Industrial Managed Gigabit Ethernet Media Converter with Wide Operating Temperature (-30~75 degrees C)

Interface
- 1-port 10/100/1000BASE-T RJ45 with auto negotiation and auto-MDI/MDI-X function
- 1 100/1000X SFP slot

Industrial Conformance
- 12V to 48V DC, redundant power
- -30 to 75 degrees C operating temperature
- IP-30 metal case
- Relay alarm for port breakdown
- Supports 6KV DC Ethernet ESD protection
- Free fall, shock-proof and vibration-proof
- DIN-rail and wall mounting

Layer 2 Features
- Store-and-Forward mechanism
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- Maximum frame size of 9216 bytes
- Loop detection, and broadcast, multicast and unicast storm control
- Supports VLANs
  - IEEE 802.1Q tag-based VLAN
  - Up to 16 VLANs groups, out of 4K VLAN IDs
  - Management VLAN

Quality of Service
- Ingress/egress bandwidth control on TP/fiber port
- 4 priority queues, strict priority and weighted round robin (WRR)
- Traffic classification by:
  - IEEE 802.1p Class of Service
  - IP DSCP priority
  - IP address priority

Management
- Built-in IP-based Web interface for remote management
- SNMP v1/v2c and 4 RMON groups, event trap and SNMP trap support
- Manual IP address setting/DHCP client for IP address assignment

Distance Extension and High Performance
PLANET IGT-905A Industrial Managed Gigabit Media Converter extends communication distance with highly Gigabit performance via fiber optical wire, in which the distance could be extended up to 120km. The IGT-905A is specifically designed with durable components and strong housing to operate reliably in electrically harsh and climatically demanding environments. The IGT-905A provides a high level of immunity to electromagnetic interference and heavy electrical surges which are usually found on plant floors or traffic control cabinets in sidewalk. Being able to operate under the temperature range from **-30 to 75 degrees C**, the IGT-905A can be placed in almost any difficult environment.

Robust Switching Performance
PLANET IGT-905A Industrial Managed Media Converter efficiently supports conversion between 10/100/1000BASE-T and 100/1000BASE-X Ethernet, and offers remote management and monitoring capabilities. The IGT-905A provides the flexibility of operation made possible with all kinds of 10/100/1000Mbps Ethernet media on RJ45 port and offers highly-stable Gigabit SFP fiber performance. It also delivers the dynamic status report and real-time alarm messages that help the network administrator to easily monitor and manage the entire industrial networks.

User-friendly Centralized Web Management Interface
For efficient management, the IGT-905A is equipped with remote Web/SNMP (simple network management protocol) interface. With the built-in Web-based management interface, the IGT-905A acts as an easy-to-use, platform-independent management and configuration facility. It also can be managed via any standard-based management software by supporting the SNMP. Moreover, the IGT-905A can manage the remote client devices by the TS-1000/802.3ah OAM (operation, administration, and maintenance) protocol.
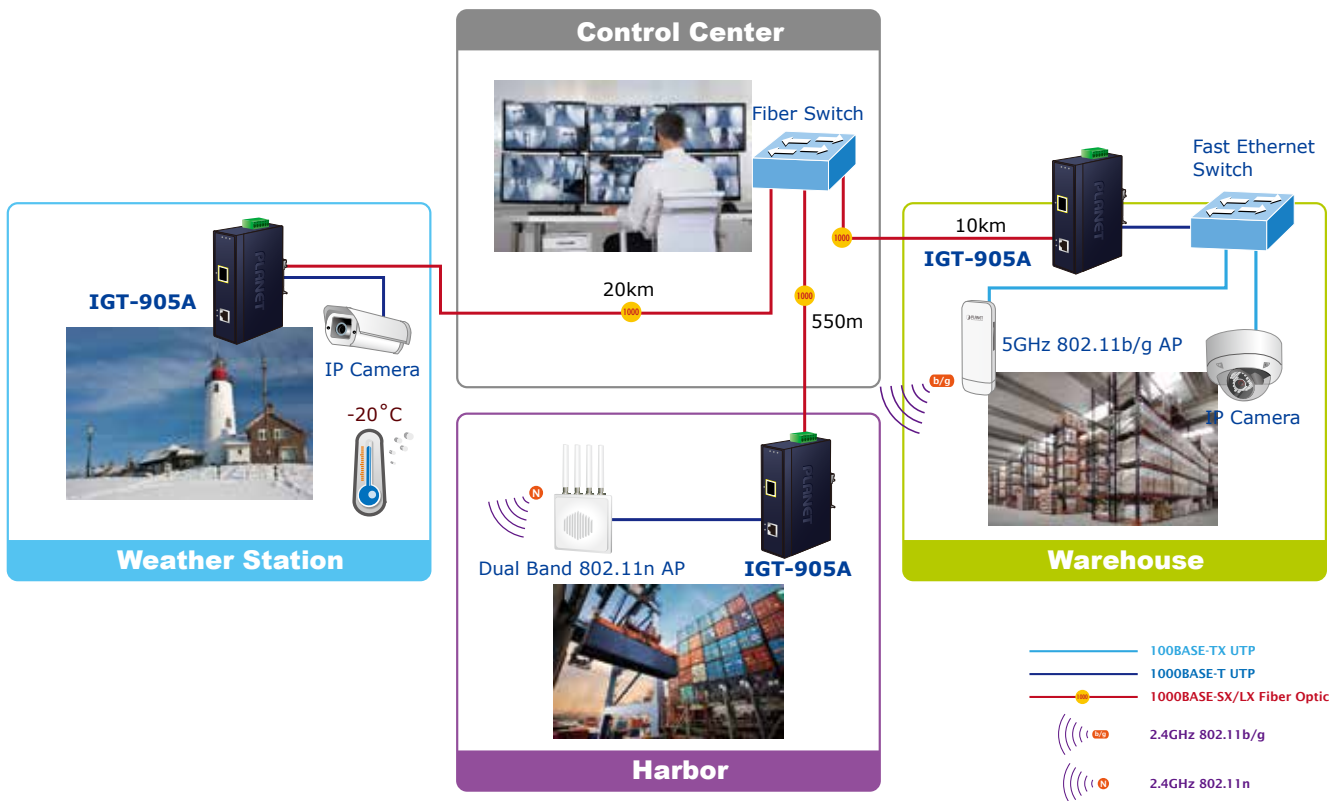
Enhanced Management Features

The IGT-905A can be programmed for advanced management functions such as IP address configuration, DHCP client function, port configuration, converter configuration, 802.1Q tag VLAN, Q-in-Q VLAN, QoS, OAM control, Layer 2 protocol filter, broadcast storm control and Ingress/Egress bandwidth control to enhance bandwidth utilization. The enhanced management features offered by the IGT-905A make it ideally suited for mission-critical and real-time control applications in the Industrial Ethernet networks.

- TS-1000 OAM/IEEE 802.3ah OAM/Loop Back Test
- 16 TCP/UDP filter groups
- Password setting, IP setting and device status via Planet Smart Discovery utility
- Firmware upgrade via remote Web interface
- Reset button for the factory default reset
- Display of current operating temperature

Applications

Transportation Networking

The IGT-905A offers high reliability and security to make sure the industrial operation in harsh environments such as **traffic control cabinet areas, factory floors** and establishments with **extremely low or high temperatures** can operate stably. In the industrial networking environments, each networked device is required to keep running continuously in the hazardous status. If industrial equipment fails to connect to the network, it might influence the entire operation of industrial systems, thus causing incredible financial losses. With the IGT-905A, which complies with all the requirements of industrial applications, customers can expect high reliability, fast recovery capability, and safe Ethernet network operation..

Fiber-optic Networking for ISPs and Enterprises

With high-speed data transmission and easy installation, the IGT-905A can build FTTH (Fiber to the Home) and FTTC (Fiber to the Curb) for ISPs, and FTTB (Fiber to the Building) for enterprises. The IGT-905A enables network administrators to easily monitor operations via the Web management interface.

Specifications

Product	IGT-905A
Hardware Specifications	
Copper Interface	1 x 10/100/1000BASE-T RJ45 Auto-MDI/MDI-X ports
Optic Interface	SFP
Optical Mode	Vary on module
Speed — Twisted-pair	10/20Mbps for half/full duplex 100/200Mbps for half/full duplex 2000Mbps for full duplex
Speed — Fiber-optic	200/2000Mbps for full duplex
Cable — Twisted-pair	10BASE-T: 2-pair UTP Cat. 3,4,5, up to 100 m 100BASE-TX: 2-pair UTP Cat. 5, up to 100 m 1000BASE-T: 4-pair STP Cat 5,6 up to 100m
Cable — Fiber-optic Cable	• 50/125μm or 62.5/125μm multi-mode fiber cable, up to 220/550m. • 9/125μm single-mode cable, extending long distance to 10/20/40/60/80/120km (vary on fiber transceiver or SFP module)
LED indicator	• Power: P1, P2, Fault • TP: LNK/ACT, 1000 • Fiber: LNK/ACT
Power Input	DC 12V to 48V Redundant power with reverse polarity protection
Power Consumption	7.9 watts/27BTU (maximum)
Operating Environment	Temperature: -30~75 degrees C Humidity: 5~90% non-condensing
Storage Environment	Temperature: -40~85 degrees C Humidity: 5~90% non-condensing
Dimensions (W x D x H)	135 x 85 x 32 mm
Weight	423g
Installation	DIN-rail kit and wall-mount ear
Management and Layer 2 Features	
Management Interface	Web/SNMP v1, v2c
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.
VLAN	IEEE 802.1q tag-based VLAN , 4K VLAN ID, up to 16 VLAN groups Q-in-Q VLAN

QoS	Traffic classification based on :
	  • 802.1p priority
	  • IP DSCP field in IP Packet
	  • IP Address

Bandwidth Control	Ingress/Egress bandwidth control
	  • Rate range: 512kbps to 500Mbps
	Storm control
	  • Broadcast/Multicast/Unknown Unicast packet

Standard Conformance	
Emissions	FCC Class A, CE Class A
Standard	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3x Flow Control and Back pressure IEEE 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.3ah OAM
Stability	IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock-proof) IEC60068-2-6 (Vibration-proof)

Ordering Information

IGT-905A	10/100/1000BASE-T to 100/1000BASE-X Industrial Managed Media Converter

Available 1000Mbps Modules for IGT-905A

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	--	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TGT	--	1000	Copper	--	100m	--	-40 ~ 75 degrees C
MGB-TSX	YES	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TSX2	YES	1000	LC	Multi Mode	2km	1310nm	-40 ~ 75 degrees C
MGB-TLX(V2)	YES	1000	LC	Single Mode	20km	1310nm	-40 ~ 75 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 75 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 75 degrees C

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2) MGB-LB10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2) MGB-LB20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2) MGB-LB40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80 MGB-LB80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C
MGB-TLA10(V2) MGB-TLB10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA20 MGB-TLB20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA40 MGB-TLB40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	--40 ~ 75 degrees C
MGB-TLA80 MGB-TLB80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 75 degrees C
		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	-40 ~ 75 degrees C

Available 100Mbps Modules for IGT-905A

Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 degrees C
MFB-F120	100	LC	Single Mode	120km	1310nm	0 ~ 60 degrees C
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 75 degrees C
MFB-TF20	100	LC	Single Mode	20km	13100nm	-40 ~ 75 degrees C

Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MFB-TSA	100	WDM(LC)	Multi Mode	2km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TSB	100	WDM(LC)	Multi Mode	2km	1550nm	1310nm	-40 ~ 75 degrees C
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 degrees C

IGT-905A