

HPC Optics SFP-GE-TX-RB

HPC Optics SFP-GE-TX-RB 1000BASE-T SFP Transceiver User Manual

Model: SFP-GE-TX-RB | Brand: HPC Optics

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the installation, operation, and maintenance of your HPC Optics SFP-GE-TX-RB 1000BASE-T SFP Transceiver. This module is designed for high-performance data communication over standard copper cabling, enabling Gigabit Ethernet connectivity.

The HPC Optics SFP-GE-TX-RB is fully compatible with Redback SFP-GE-TX specifications, offering a reliable and cost-effective solution for extending network reach up to 100 meters over Cat5e/Cat6 cables.

2. KEY FEATURES

- Fully Compatible with Redback SFP-GE-TX
- Hot-Pluggable SFP Transceiver Module
- 1000BASE-T Copper, 1.25Gbps Data Rate
- Up to 100m Reach over Cat5e/Cat6 UTP Cable
- RJ-45 Connector

3. SETUP AND INSTALLATION

The SFP-GE-TX-RB is a hot-pluggable module, meaning it can be inserted or removed from a compatible networking device (e.g., switch, router) without powering down the device. Ensure the host device's SFP port is compatible with 1000BASE-T SFP transceivers.

Installation Steps:

1. **Prepare the Device:** Identify an available SFP port on your networking device.
2. **Orient the Module:** Hold the SFP module with the RJ-45 connector facing outwards and the label side typically facing up (or according to your device's orientation).
3. **Insert the Module:** Gently slide the SFP module into the SFP port until it clicks firmly into place. Do not force the module; if it doesn't slide in easily, re-check its orientation.
4. **Connect Ethernet Cable:** Connect a standard Cat5e or Cat6 Ethernet cable to the RJ-45 port on the SFP

module.

5. **Connect to Network:** Connect the other end of the Ethernet cable to your desired network device (e.g., server, workstation, another switch, or a patch panel).
6. **Verify Connection:** Check the link status indicators on your networking device. A solid green or blinking light typically indicates a successful connection.



Image: A close-up view of the HPC Optics SFP-GE-TX-RB 1000BASE-T SFP Transceiver. The module is metallic silver with a gold-colored RJ-45 connector at one end. A white label on the top surface displays product information including '1000BASE-TX-SFP-HPC', 'HPC OPTICS 1000Base-T SFP RJ-45, 100-m', and a serial number.

4. OPERATION

Once properly installed, the HPC Optics SFP-GE-TX-RB module operates automatically, providing a 1.25Gbps (Gigabit Ethernet) data link over copper cabling. The module supports full-duplex operation, allowing simultaneous data transmission and reception.

The module is designed for 1000BASE-T Ethernet applications, enabling high-speed network connectivity over standard twisted-pair copper cables up to 100 meters (328 feet).

5. MAINTENANCE

The SFP-GE-TX-RB transceiver is a low-maintenance device designed for continuous operation. To ensure optimal performance and longevity:

- **Keep Ports Clean:** Ensure the RJ-45 port on the module and the Ethernet cable connectors are clean and free of dust or debris. Use compressed air if necessary.
- **Proper Ventilation:** Ensure adequate airflow around the networking equipment where the module is installed to prevent overheating.
- **Environmental Conditions:** Avoid exposing the module to extreme temperatures, high humidity, or corrosive environments.
- **Handle with Care:** When handling, avoid dropping or subjecting the module to physical shock.

6. TROUBLESHOOTING

If you encounter issues with your SFP-GE-TX-RB transceiver, consider the following troubleshooting steps:

Common Issues and Solutions:

- **No Link Light / No Connectivity:**

- **Module Seating:** Ensure the SFP module is fully and securely seated in the host device's SFP port. Remove and re-insert it firmly.
- **Cable Connection:** Verify that the Ethernet cable is properly connected to both the SFP module and the remote network device.
- **Cable Integrity:** Test the Ethernet cable for damage or continuity, or try a known good cable.
- **Host Device Configuration:** Confirm that the SFP port on your networking device is enabled and correctly configured for 1000BASE-T operation.
- **Compatibility:** Double-check that your host device's SFP port is compatible with 1000BASE-T SFP modules.

- **Slow Speed / Intermittent Connection:**

- **Cable Quality:** Ensure the Ethernet cable meets Cat5e or Cat6 standards and is not damaged or kinked.
- **Cable Length:** Verify that the cable length does not exceed the maximum specified reach of 100 meters.
- **Auto-Negotiation:** Check if auto-negotiation is enabled on both the host device and the connected network device. If issues persist, try manually setting the speed and duplex settings if supported.
- **Environmental Factors:** Ensure the operating environment is within specified temperature and humidity ranges.

7. SPECIFICATIONS

Attribute	Value
Model Number	SFP-GE-TX-RB
Data Rate	1.25 Gbps (Gigabit Ethernet)
Cable Type	Cat5e/Cat6 UTP (Unshielded Twisted Pair)
Maximum Reach	100 meters (328 feet)
Connector Type	RJ-45
Compatibility	Redback SFP-GE-TX
Form Factor	SFP (Small Form-Factor Pluggable)
Hot-Pluggable	Yes
Item Weight	1 ounce
Manufacturer	HPC Optics
Country of Origin	USA
Date First Available	February 10, 2017

8. WARRANTY AND SUPPORT

The HPC Optics SFP-GE-TX-RB transceiver comes with a **Lifetime Warranty**, ensuring long-term reliability and peace of mind.

For technical support, warranty claims, or any inquiries regarding your HPC Optics product, please contact

HPC Optics customer service. Refer to your purchase documentation or the HPC Optics official website for contact details.