Adtran Pluggable Optics

11.3 G SFP+

11.3 Gbps, 1550 nm, 40 km

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61442440F1-13A

P/N: 1442440F1

Quick Start

Description

The 11.3 G SFP+ is a full-duplex serial electric, serial optical device with both transmit and receive functions contained in a single module that provides a high speed serial link at 11.3 Gbps. Installed into an appropriate host module, the 11.3 G SFP+ provides an 11.3 Gbps interface to the supporting system.

The transmit side of the 11.3 G SFP+ converts serial NRZ electrical data at the 11.3 Gbps line rate to a standard compliant optical signal. The receive side of the SFP+ converts the incoming DC balanced serial NRZ optical data at the 11.3 Gbps line rate into serial electrical data.

The following features are supported on the 11.3 G SFP+:

- 1550 nm optical signals for up to 40 km reach
- Low power consumption (<1.8 W max)
- Bit error rate (<1×10^{-12})

⚠ **CAUTION!**
Due to compliance certification requirements, only 11.3 G SFP+ modules supplied by Adtran are to be used with the host module. Adtran cannot certify system integrity with other 11.3 G SFP+ modules.

Installation

Before installing the equipment, inspect the 11.3 G SFP+. If damage has occurred during shipping, file a claim with the carrier, and then contact Adtran Customer Support. For more information, refer to the warranty.

To install the 11.3 G SFP+ into an appropriate module, complete the following steps:

ⓘ **NOTE**
Do not remove the protective end cap from the 11.3 G SFP+ until the fiber optic cable is ready to be connected.

1. Insert the 11.3 G SFP+ into the 11.3 G SFP+ cage on the module. Ensure that the module is oriented properly, then slide the 11.3 G SFP+ all the way into the 11.3 G SFP+ cage until there is an audible "click".

ⓘ **NOTE**
The latch on the 11.3 G SFP+ is for removal only. When removing the 11.3 G SFP+, rotate the latch away from the 11.3 G SFP+, the 11.3 G SFP+ should easily slide out of the cage.

2. Remove the end cap and connect the fiber to the 11.3 G SFP+.

ⓘ **NOTE**
It is recommended that the protective end cap remain on whenever the transceiver optical fiber connector is not inserted.

3. Continue the installation and turn-up of the host module using the instructions in the Quick Start or Job Aid provided with the module or other system-level documentation available online at www.adtran.com.

⚠ **WARNING!**
WARNING indicates a hazard which, if not avoided, could result in death, injury or serious property damage.

⚠ **CAUTION!**
CAUTION indicates a hazard which, if not avoided, could result in service interruption, damage to the equipment, or minor property damage.

ⓘ **NOTE**
NOTES inform the user of additional, but important, information or features.

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Maintenance

The 11.3 G SFP+ does not require routine hardware maintenance for normal operation. Adtran does not recommend that repairs be attempted in the field. Repair services may be obtained by returning the defective unit to Adtran. Refer to the warranty for further information. Field support for software is provided through upgrade facilities.

Specifications

General

- Module Type: SFP+
- Media Type: SM/Single
- Signal Data Rate: 11.3 Gbps
- Optical Connector: LC
- Distance: 40 km maximum

Optical

- Transmitter
  - Transmitter Type: EML
  - Data Rate: 9.95 to 11.317 Gbps
  - Tx Power: –2.0 to +2.0 dBm
  - Dispersion Penalty: 2 dB
- Receiver
  - Receiver Sensitivity: –15 dBm
  - Receiver Overload: +0.5 dBm
  - Max Span Attenuation: 10 dBm

Environmental

- Protected Equipment Severe Environment (Outside):
  - System Ambient Operational Temperature Range: –40°C to +70°C
    - Case Temperature Hardened Range: –40°C to +85°C
  - Storage Temperature Range: –40°C to +85°C
  - Relative Humidity: 5% to 90%, non-condensing

SAFETY AND REGULATORY

⚠ WARNING!

Read all warnings and cautions before installing or servicing this equipment.

☀ CAUTION!

This product uses a Class 1 Laser module that complies with 21 CFR 1040.10 and 1040.11 and IEC 60825-1, IEC 60825-2, EN 60825-1 and EN 60825-2. For continued compliance with the above standards, only approved Class 1 laser modules from an Adtran approved vendor list (located on the Adtran website) should be installed in this product. Adtran cannot certify system integrity with other laser modules.

⚠ CAUTION!

- Electrostatic Discharge (ESD) can damage electronic modules. When handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.
- Per GR-1089-CORE the system is designed and intended for installation as part of a Common Bonding Network (CBN). The system is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).
- The chassis frame ground terminal must be connected to an earth ground to ensure that the metal enclosure of the SFP is properly grounded via the backplane connector.

ℹ NOTE

- The Gigabit Ethernet port(s) are optical and therefore are not classified as any type of port as defined in Appendix B of GR-1089-CORE.
- This product is compliant with SFF-8472 "Digital Diagnostics Monitoring Interface for Optical Transceivers," Revision 9.3.
- This product is compliant with the SFP Multi-Source Agreement (MSA).
- This product is designed to be deployed in GR-3108-CORE environmental class 1, class 2 and class 3 as defined in GR-3108-CORE.

This product meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, GR-1089-CORE, and ETSI EN 300368. This product is intended for deployment in Central Office type facilities, EEEs, EECs, and locations where the NEC applies (for example, Customer Premises).

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Adtran could void the user's authority to operate this equipment.

This product is designed to meet the following environmental classes:

- ETSI EN 300 019-2-1: "Classification of environmental conditions; Storage," Class 1.2
- ETSI EN 300 019-2-2: "Classification of environmental conditions; Transportation," Class 2.3
- ETSI EN 300 019-2-3: "Classification of environmental conditions; Stationary use at weather-protected locations," Class 3.2

The equipment is designed to function without degradation during exposure to all test severities per Class 3.2 of ETSI EN 300 019-1-3.

This product meets EU RoHS Directive 2011/65/EU and/or applicable exemptions. Refer to www.adtran.com for further information on RoHS/WEEE.

FRANÇAIS

⚠️ **AVERTISSMENT!**

Lisez tous les avertissements et mises en garde avant l'installation de cet équipement ou la réalisation de toute opération de maintenance.

DEUTSCH

⚠️ **WARNUNG!**

Lesen Sie sich alle Warn- und Sicherheitshinweise durch, bevor Sie dieses Gerät installieren oder warten.

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C A U T I O N !
SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY
HANDLING PRECAUTIONS REQUIRED

ADTRAN CUSTOMER CARE:
From within the U.S.   1.888.423.8726
From outside the U.S. +1 256.963.8716
PRICING AND AVAILABILITY 1.800.827.0807

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