# 10/100/1000Base-T to 1000Base-SX/LX Smart Media Converter

To provide an easy use yet powerful solution for FTTX applications, PLANET has released a new 10/100/1000Base-T to 1000Base-SX/LX Smart Media Converter, GST-80x series, featuring plug & play and smart media conversion functions.

*Distance Extension with High Performance and Steady Network Communication*

PLANET GST-80x Smart Gigabit Media Converter series extends communication distance with highly Gigabit performance via fiber optical cable. The GST-80x series provides media conversion between 10/100/1000Base-T and 1000Base-SX/LX interfaces such as multi-mode LC/SC connectors (220m / 550m), single-mode LC/SC connectors (10/20/30/40/50/70/120km) and single fiber connectors (WDM,15/60km) for various fiber optic applications.

*Enhanced Smart Management Features*

The GST-80x series provides auto MDI/MDI-X on its TP port and the DIP switch to configure the available smart functions including the auto-negotiation / force for fiber interface and Link Pass-through function (LLCF/LLR). The Link Loss Carry Forward (LLCF) function works with Link Loss Return (LLR) to diagnose network connections. Also, the LLR function can immediately alarm network administrator the media link issue and provide efficient solution to monitoring the entire network.

*Easy Installation*

The GST-80x series allows two segments to connect easily. The Smart Media Converter can be used as a standalone unit when powered by its DC adapter or used as a slide-in module to PLANET 19-inch managed 16-slot media converter chassis (MC-1610MR / MC-1610MR48). When working with the Managed media converter chassis, the GST-80x is able to be managed and its status can be monitored through the local RS-232 console and remote web interface.

## Standards

- Complies with IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-SX/LX Ethernet Standard

## Interface

- One 10/100/1000Base-T port with RJ-45 connector
- One 1000Base-SX/LX port with LC/SC/WDM connector supporting multi-mode or single-mode fiber optic cable
- Auto-negotiation and Auto-MDI / MDI-X for 10/100/1000Base-T port

## Layer 2 Features

- Back-pressure and IEEE 802.3x compliant flow control and full wire-speed forwarding rate
- 9K Jumbo Frame size supported
- Link Loss Return (LLR) switch on each fiber optic to aid in troubleshooting remote network connections
- Link Loss Carry Forward (LLCF) work with LLR in diagnosing network connections

## Smart Management

- Provides DIP switch for fiber (Auto-negotiation / Manual) and LFP function (Disable / Enable) setting
- Manageable through / Managed Media Converter Chassis System (MC-1610MR series)
- Bandwidth control / TS-1000 OAM / IEEE 802.3ah OAM / Loop Back Test function provided with MC-1610MR / MC-1610MR48 Managed Media Converter Chassis System
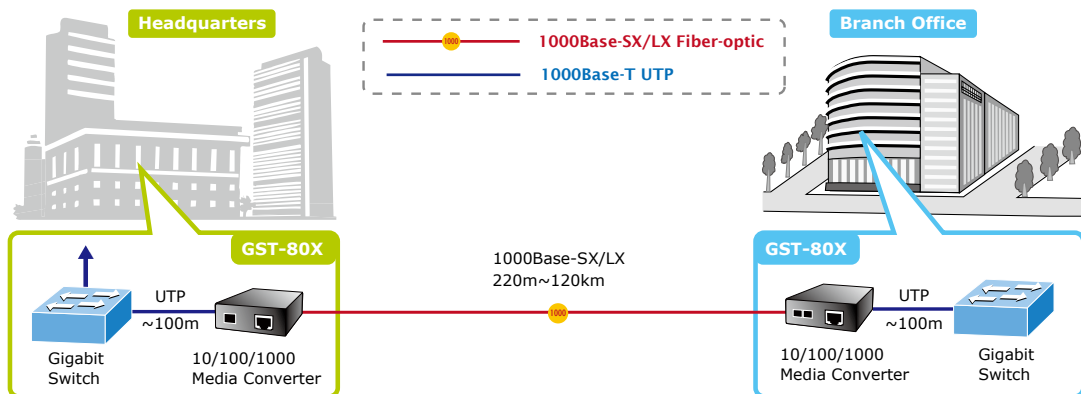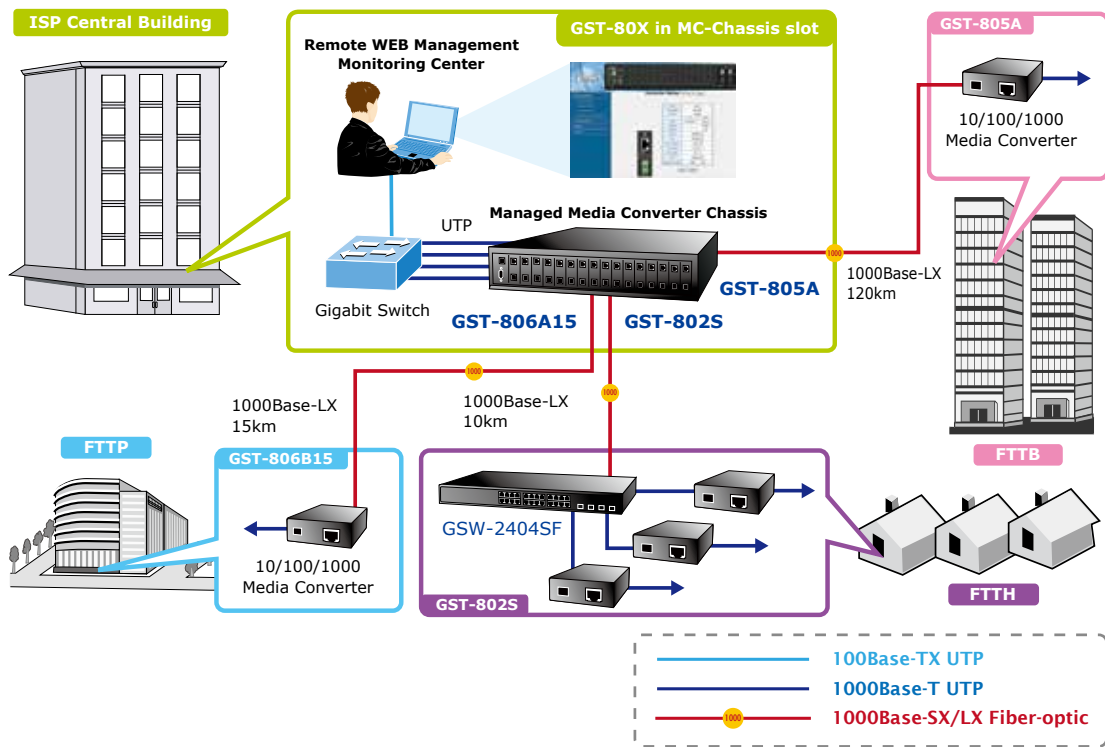
## Hardware

- Used as a stand-alone device or work with Managed Media Converter Chassis for up to 16 converter with redundant power supply for optional expansion use
- LED indicators for converter status
- Choice of fiber-connector from SC, LC, WDM, multi-mode / single-mode fiber / 1000Base-SX / LX mini GBIC module
- EMI standards complies with FCC, CE class A

# Applications

*Fiber-Optic Networking for ISP, Enterprise, and Home*

PLANET GST-80x provides advanced media conversion technology -- 10/100/1000Base-T and 1000Base-SX/LX interfaces to fulfill different kinds of demands as the current network grows and expands. The GST-80x provides diverse fiber connect type options for different network applications. It is very flexible for the GST-80x to work as a standalone device or be installed in the central management media converter chassis for centralized management. When working with the management media converter chassis, the GST-80x is hot swappable to avoid network downtime. The GST-80x is the ideal solution to building a network solution of FTTH (Fiber to the Home) or FTTC (Fiber to the Curb), and FTTB (Fiber to the Building) for ISPs, campuses and enterprises.

# Specifications

| Model | GST-802 | GST-802S | GST-805A | GST-806A15 | GST-806B15 | GST-806A60 | GST-806B60 |
|---|---|---|---|---|---|---|---|
| **Hardware Specifications** | | | | | | | |
| Standards | IEEE 802.3, 10Base-T<br>IEEE 802.3u, 100Base-TX<br>IEEE 802.3ab, 1000Base-T<br>IEEE 802.3z, 1000Base-SX/LX<br>IEEE 802.3ah OAM | | | | | | |
| Ports | 1 x 10/100/1000Base-T port<br>1 x 1000Base-SX/LX port | | | | | | |
| Copper Interface | RJ-45 port (Auto-MDI/MDI-X) Twisted Pair | | | | | | |
| Optic Interface | GST-802 / GST-802S: SC<br>GST-805A: SFP<br>GST-806A15 / GST-806B15 / GST-806A60 / GST-806B60: WDM | | | | | | |
| Optic Wavelength | GST-802: 850nm<br>GST-802S: 1310nm<br>GST-805A: N/A<br>GST-806A15: TX:1310nm / RX:1550nm<br>GST-806B15: TX:1550nm / RX:1310nm<br>GST-806A60: TX:1310nm / RX:1550nm<br>GST-806B60: TX:1550nm / RX:1310nm | | | | | | |
| Launch Power(dBm) Max. | GST-802: -4 dBm<br>GST-802S: -3 dBm<br>GST-805A: N/A<br>GST-806A15: -3 dBm<br>GST-806B15: +5 dBm<br>GST-806A60: -3 dBm<br>GST-806B60: +4 dBm | | | | | | |
| Launch Power(dBm) Min. | GST-802: -9.5 dBm<br>GST-802S: -9.5dBm<br>GST-805A: N/A<br>GST-806A15: -9 dBm<br>GST-806B15: 0 dBm<br>GST-806A60: -9 dBm<br>GST-806B60: -1 dBm | | | | | | |
| Receive Sensitivity | GST-802: -13.5 dBm<br>GST-802S: -14.4 dBm<br>GST-805A: N/A<br>GST-806A15: -21 dBm<br>GST-806B15: -25 dBm<br>GST-806A60: -21 dBm<br>GST-806B60: -25 dBm | | | | | | |
| Maximum Input power | GST-802: -18 dBm<br>GST-802S: -20 dBm<br>GST-805A: N/A<br>GST-806A15: -3 dBm<br>GST-806B15: -3 dBm<br>GST-806A60: -2 dBm<br>GST-806B60: -2 dBm | | | | | | |
| Speed Twisted-pair | 10/20Mbps for Half / Full-Duplex<br>100/200Mbps for Half / Full-Duplex<br>2000Mbps for Full-Duplex | | | | | | |
| Speed Fiber-optic | 2000Mbps for Full-Duplex | | | | | | |
| Cable Twisted-pair | 10Base-T: 2-pair UTP Cat. 3,4,5, up to 100m<br>100Base-TX: 2-pair UTP Cat. 5, up to 100m<br>1000Base-T: 4-pair STP Cat 5 up to 100m | | | | | | |
| Cable Fiber-optic Cable | • 50/125µm or 62.5/125µm multi-mode fiber cable, up to 220/550m.<br>• 9/125µm single-mode cable, provides long distance for 10/20/30/40/50/70/120km (vary on fiber transceiver or SFP module) | | | | | | |
| LED Indicator | • PWR (Green)<br>• TP: 1000, LINK/ACT<br>• Fiber: LINK/ACT | | | | | | |
| DIP Switch | Fiber (Auto-negotiation / Manual), LFP (Disable / Enable) | | | | | | |
| Power Consumption | 3.1 Watts / 10BTU (maximum) | | | | | | |
| OAM | TS-1000, IEEE 802.3ah terminal | | | | | | |

| Jumbo Frame size | 9K |
|---|---|
| Power Input | DC 5V / 2A |
| Dimensions (W x D x H) | 81 x 94 x 26 mm |
| Operating Environment | Temperature: 0~50 degrees C; Humidity: 5~90% non-condensing |
| Storage Environment | Temperature: -40~70 degrees C; Humidity: 5~90% non-condensing |
| Emissions | FCC Class A, CE Class A |

## Ordering Information

| GST-802 | 10/100/1000Base-T to 1000Base-SX(SC,MM) Smart Media Converter-220m/550m |
|---|---|
| GST-802S | 10/100/1000Base-T to 1000Base-LX(SC,SM) Smart Media Converter-10km |
| GST-805A | 10/100/1000Base-T to 1000Base-LX/SX(mini-GBIC, SFP) Smart Media Converter-distance depends on SFP module |
| GST-806A15 | 10/100/1000Base-T to 1000Base-LX(WDM) Smart Media Converter-TX:1310nm-15km |
| GST-806B15 | 10/100/1000Base-T to 1000Base-LX(WDM) Smart Media Converter-TX:1550nm-15km |
| GST-806A60 | 10/100/1000Base-T to 1000Base-LX(WDM) Smart Media Converter-TX:1310nm-60km |
| GST-806B60 | 10/100/1000Base-T to 1000Base-LX(WDM) Smart Media Converter-TX:1550nm-60km |

## Related SFP modules for GST-805A

| MGB-SX | SFP-Port 1000Base-SX Transceiver, LC, MM-550m |
|---|---|
| MGB-LX | SFP-Port 1000Base-LX Transceiver, LC, SM-10km |
| MGB-L30 | SFP-Port 1000Base-LX Transceiver, LC, SM-30km |
| MGB-L50 | SFP-Port 1000Base-LX Transceiver, LC, SM-50km |
| MGB-L70 | SFP-Port 1000Base-LX Transceiver, LC, SM-70km |
| MGB-L120 | SFP-Port 1000Base-LX Transceiver, LC, SM-120km |
| MGB-LA10 | 1000Base-LX Transceiver, LC, WDM (TX:1310nm) SM-10km |
| MGB-LB10 | 1000Base-LX Transceiver, LC, WDM (TX:1550nm) SM-10km |
| MGB-LA20 | 1000Base-LX Transceiver, LC, WDM (TX:1310nm) SM-20km |
| MGB-LB20 | 1000Base-LX Transceiver, LC, WDM (TX:1550nm) SM-20km |
| MGB-LA40 | 1000Base-LX Transceiver, LC, WDM (TX:1310nm) SM-40km |
| MGB-LB40 | 1000Base-LX Transceiver, LC, WDM (TX:1550nm) SM-40km |

## Related products

| MC-1610MR / MC-1610MR48 | 16-Slot Managed Media Converter Chassis with Redundant Power Supply System |
|---|---|

**C-GST-80x**