## Overview

Thank you for purchasing PLANET MGB family SFP Mini-GBIC Gigabit Ethernet module. The MGB family SFP Mini-GBIC Gigabit Ethernet module can install into PLANET Switch products with SFP Mini-GBIC interface. The distance can be extended from 100 meters (TP), 550 meters (Multi-mode, LC), up to 120 kilometers (Single-mode, LC).

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|---|---|
| **Note** | Class 1 Laser Product<br>Complies with FDA Regulation 21 CFR 1040.10 and 1040.11. |
| **Warning** | Class 1 radiation is present when the device or system is powered up. |
| **Warning** | Only trained and qualified personnel should be allowed to install or replace these modules. |

## 1. Model List

Your MGB family SFP Mini-GBIC Gigabit Ethernet module comes with one of the following models.

| Gigabit Ethernet SFP Module List | | |
|---|---|---|
| **Model** | **Interface** | **Connector type and distance** |
| MGB-GT | 1000Base-T Module | RJ-45, 100m |
| MGB-SX | 1000Base-SX Module | LC, MM, 550m |
| MGB-LX | 1000Base-LX Module | LC, SM, 10km |
| MGB-L30 | 1000Base-LX Module | LC, SM, 30km |
| MGB-L50 | 1000Base-LX Module | LC, SM, 50km |
| MGB-L70 | 1000Base-LX Module | LC, SM, 70km |
| MGB-L120 | 1000Base-LX Module | LC, SM, 120km |
| MGB-LA10 | 1000Base-LX Module | LC WDM (TX:1310nm), SM, 10km |
| MGB-LB10 | 1000Base-LX Module | LC WDM (TX:1550nm), SM, 10km |
| MGB-LA20 | 1000Base-LX Module | LC WDM (TX:1310nm), SM, 20km |
| MGB-LB20 | 1000Base-LX Module | LC WDM (TX:1550nm), SM, 20km |
| MGB-LA40 | 1000Base-LX Module | LC WDM (TX:1310nm), SM, 40km |
| MGB-LB40 | 1000Base-LX Module | LC WDM (TX:1550nm), SM, 40km |
| MGB-TSX | 1000Base-SX Module | LC, MM, 550m (-40~75°C) |
| MGB-TLX | 1000Base-LX Module | LC, SM, 10km (-40~75°C) |
| MGB-TL30 | 1000Base-LX Module | LC, SM, 30km (-40~75°C) |
| MGB-TL70 | 1000Base-LX Module | LC, SM, 70km (-40~75°C) |

Models with LX or last two numbered characters indicate the fiber-port is with **"Single-Mode"** optic fiber connector and the number indicates the maximum distance in km.

## 2. Checklist

Your MGB carton should contain the following items:

- The MGB family SFP Mini-GBIC Gigabit Ethernet Module
- This User's Manual

If any item is missing or damaged, please consult the dealer from whom you purchased your MGB family SFP Mini-GBIC Gigabit Ethernet module.

## 3. Introduction

### 3-1 1-Port 1000Base-T SFP Mini-GBIC Module - MGB-GT

**Features:**

- Comply with IEEE 802.3ab Gigabit Ethernet standard
- 1 x 1000Base-T port (RJ-45 connector)
- Up to 100m over 4-pair UTP Cat.5/5e cable
- Plug & Play Installation
- 0 to 50 Degree C operation temperature

### 3-2 1-Port 1000Base-SX / LX SFP Mini-GBIC Modules - MGB-SX / MGB-LX / MGB-L30 / MGB-L50 / MGB-L70 / MGB-L120

**Features:**

- Comply with the IEEE 802.3z Gigabit Ethernet standard
- 1 x 1000Mbps LC fiber port
- Plug and Play Installation
- 0 to 50 Degree C operation temperature

**Note:** The MGB-L30, MGB-L50, MGB-L70 and MGB-120 SFP transceivers provide the optical power budget from 19dB to 30dB. When shorter distance of single-mode fiber cables is used, you might need to insert an in-line optical attenuator in the link to avoid overloading of the transceiver.

| SFP Model<br>In-line Optical Attenuator | MGB-L30 | MGB-L50 | MGB-L70 | MGB-L120 |
|---|---|---|---|---|
| Fiber Cable Length ≤ 25Km | 2-dB | 10-dB | 15-dB | 25-dB |
| 25Km < Fiber Cable Length < 50Km | -- | -- | 8-dB | 20-dB |

### 3-3 1-Port 1000Base-LX WDM SFP Mini-GBIC Modules - MGB-LA10 / LB10, MGB-LA20 / LB20, MGB-LA40 / LB40

**Features:**

- Comply with the IEEE 802.3z Gigabit Ethernet standard
- 1 x 1000Mbps LC fiber port (single LC fiber connectors)
- Plug and Play Installation
- 0 to 50 Degree C operation temperature

**Note:**
1. The fiber connector and distance support will be different by various models.
2. The MGB-LAxx / LBxx should runs in pair. It means you must connect MGB-LAxx in one end and another MGB-LBxx in the other end, for example LA10 to LB10 where only one single mode optic wire is required.
3. The MGB-LA10, MGB-LB10, MGB-LA20, MGB-LB20 and MGB-LA40, MGB-LB40 SFP transceivers provide the optical power budget from 12dB to 20dB. When shorter distance of single-mode fiber cables is used, you might need to insert an in-line optical attenuator in the link to avoid overloading of the transceiver.

| SFP Model<br>In-line Optical Attenuator | MGB-LA10<br>MGB-LB10 | MGB-LA20<br>MGB-LB20 | MGB-LA40<br>MGB-LB40 |
|---|---|---|---|
| Fiber Cable Length ≤ 5Km | 2-dB | 6-dB | 14-dB |
| 5Km < Fiber Cable Length < 30Km | 2-dB | --- | 4-dB |

### 3-4 1-Port 1000Base-SX / LX SFP Mini-GBIC Modules - MGB-TSX / MGB-TLX / MGB-TL30 / MGB-TL70

**Features:**

- Comply with the IEEE 802.3z Gigabit Ethernet standard
- 1 x 1000Mbps LC fiber port
- Plug and Play Installation
- -40 to 75 Degree C operation temperature

**Note:** The MGB-TL30 and MGB-TL70 SFP transceivers provide the optical power budget of 21dB and 24dB. When shorter distance of single-mode fiber cables is used, you might need to insert an in-line optical attenuator in the link to avoid overloading of the transceiver.

| SFP Model<br>In-line Optical Attenuator | MGB-TL30 | MGB-TL70 |
|---|---|---|
| Fiber Cable Length ≤ 25Km | 2-dB | 15-dB |
| 25Km < Fiber Cable Length < 50Km | -- | 8-dB |

### 4.1 Install the module

Please follow these steps to install the SFP Mini-GBIC modules:

1. Power on the Switch and place the Switch on a flat surface. Install the new SFP Mini-GBIC modules by inserting it into the slots and sliding it in until it stops (See **Figure 1**). Press it firmly until you feel the module snap into place. Never force, twist or bend the SFP Mini-GBIC modules. The SFP Mini-GBIC module slides in smoothly and the Switch will automatically detect the new module.
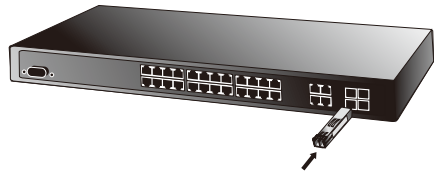
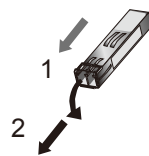**Figure 1:** Insert the SFP Mini-GBIC modules

2. After the TP/fiber connection was built successfully. Check the LEDs to verify that if there is a link and a proper connection at the port.

Please refer to the Switch's user's manual for more about Switch or module's management.

### 4.2 Remove the module

1. Make sure there is no network activity by consult or check with the network administrator. Or through the management interface of the switch (if available) to disable the port in advance.
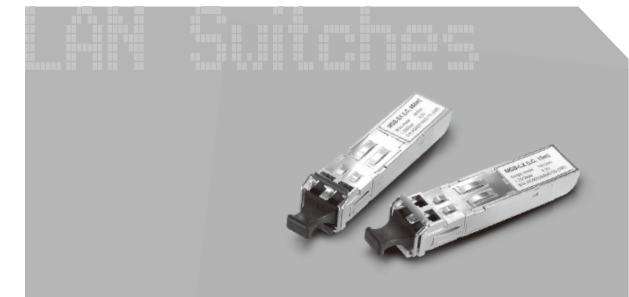
2. Remove the UTP cable or the Fiber Optic Cable gently.

3. Turn the handle of the MGB module to horizontal.

4. Pull out the module gently through the handle.

| | |
|---|---|
| **Warning** | Never pull out the module without pull the handle or the push bolts on the module. Direct pull out the module with violent could damage the module and the SFP module slot of the device. |

Plug & Play

MGB-Series

# SFP Mini-GBIC
# Gigabit Ethernet Transceiver

www.planet.com.tw

**User's Manual**