** but also provides very high reliability and security features to make sure the continuous operation in harsh environments such as control cabinet of transportation, factory, outdoor and places where are in extreme low or high temperatures. Moreover, the IGS-8044MT is also compatible with **100Mbps** and **1000Mbps** SFP transceiver to provide strongly stable long distance connection and flexible industrial networking deployment.

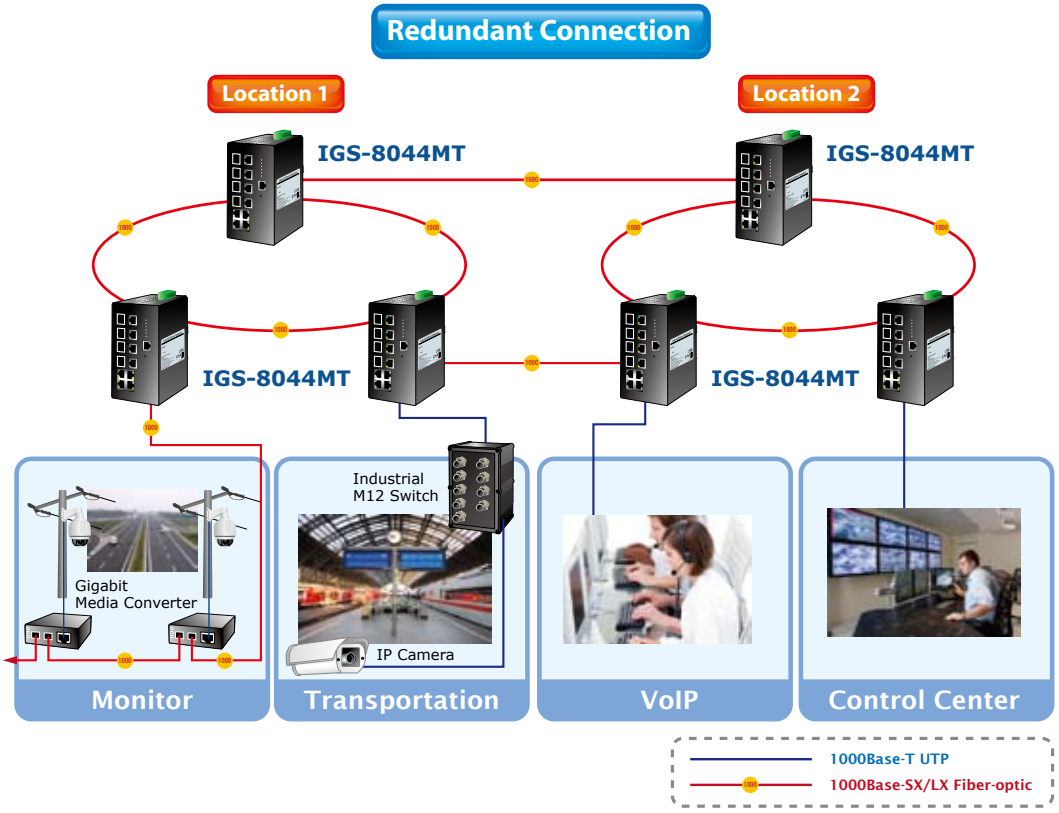


Factory Redundant Ring Application

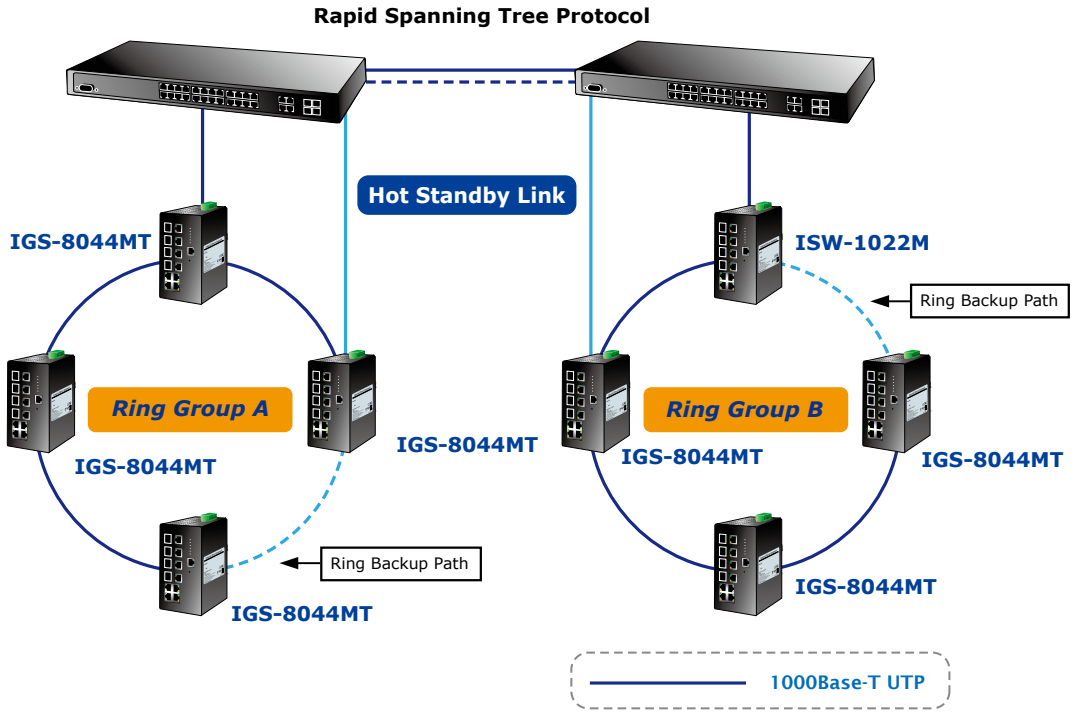
By applying the IGS-8044MT Managed Industrial Switch, it offers multiple redundant ring modes to prevent network interruption due to power or connection failure. Therefore, the Industrial network would operate stably and safe from the advantages of high reliability and fast recovery capability providing by the IGS-8044MT.



Coupling Ring – Connection redundant with different area applications



Dual Homing Ring – Connection redundant with RSTP application



SPECIFICATION

Product	4-Port 10/100/1000Mbps + 4-Port Gigabit TP/SFP managed Industrial switch with wide operating temperature
Model	IGS-8044MT
Hardware Specification	
Copper Ports	8 10/100/1000Base-T RJ-45 Auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	4 100/1000Base-X shared SFP interfaces
Switch Architecture	Store-and-Forward
Switch Fabric	16Gbps / non-blocking
Switch Throughput	11.9Mpps@64bytes
Address Table	8K entries
Share Data Buffer	1Mbit
Maximum Frame Size	1522 Bytes packet
Flow Control	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex
LED	**Per unit:** Power (Green), Power 1 (Green), Power 2 (Green), Fault (Orange) 4-Port 10/100/1000T: Link/Activity (Green), 10/100TX Full duplex/Collision (Orange) **SFP port:** LNK/ACT (Green) **1000T:** LNK/ACT (Green), 1000M(Green)
Console Interface	One RJ-45 to RS-232 male connector for switch management
Reset Button	< 5 seconds: System reboot > 10 seconds: Factory Default
Dimension (W x D x H)	74.3 x 109.2 x 153 mm
Weight	1.15Kg
Power Input	12V to 48V DC input
Layer 2 function	
Management Interface	Console, Telnet, Web Browser, SNMP v1 / v2c / v3
Port Configuration	Port disable / enable Auto-Negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable / enable Bandwidth control on each port
Port Status	Display each port's speed duplex mode, link status, Flow control status, Auto negotiation status
VLAN	Port-Based VLAN, up to 8 VLAN groups IEEE 802.1q Tagged Based VLAN, 4K VLAN ID, up to 256 VLAN groups
Spanning Tree	IEEE 802.1w Rapid Spanning Tree
Link Aggregation	IEEE 802.3ad LACP / Static Trunk 4 groups of 4-Port trunk support
QoS	Traffic classification based on : • Port Number • 802.1Q Tag • 802.1p priority • IP DSCP / TOS field in IP Packet
IGMP Snooping	V2 and v3 1024 multicast groups and IGMP query
Bandwidth Control	Per port bandwidth control Ingress: 500Kb~80Mbps Egress: 64Kb~80Mbps
Port Mirror	RX / TX / Both
Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder
SNMP MIBs	RFC-1213 MIB-II RFC-2863 Interface MIB RFC-1493 Bridge MIB RFC-2674 Extended Bridge MIB (Q-Bridge) Private MIB

Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE, EN60950
Safety	EN60950-1
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100ase-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T IEEE 802.3x Flow Control and Back pressure IEEE 802.1d Spanning tree protocol IEEE 802.1w Rapid spanning tree protocol IEEE 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control
Environment	
Operating	Temperature: -40 ~ 75 Degree C (DC power) Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 Degree C Relative Humidity: 5 ~ 95% (non-condensing)

Ordering Information

IGS-8044MT	4-Port 10/100/1000Mbps + 4-Port Gigabit TP/SFP Combo Managed Industrial Switch (-40 ~ 75 Degree C)

Available Modules

1000MBPS SFP TRANSCEIVER MODULES

MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module - 550m
MGB-SX2	SFP-Port 1000Base-SX mini-GBIC module - 2km
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module - 10km
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module - 30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module - 50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module - 40km
MGB-TSX	SFP-Port 1000Base-SX mini-GBIC module - 550m (-40 ~ 75 Degree C)
MGB-TLX	SFP-Port 1000Base-LX mini-GBIC module - 10km (-40 ~ 75 Degree C)
MGB-TL30	SFP-Port 1000Base-LX mini-GBIC module - 30km (-40 ~ 75 Degree C)
MGB-TL70	SFP-Port 1000Base-LX mini-GBIC module - 70km (-40 ~ 75 Degree C)

100MBPS SFP TRANSCEIVER MODULES

MFB-FX	SFP-Port 100Base-FX Transceiver (1310nm) - 2km
MFB-F20	SFP-Port 100Base-FX Transceiver (1310nm) - 20km
MFB-F40	SFP-Port 100Base-FX Transceiver (1310nm) - 40km
MFB-F60	SFP-Port 100Base-FX Transceiver (1310nm) - 60km
MFB-FA20	SFP-Port 100Base-BX Transceiver (WDM,TX:1310nm) - 20km
MFB-FB20	SFP-Port 100Base-BX Transceiver (WDM,TX:1550nm) - 20km
MFB-TFX	SFP-Port 100Base-FX Transceiver (1310nm) - 2km (-40 ~ 75 Degree C)
MFB-TF20	SFP-Port 100Base-FX Transceiver (1310nm) - 20km (-40 ~ 75 Degree C)

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