



## DESCRIPTION

The Small Form-Factor Pluggable (SFP) is a copper SFP that plugs into an ADTRAN GigE Copper interface designed to accept SFPs. The SFP provides a single electrical interface to a physical interface.

Installed into an appropriate module, this SFP provides a 10/100/1000 Mbps full duplex data-link.

The following features are supported on the SFP:

- ◆ Up to 1.25 Gbps bidirectional data links
- ◆ Hot-pluggable footprint
- ◆ 100 meter maximum distance over shielded twisted-pair Cat 5 cable
- ◆ Supports 10/100/1000 Mbps using the appropriate module/platform

## Operational Specifications

- ◆ Extended Environmental Support:
  - ◇ Operational temperature range: -40°C to +85°C
  - ◇ Storage temperature range: -40°C to +85°C
  - ◇ Relative humidity to 95%, noncondensing
  - ◇ Operating Altitude Range: -197 (-60 meters) to 13000 feet (3962 meters)

### NOTE

The operating ambient temperature is derated by 1°C /1000 feet (3.3°C /km).

### CAUTION

Due to compliance certification requirements, only SFPs approved by ADTRAN are to be used with the host module. ADTRAN cannot certify system integrity with other SFPs.

## INSTALLATION

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

Inspect the SFP. If damaged, file a claim with the carrier and then contact ADTRAN Customer Support.

### CAUTION

If present, do not remove the protective end cap from the SFP until the Cat 5 cable is ready to be connected.

1. Insert the SFP into the SFP cage on the module. Ensure the latch on the SFP is facing upward for correct installation.
2. Slide the SFP all the way into the SFP cage until there is an audible "click".

### NOTE

- ◆ The latch on the SFP is used to remove the SFP from the cage on the circuit card.
- ◆ The SFP meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, and GR-1089-CORE.

## COMPLIANCE

### WARNING

The SFP port is classified as Type 2 or Type 4, as defined in Appendix B of GR-1089-CORE Issue 5, and is suitable for connection to intra-building or unexposed wiring or cabling only.

Do not metallurgically connect this port to interfaces which connect to Outside Plant (OSP) or to the OSP wiring. The SFP port is designed for use as an intrabuilding interface only (Type 2 or Type 4), and requires isolation from exposed OSP cabling.

The addition of Primary Protectors is not sufficient protection in order to connect this interface metallurgically to OSP wiring. The SFP port is suitable for connection only to shielded intra-building cabling grounded at both ends.

### CAUTION

Electrostatic Discharge (ESD) can damage electronic modules. When handling modules, wear an antistatic discharge 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.

### NOTE

The SFP has been evaluated to international safety standards EN 60950-1, AS/NZS 60950.1, and IEC 60950-1. The SFP meets the requirements for CE marking under the EMC Directive and Low Voltage Directive. Standards used to demonstrate Compliance are EN 300 386, EN 50222, EN 55024 as applicable and EN 60950.

### CAUTION

The SFP is intended for deployment in Central office type facilities, EEES, EECs, and locations where NEC applies (for example, Customer Premises). The SFP must be installed by trained service personnel in ADTRAN products that are located in Restricted Access Locations.

**⚠ CAUTION**

- ◆ Per GR-1089-CORE the ADTRAN system that the SFP is being deployed in is designed and intended for installation as part of a Common Bonding Network (CBN). The ADTRAN system that the SFP is being deployed in is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).
- ◆ Per GR-1089-CORE Section 9, the SFP does not have an internal DC connection between battery return and frame ground. The SFP can be installed in a DC-I (isolated) or DC-C (common) configuration. For installations where other cards or the host system have internal connections between battery return and frame ground, the system would be intended for deployment only in a DC-C configuration.
- ◆ The ADTRAN system chassis frame ground terminal must be connected to a reliable earth ground to ensure that the metal enclosure of the SFP is properly grounded via the backplane connector.

**NOTE**

The SFP is designed for deployment in GR-3108-CORE environmental class 1 and 2, as defined in GR-3108-CORE, Issues 2.

The SFP 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 3.3

The equipment is designed to function without degradation during exposure to all test severities per Class 3.3.

The Small Form-Factor Pluggable meets EU RoHS Directive 2002/95/EC and/or applicable exemptions. Refer to [www.adtran.com](http://www.adtran.com) for further information on RoHS/WEEE.

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.