Adtran Pluggable Optics

QSFP28

100 G LR4 ITEMP 10 km

Quick Start

August 2023
61445510F2-13B

P/N: 1445510F2

Description

The 100 G LR4 ITEMP 10 km QSFP28 transceiver is designed for use in 100 Gbps links over single mode fiber. QSFP28 integrates four channel LAN WDM optical signals and multiplexes them into a single channel for 100 Gbps optical transmission. Each channel operates at 25 Gbps and the module can operate at 100 Gbps up to 10 km using 9/125 µm SMF. They are compliant with the QSFP28 MSA and IEEE 802.3ba 100GBASE-LR4.

⚠️ **CAUTION!**
Due to compliance certification requirements, use only QSFP28s supplied by Adtran. Adtran cannot certify system integrity with other QSFP28s.

Installation

Before installing the equipment, inspect the QSFP28. 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 QSFP28 into an appropriate host module, complete the following steps:

⚠️ **CAUTION!**
Do not remove the protective dust cover from the QSFP28 until the fiber optic cable is ready to be connected.

ℹ️ **NOTE**
Orientation of the QSFP28 will vary depending on the host module.

1. Insert the QSFP28 into the QSFP28 cage on the host module.
2. Slide the QSFP28 all the way into the QSFP28 cage until there is an audible "click."
3. Remove the protective dust cover from the QSFP28 and the fiber optic cable.
4. Insert the fiber optic cable into the QSFP28.

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

ℹ️ **NOTE**
The latch on the QSFP28 is for removal only. When removing the QSFP28, rotate the latch away from the QSFP28, the QSFP28 should easily slide out of the cage.

Operational Specifications

General

- Module type: QSFP28
- Fiber/Copper: SMF
- Lanes/Channels: Four Transmit and Four Receive
- Signal data rate: 25.78 Gbps per channel
- Optical Connector: LC
- Applications: 100 G LR4
- Distance: 10 km

Optical Transmitter

- Laser Diode Type: LAN WDM EML /DML
- Tx Wavelengths:
  - Lane -1: 1294.53 - 1296.59 nm (Typical: 1295.56 nm)
  - Lane -2: 1299.02 - 1301.09 nm (Typical: 1300.05 nm)
  - Lane -3: 1303.54 - 1305.63 nm (Typical: 1304.58 nm)
  - Lane -4: 1308.09 - 1310.19 nm (Typical: 1309.14 nm)
- Tx Output Optical Power: –4.3 dBm to +4.5 dBm per lane
- Extinction Ratio: 4 dB
- Dispersion Penalty: 2.2 dB per lane

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Optical Receiver

- Rx Type: PIN Array
- Rx Wavelengths:
  - ♦ Lane -1: 1294.53 - 1296.59 nm (Typical: 1295.56 nm)
  - ♦ Lane -2: 1299.02 - 1301.09 nm (Typical: 1300.05 nm)
  - ♦ Lane -3: 1303.54 - 1305.63 nm (Typical: 1304.58 nm)
  - ♦ Lane -4: 1308.09 - 1310.19 nm (Typical: 1309.14 nm)
- Receiver Sensitivity: –8.6 dBm per lane
- Receiver Overload: 4.5 dBm per lane

Environmental

- Protected Equipment Severe Environment (Outdoor)
  - ♦ 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 95%, noncondensing

SAFETY AND REGULATORY

English

⚠ WARNING!

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

☀ CAUTION!

This product is a Class 1 Laser module that complies with FDA 21 CFR 1040.10 and 1040.11 and IEC 60825-1. This product is NRTL Listed and CB Certified to all applicable American and European safety standards. For continued compliance with the above standards, install only Adtran-approved Class 1 Laser Modules in Adtran products. For a list of Adtran-approved SFPs and XFPs, see http://www.adtran.com/SFP. 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.

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

- This product and the host system are designed and intended for installation as part of a Common Bonding Network (CBN). This product and the host system are not designed nor intended for installation as part of an Isolated Bonding Network (IBN).

- This product does not have an internal DC connection between battery return and frame ground. This product can be installed in a DC-I (isolated) or DC-C (common) configuration.

- The host system protective earth (PE) terminal must be connected to an earth ground to ensure that the exposed metal (i.e., front panels, optical modules) on the product is properly grounded by way of the backplane connector.

ⓘ NOTE

- This product is designed to be deployed in GR-3108-CORE environmental class 1, 2, or 3.

- This product is NRTL Listed to the applicable UL Standards. The product is designed to meet the applicable requirements of Telcordia GR-63-CORE, GR-3108-CORE, and GR-1089-CORE.

- This product has been evaluated to applicable international safety standards. This product meets the requirements for CE marking under the EMC Directive and Low Voltage Directive.

- 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.

- CAN ICES3(A)/NMB3(A)

- 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 3.4

- This product is designed to function without degradation during exposure to all test severities per Class 3.4 of ETSI EN 300 019-2-3.

- This product meets EU RoHS Directive. Refer to https://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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CAUTION!
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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