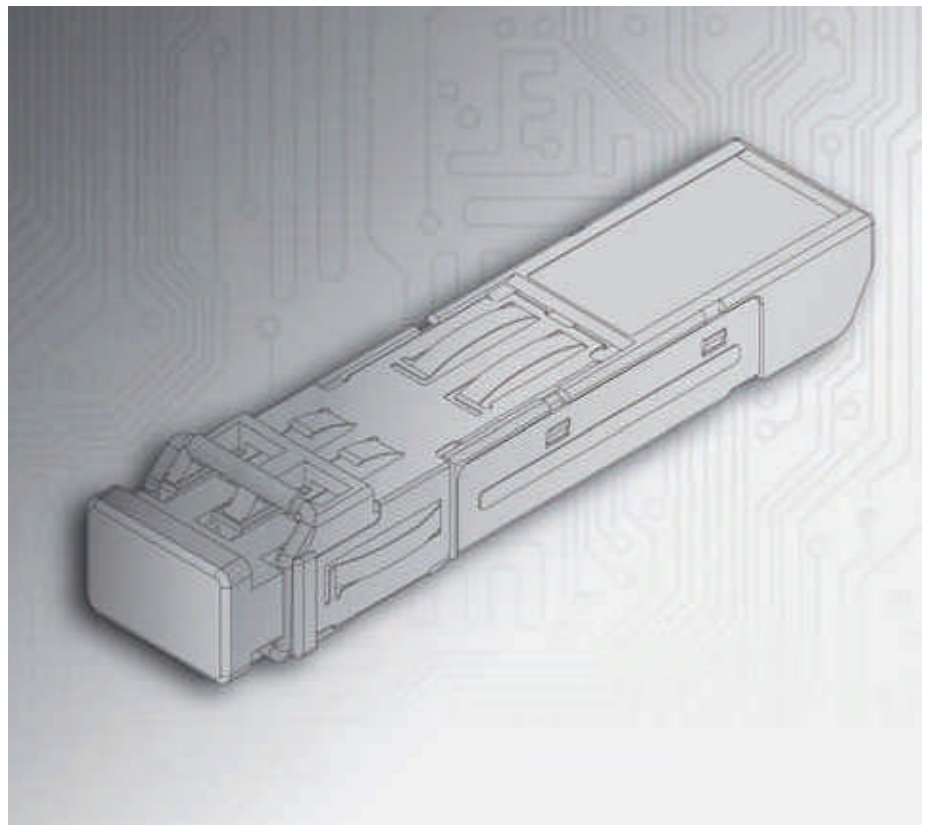**Genesis**
HIGH SPEED

Installation Guide

Interface Module

Optical Network plug-in

HBM

Document version 1.1 - January 2012

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A3398-1.1 en

1 SFP Optical Network Option

1.1 Introduction

Installation

This section covers the installation and removal of the Small Form Factor Pluggable (SFP) transceiver device.

This optional device enables an Optical Network connection direct into the front panel of the IM2.
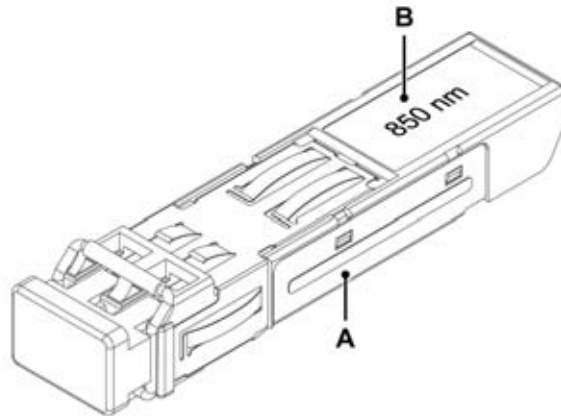

Figure 1.1: SFP Optical Network devices

A   SFP shown with dust-cap and removal bar

B   SFP label - 850 or 1310 nm

This is a simple and powerful plug-in-and-use option which enables the use of the Optical Network connection. There are 2 models available to choose from:

- **1310 nm (single mode)**
- **850 nm (multi mode)**

Note   *This SFP slot is capable of implementing either Single Mode (SM) or Multimode (MM) optical fiber transceivers, therefore please check the correct mode of fiber-optic cable is used. Check the wavelength with the manufacturer and make sure it matches the SFP labeling.*

Warnings

Description of Electro Static Discharge (ESD)

 Electrostatic discharge (ESD) can cause damage to electronic devices if discharged into the device, so you should take steps to avoid such an occurrence.

Laser Safety
The system is classified as a Class 1 laser product. The SFP uses optical light source for data and command communication . It does not emit hazardous light but it is recommended to avoid direct exposure to the beam.

Installation steps

1   First make sure the mainframe unit is switched off then locate the available SFP slot and remove the plastic plug (if inserted).
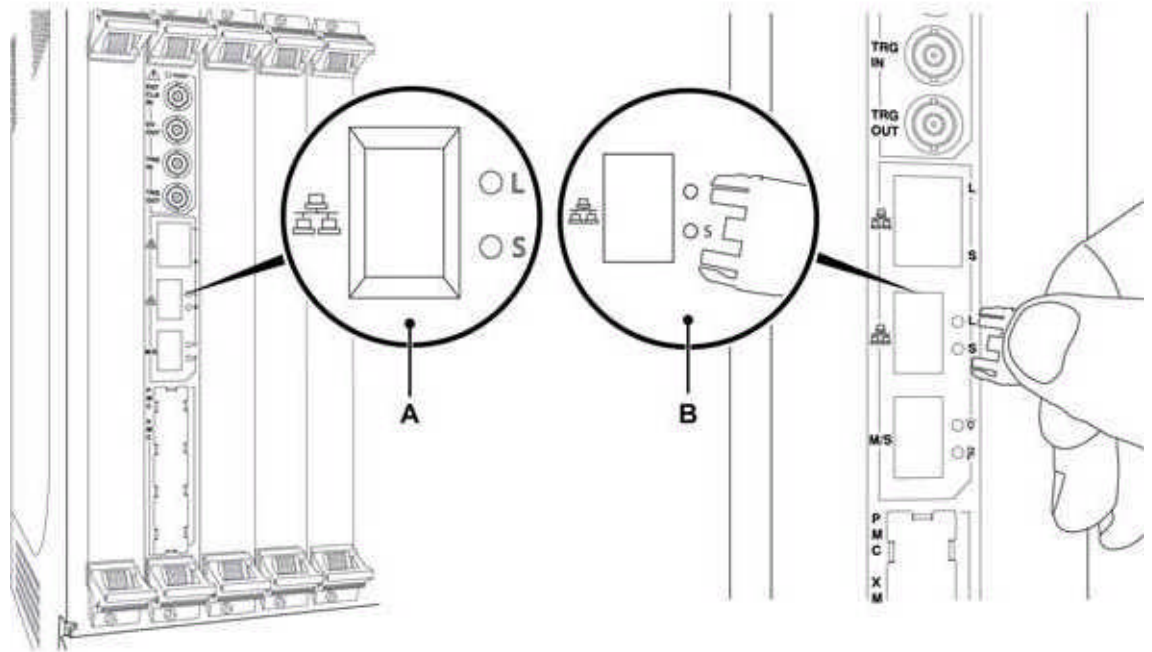

Figure 1.2: IM2 Module cap removal

A   IM2 Module with cap on

B   Remove cap *

* In some cases you may have to remove a covering over the SFP slot. Please see explanation of how to do this on page 10.

2 Grasp module between fingers and thumb at the end with the small black removal-bar and Insert back end into the available SFP slot, until you hear a click.
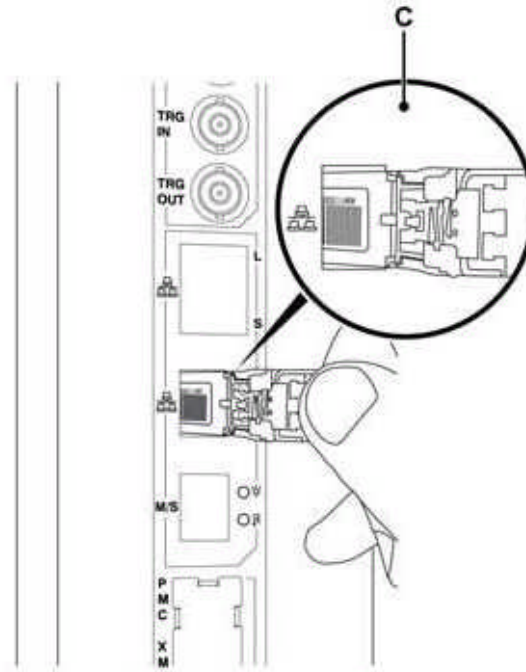

Figure 1.3: Insert device in IM2 Module

C Insert device

3 Embedded software will recognize the device and connect to it automatically when the mainframe is powered on. When there is an optical connection the RJ45 connector will be disabled.
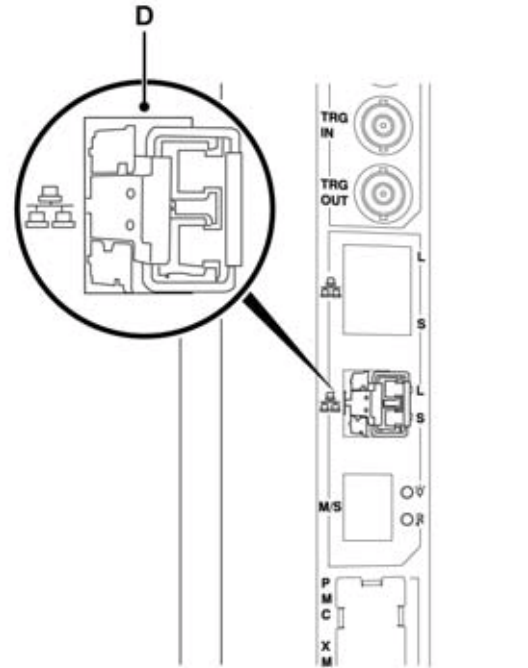

Figure 1.4: IM2 Module with device

D Device inserted

4   To remove the module from the mainframe first make sure the mainframe is powered off and then grasp the small black removal-bar and pull away and out from the mainframe. The spring loaded removal-bar will release the SFP from the front panel.
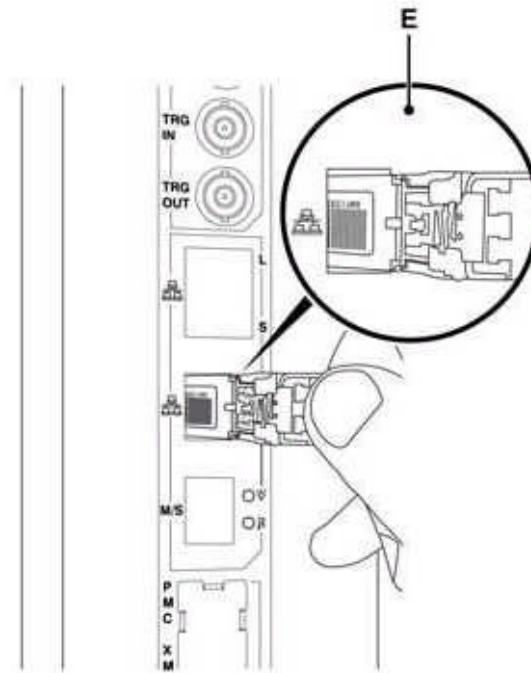

Figure 1.5: IM2 Module - Remove device

E   Remove device

Then, if available replace the small plastic plug to protect the optical inlet.

Trouble shooting

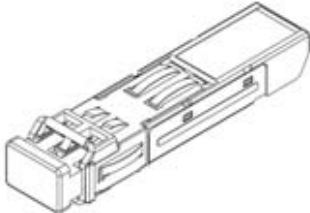If no connection is present on the fiber-optic channel, first check the following:

1   That the **cable type** matches the **SFP module type** (single-mode or multi-mode).
    For this you will need to check with the cable manufacturer specifications and the wavelength print on the label of the SFP module to compare (1310 nm is single-mode, 850 nm is multi-mode).
2   Check that the **cable wavelength** and **SFP module wavelength** are the same.
    For this you will need to check with the cable manufacturer specifications and check the print on the label of the SFP module to compare.
3   Check that the communication speed at either end of the fiber-optic connection is the same.
4   Inspect cable and connectors for any possible faults and breaks that could impede communication.

SFP Ethernet Option Specifications

Optical Network (SFP) Option		
Component	**Unit Description**	**Value**
Connector	Compatible with	LC-Duplex fiber connector
Power supply		+3.3 V dc
Gigabit Ethernet	1000BASE-LX & Small Form Factor Pluggable (SFP)	1.25 Gbit
Laser frequency	Single Mode	1310 nm
	Multi Mode	850 nm
Link Lengths	Required mode fiber at 1.25 Gbit:	
	0.5 to 550 m	50 µm MMF
	0.5 to 550 m	62.5 µm MMF
	0.5 m to 10 km	SMF
Eye safety certified		US 21 CFR(J) IEC 60825-1 (+All)

SFP Ethernet Ordering Information

Ordering Information			
Component		Unit Description	Order number
SM SFP		Wavelength 1310 nm	1-G062-2
MM SFP		Wavelength 850 nm	1-G063-2

Removing SFP protective cover on a GEN2i

1 To use the SFP option on a GEN2i with IM2 you need to remove the protective cover first.

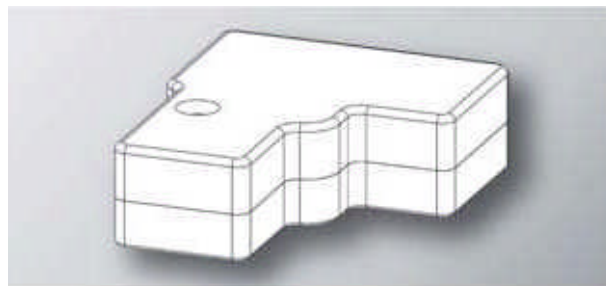**Note**   *Requires screw driver Torx T10.*

Figure 1.6: (GEN2i SFP cover - standard)

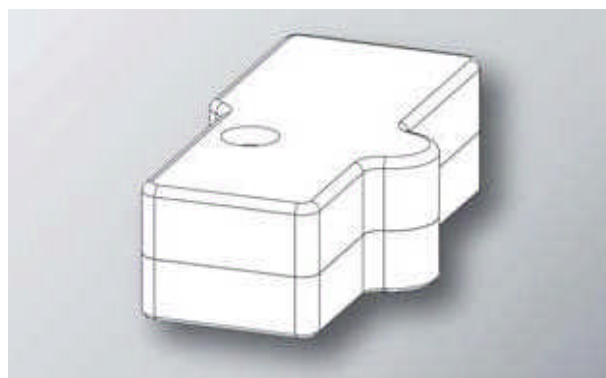2 When removed replace with the new cap to keep the socket protected.

Figure 1.7: (GEN2i SFP cover - new)

Removing SFP protective cover on a GEN5i

1   To use the SFP option on a GEN5i with IM2 you need to remove the protective cover first.
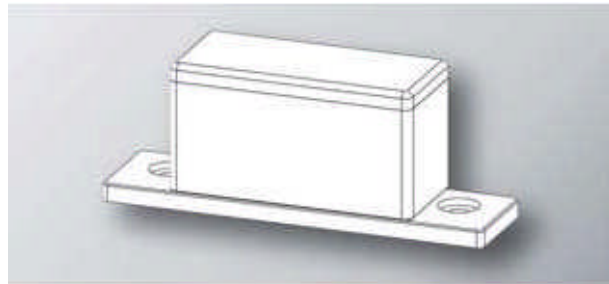
Note   *Requires screw driver Phillips #2.*

Figure 1.8: (GEN5i SFP cover - standard)

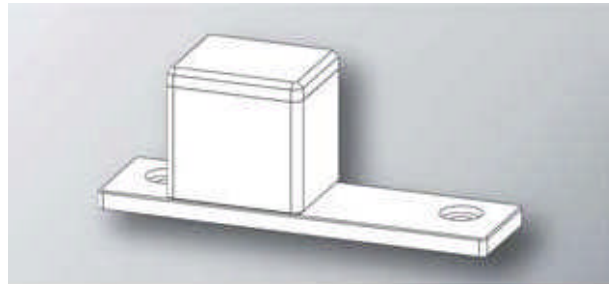2   When removed replace with the new cap to keep the socket protected.

Figure 1.9: (GEN5i SFP cover - new)

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