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Go to: <https://supportforums.adtran.com/welcome>

Registration is required.

ADTRAN offers training courses on our products, including customized training and courses taught at our facilities or at customer sites.

For inquiries, go to: <http://adtran.com/training>

The following online documents and resources provide additional information for this product: ADTRAN Pluggable Optics Compatibility Matrix (online tool, go to: <http://www.adtran.com/sfp>)

DESCRIPTION

The Enhanced Small Form-factor Pluggable (SFP+) is a single-mode fiber SFP+ that plugs into an ADTRAN optical interface designed to accept SFPs. The SFP+ provides a single optical interface to a physical interface, and is intended for use with a 10 Gigabit Passive Optical Network (10G PON) Optical Network Terminal (ONT) unit. Installed into an appropriate ONT, the SFP+ provides a 10G PON interface to the supporting system.

NOTE

To ensure compatibility, refer to the documentation provided with the host module.

The following features are supported on the SFP+:

- 10 Gbps: 1490/1310 nm, single-mode, single fiber operation
- Dual Wavelength BiDi Transceiver
- Optical distances: 20 km, using 125 μm single-mode fiber

CAUTION

Due to compliance certification requirements, only SFPs supplied by ADTRAN are to be used with ADTRAN modules. ADTRAN cannot certify system integrity with other SFPs.

INSTALLATION

Before installation, inspect the SFP. If damage has occurred during shipping, file a claim with the carrier, and then contact ADTRAN Customer Support. For more information, refer to "Warranty".

Installation Guidelines

The following are guidelines for this installation.

- The latch on the SFP+ is for removal only. When removing the SFP+, rotate the latch away from the SFP+. The SFP+ should slide easily out of the cage.
- It is recommended that the protective dust cover remain on whenever the transceiver optical fiber connector is not inserted.

Installation Steps

To install the SFP+, complete the following steps:

1. Insert the SFP+ into the SFP+ cage on the circuit board of the host module with the latch handle facing outward. Slide the SFP+ all the way into the cage.
2. Exert adequate pressure to ensure the SFP+ is completely seated in the SFP+ cage.
3. Do not remove the protective dust cover until the optical fiber connection is made.
4. Continue the installation and turn-up of the host module.

Specifications

General

- Module type: SFP+
- Fiber/Copper: Fiber
 - ◆ SM/MM: Single Mode Fiber
 - ◆ Single/Dual-fiber: Single-fiber
- Optical Connector: SC
- Applications: XGS-PON
- Distance: 20 km
- Digital Diagnostic Monitoring: SFF8472 Compliant
- Power: 1.6 W

Optical

- Transmitter
 - ◆ Laser Diode Type: DFB
 - ◆ Tx Central Wavelength: 1310 nm
 - ◆ Tx Output optical power: +2.5 dBm to +8.0 dBm
 - ◆ Tx Spectral width: 1 nm
 - ◆ SMSR: 30 dB
 - ◆ Extinction Ratio: 6 dB
- Receiver
 - ◆ Rx Type: CW APD/TIA
 - ◆ Rx Central wavelength: 1490 nm
 - ◆ Input optical power: -8.0 dBm to -28.5 dBm
 - ◆ Receiver Overload: -8 dBm
 - ◆ Receiver Sensitivity: -28 dBm

Environmental

- Controlled Protected Environment (Indoor)
 - ◆ System Ambient Operational temperature range: -5°C to +55°C
 - ◆ Storage temperature range: -40°C to +85°C
 - ◆ Relative humidity, non-condensing: 5 to 95%

SAFETY AND REGULATORY

ENGLISH

WARNING

Read all warnings, cautions, notes and installation instructions before installing or servicing this equipment.

CAUTION

This product is a Class 1 Laser module that complies with FDA 21 CFR 1040.10, 1040.11 and IEC 60825-1. The product is NRTL Listed and CB Certified to all applicable American and European safety standards.

CAUTION

- Electrostatic Discharge (ESD) can damage electronic devices. When handling devices, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place in antistatic packing material when transporting or storing. When installing or maintaining, always place devices on an approved antistatic mat that is electrically grounded.
- This product is intended for business or residential deployment.
- This system is designed and intended for installation as part of a Common Bonding Network (CBN). This system is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).
- This product is designed and intended only for deployment in a DC-C (common) bonding and grounding configuration. This product is not intended or designed for deployment in a DC-I (isolated) bonding and grounding system.
- If the host system has a protective earth (PE) terminal, the PE terminal of the host system must be connected to protective earth (PE) to ensure that the exposed metal (i.e., front panels, optical modules) on the product is properly grounded.

NOTE

This product is designed to be deployed in GR-3108-CORE environmental Class 1.

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 will void the warranty.

This product is designed to meet the following environmental classes:

- ETSI EN 300 019-1-1 "Classification of environmental conditions; Storage," Class 1.2
- ETSI EN 300 019-1-2 "Classification of environmental conditions; Transportation," Class 2.3
- ETSI EN 300 019-1-3 "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.

This product meets EU RoHS Directive. Refer to www.adtran.com for further information on RoHS/WEEE.

FRANÇAIS

AVERTISSEMENT

Lisez toutes les mentions de danger et de prudence et les remarques, ainsi que la notice d'installation, avant d'effectuer l'installation ou l'entretien de cet équipement.

ATTENTION

Ce produit est un laser de classe 1 conforme à la norme FDA 21 CFR 1040.10 et 1040.11 et IEC 60825-1. Le produit est NRTL et CB certifiée à toutes les normes de sûreté américaines et européennes.

ATTENTION

- Les décharges électrostatiques (ESD) peuvent endommager les appareils électroniques. Lors de la manipulation des appareils, portez un bracelet antistatique, afin d'éviter d'endommager les composants électroniques. Mettez les appareils dans un emballage antistatique, lors de leur transport ou de leur entreposage. Lors de leur installation ou de leur entretien, les appareils doivent toujours être placés sur un tapis antistatique homologué, qui est mis à terre.
- Ce système est conçu et prévu pour une installation intégrée à un réseau de masse maillé. Ce système n'est pas conçu ni prévu pour une installation intégrée à un réseau de masse isolé (IBN).
- Ce produit est conçu et prévu uniquement pour être déployé dans une configuration de circuit de régulation et de mise à la terre DC-C (commun). Ce produit n'est pas prévu ou conçu pour être déployé dans une configuration de circuit de régulation et de mise à la terre DC-I (isolé).
- Si le système hôte est doté d'une borne de mise à la terre de protection (PE), la borne PE du système hôte doit être connectée à la mise à terre de protection (PE), afin d'assurer que les parties métalliques à découvert (panneaux frontaux, modules optiques) du produit soient correctement mis à terre.

Ce produit est conçu pour répondre aux classes environnementales suivantes :

- ETSI EN 300 019-1-1 "Classification des conditions d'environnement; Entreposage," classe 1.2
- ETSI EN 300 019-1-2 "Classification des conditions d'environnements; Transport," classe 2.3

- ETSI EN 300 019-1-3 "Classification des conditions d'environnements; l'utilisation à poste fixe dans des endroits protégés contre les intempéries," classe 3.2

L'équipement est conçu pour fonctionner sans dégradation lors des tests à tous les niveaux de sévérité, suivant les spécifications de la classe 3.2 de l'ETSI EN 300 019-1-3.

DEUTSCH

WARNUNG

Lesen Sie alle Warnungen, Gefahrenhinweise, Anmerkungen und Installationsanweisungen bevor Sie dieses Gerät installieren oder warten.

VORSICHT

Dieses Produkt ist ein Klasse 1 Laser, die mit FDA 21 CFR 1040.10 und 1040.11 und IEC 60825-1 entspricht. Das Produkt ist NRTL gelistet und CB Certified allen geltenden amerikanischen und europäischen Sicherheitsnormen.

VORSICHT

- Elektrostatische Entladung (ESD) kann elektronische Geräte beschädigen. Tragen Sie bei der Handhabung von Geräten ein Antistatik-Armband mit Erdungskabel, um Schäden an elektronischen Komponenten zu vermeiden. Während des Transports oder bei der Lagerung müssen Geräte in antistatischem Verpackungsmaterial gelegt werden. Geräte bei der Installation oder Wartung immer auf einer zugelassenen antistatischen, elektrisch geerdeten Matte stellen.
- Das System ist entwickelt und vorgesehen für die Installation als Teil einer gemeinsamen Potentialausgleichsanlage. Das System ist nicht zur Installation als Teil einer isolierten Potentialausgleichsanlage vorgesehen.
- Dieses Produkt ausschließlich in einer DC-C (gemeinsamen) Anlage zum Potentialausgleich und Erdung installiert werden. Es ist hingegen nicht für DC-I (isolierte) Anlagen zum Potentialausgleich und Erdung bestimmt.
- Falls das Host-System über einen Schutzleiteranschluss (PE) verfügt, muss der PE-Anschluss des Host-Systems mit dem Schutzleiteranschluss (PE) verbunden werden, um sicherzustellen, dass das freiliegende Metall (d. h. Frontblenden, Optikmodule) am Produkt ordnungsgemäß geerdet ist.

Dieses Produkt wurde entsprechend der folgenden Umweltklassen entwickelt:

- ETSI EN 300 019-1-1 "Klassifikation von Umweltbedingungen, Lagerung," Klasse 1.2
- ETSI EN 300 019-1-2 "Klassifikation von Umweltbedingungen, Transport," Klasse 2.3
- ETSI EN 300 019-1-3 "Klassifikation von Umweltbedingungen, Stationärer Einsatz ohne Witterungseinflüsse," Klasse 3.2

Dieses Gerät funktioniert ohne Leistungsabfall während aller für Klasse 3.2 von ETSI EN 300 019-1-3 vorgeschriebenen Belastungstests.

Warranty: ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at www.adtran.com/warranty.

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