# Product Specification

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

**GST- 80x**

Version 1.0



Change History:

| Revision | Date | Author | Change List |
|---|---|---|---|
| Version 1.0 | 2009/06/22 | Marc Liao | Initial release |

| | | | |
|---|---|---|---|
| Author | Marc Liao | Editor: | Marc Liao |
| Reviewed by: | Kent Kang | Approved by: | Tom Shih |

# 1. PRODUCT DESCRIPTION

The Smart Gigabit Media Converter- GST-80x 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.

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 monitor the entire network.

The GST-80x series allows two type segments to connect easily. The Smart Media Converter can be used as a standalone unit when powered by it's DC adapter or used as a slide-in module to the PLANET 19-inch Web Smart / Managed 16-Slots media converter chassis (MC-1600MR/MC-1600MR48 & MC-1610MR / MC-1610MR48). When working with the Web Smart / Managed media converter chassis, the GST-80x is able to be managed and its status be monitored through the local RS-232 console and remote web interface.

# 2. PRODUCT FEATURES

- **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 & 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 Web Smart / Managed Media Converter Chassis System
  - (MC-1600MR/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 Web Smart / Managed Media Converter Chassis for up to 16 converters 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

# 3. PRODUCT SPECIFICATION

## 3.1 MAIN COMPONENT

| | | |
|---|---|---|
| EEPROM Microcontroller: | **Winbond W78L054C** | **x1** |
| Media converter chip: | **Realtek RTL8213M** | **x1** |
| Fiber-optic transceiver: | **Vary by models** | **x1** |

## 3.2 FUNCTIONAL SPECIFICATIONS

| **Model** | | **GST-802** | **GST-802S** | **GST-805A** | **GST-806 A15** | **GST-806 B15** | **GST-806 A60** | **GST-806B 60** |
|---|---|---|---|---|---|---|---|---|
| **Hardware Specification** | | | | | | | | |
| **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** | | **SC** | | **SFP** | **WDM** | | | |
| **Optic Wavelength** | | 850nm | 1310nm | - | TX:1310 nm RX:1550 nm | TX:1550 nm RX:1310 nm | TX:1310 nm RX:1550 nm | TX:1550 nm RX:1310 nm |
| **Launch Power(dBm)** | **Max.** | -4 dBm | -3 dBm | - | -3 dBm | +5 dBm | -3 dBm | +4 dBm |
| | **Min.** | -9.5 dBm | -9.5dBm | - | -9 dBm | 0 dBm | -9 dBm | -1 dBm |
| **Receive Sensitivity** | | -13.5 dBm | -14.4 dBm | - | -21 dBm | -25 dBm | -21 dBm | -25 dBm |
| **Maximum Input power** | | -18 dBm | -20 dBm | - | -3 dBm | -3 dBm | -2 dBm | -2 dBm |
| **Speed** | **Twisted-pair** | 10/20Mbps for Half / Full-Duplex<br>100/200Mbps for Half / Full-Duplex<br>2000Mbps for Full-Duplex | | | | | | |
| | **Fiber-optic** | 2000Mbps for Full-Duplex | | | | | | |
| **Cable** | **Twisted-pair** | 10Base-T: 2-pair UTP Cat. 3,4,5, up to 100 m<br>100Base-TX: 2-pair UTP Cat. 5, up to 100 m<br>1000Base-T: 4-pair STP Cat 5 up to 100m | | | | | | |
| | **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) | | | | | | |
| **OAM** | | TS-1000, IEEE 802.3ah terminal | | | | | | |
| **Jumbo Frame size** | | 9K | | | | | | |

### 3.3 PHYSICAL SPECIFICATION

■ **Dimensions**

81 x 94 x 26 mm (W x D x H)

■ **Weight:**

214g

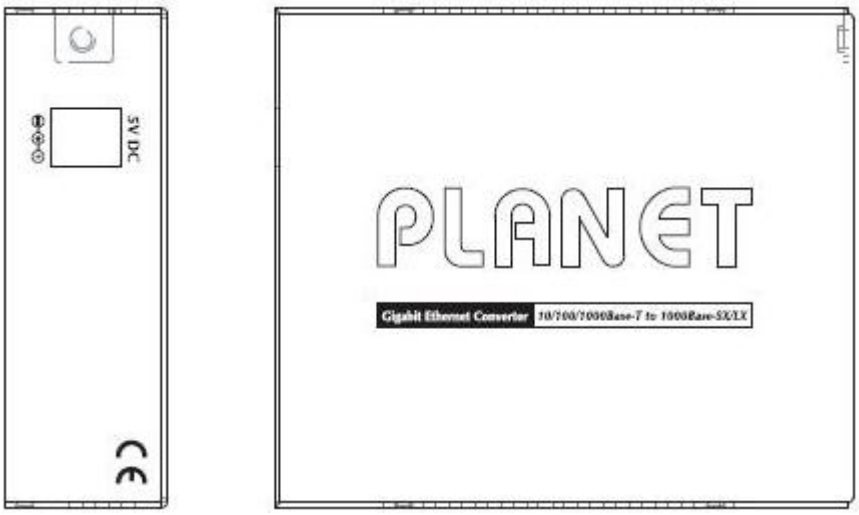
■ **Right view**

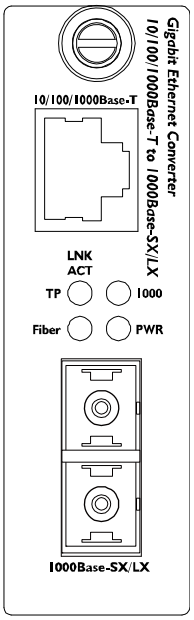
There is one RJ-45 twisted-Pair jack **(Auto-MDI/MDI-X)**, one fiber-optic connector **(vary by model)** and six LED indicators.

■ **Left view**

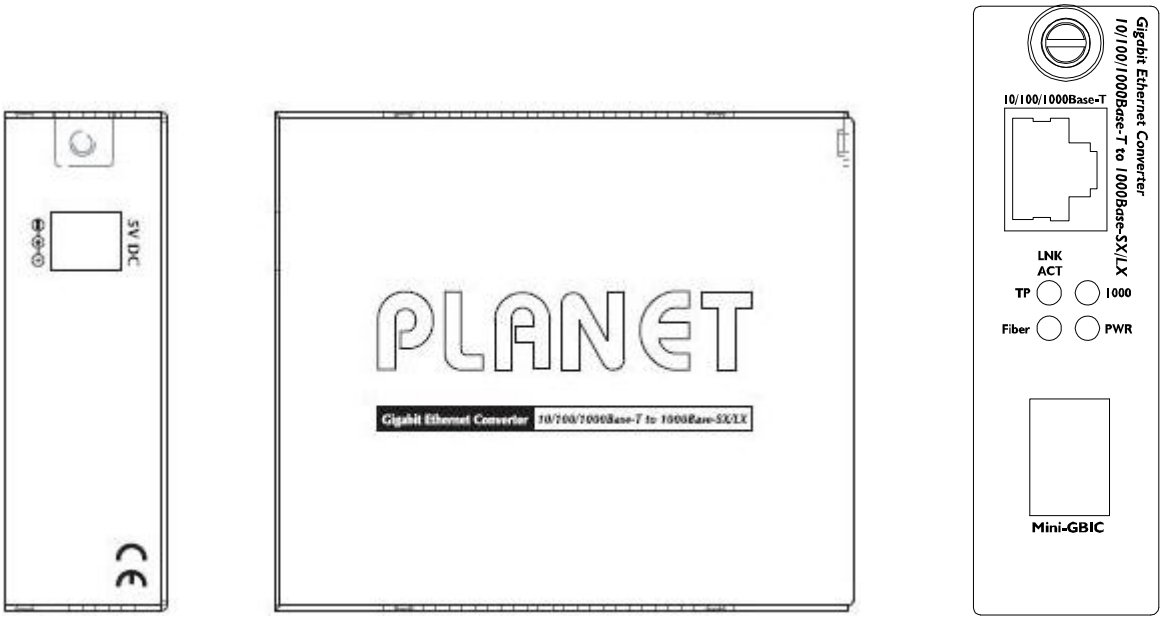
There is one DC jack for DC 5V power adapter.

### GST-802 / GST-802S:

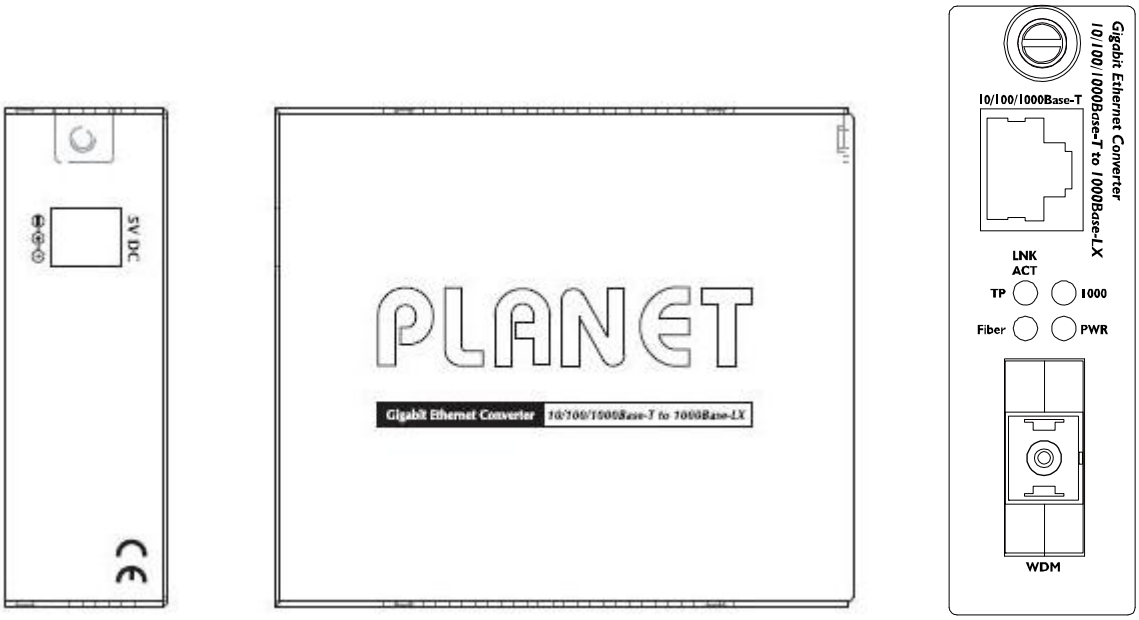


**GST-805A:**




**GST-806A15 / GST-806B15 / GST-806A60 / GST-806B60:**



## ■ LED definition

| LED | Color | Status | Indication |
|---|---|---|---|
| PWR | Green | Lights Off | Power off. |
| | | Lights On | Power on – when +5V DC detected. |
| Fiber LNK /ACT | Green | Lights Off | Indicate the link through that port is not established. |
| | | Lights On | Indicate the link through that port is successfully established. |
| | | Lights Blink | Indicate that port is actively sending or receiving data. |
| TP LINK/ACT | Green | Lights Off | The link through that port is not established. |
| | | Lights On | The link through that port is successfully established. |
| | | Lights Blink | Indicate that port is actively sending or receiving data. |
| TP 1000 | Green | Lights Off | Indicate that the port is operating at 10Mbps or 100Mbps. |
| | | Lights On | Indicate that the port is operating at 1000Mbps. |

### 3.4 ENVIRONMENTAL SPECIFICATION

**Operating**

Temperature: 0~50°C

Relative Humidity: 5~90 %( non-condensing)

**Storage**

Temperature: -40~70°C

Relative Humidity: 5~90 %( non-condensing)

### 3.5 ELECTRICAL SPECIFICATION

Power Requirement: 5V DC 2A

Power Consumption: 3.1 Watts / 10BTU (maximum)

### 3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

### 3.7 RELIABILITY

MTBF > 50,000Hrs @ 25 Degree C

### 3.8 BASIC PACKAGING

- Gigabit Ethernet Converter x1
- AC-DC Power Adapter (Output: 5VDC, 2A max.) x1
- User's manual CD x1

### 3.9 PACKING INFORMATION

**Dimension**

140mm x 285mm x 70mm (W x D x H)

**Weight**

0.53kg (Gross weight)

20pcs in one canton