

Troubleshoot

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Troubleshooting Common Issues

The following section provide information about how to troubleshoot common issues in the Cisco Catalyst PON Series Switches.

Bad or Damaged Cable

Always examine the cable for marginal damage or failure. A cable might appear physically good, but it could corrupt packets as a result of subtle damage to the wiring or connectors. You can identify this situation because of packet errors occurring at the port or the port constantly flapping.

Perform the following checks on the cable:

- Examine or exchange the copper or fiber-optic cable with a working cable.
- Look for broken or missing pins on cable connectors.
- Rule out any bad patch panel connections or media convertors between the source and the destination. If possible, bypass the patch panel, or eliminate faulty media convertors (fiber-optic-to-copper).
- Test the cable in another port or interface, if possible, to identify if the fault is with the cable.

Ethernet and Fiber-Optic Cables

Make sure that you have the correct cable for the connection:.

- For Ethernet, use Category 3 copper cable for 10 Mbps UTP connections. Use either Category 5, Category 5e, or Category 6 UTP for 10/100/1000 Mbps connections.
- For fiber-optic cables, verify that you have the correct cable for distance and port type. Ensure that the connected device ports match and use the same type of encoding, optical frequency, and fiber type.
- For copper connections, determine if a crossover cable was used when a straight-through was required, or the reverse. Enable auto-MDIX on the device, or replace the cable.

Link Status

Verify that both sides have links. A single broken wire or a shutdown port can show the link that is established on one side even though the other side does not have a link.

A port LED that is in ON status does not guarantee that the cable is fully functional. The cable might have encountered physical stress that causes it to function at a marginal level. If the port LED does not turn ON, do the following:

- Connect the cable from the field device to a functioning good device.
- Ensure that both ends of the cable are connected to the correct ports.
- Verify that both devices have power.
- Verify that you are using the correct cable type.
- Check for loose connections. Disconnect the cable and reconnect it if it is not seated properly.

10/100/1000 PoE+ Port Connections

If a powered device that is connected to a PoE+ port does not receive power, do the following:

- Verify that the power supply installed in the OLT meets the power requirements of your connected devices.
- Verify the cable type.

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Caution Noncompliant cabling or powered devices can cause a PoE+ port fault. Use only standard or compliant cabling to connect Cisco devices. You must remove any cable or device that causes a PoE+ fault.

Cisco Catalyst PON Series OLT Troubleshooting

The following sections describe how to troubleshoot issues relating to the Cisco Catalyst PON Series OLT.

SFP and SFP+ Module

Use only Cisco SFP or SFP+ modules. Each Cisco module has an internal serial EEPROM that is encoded with security information. This encoding provides a way for Cisco to identify and validate that the module meets the requirements for the switch.

You can perform the following checks:

- Inspect the SFP module. Exchange the module with a functioning module. Verify that the module is supported on this platform.
- Use the **show interfaces** command in privileged EXEC mode to see if the port or module is error-disabled, disabled, or shut down. Reenable the port, if needed.

- Make sure that all fiber-optic connections are free of dust and impurities, and are securely connected.
- Make sure that you keep an interval of 5 seconds between inserting SFPs in multiple device ports. This prevents the ports from going into error disabled mode. Similarly, after you remove an SFP from a port, wait for 5 seconds before reinserting it.

Fan Module

An alarm notification sent through the Cisco Catalyst PON Manager when a pluggable fan module is faulty.

Make sure you replace the fan module within the following time period:

- Replace the fan module within one week if one alarm notifications occur in the Cisco Catalyst PON Manager.
- Replace the fan module within 24 hours if two alarm notifications occur in the Cisco Catalyst PON Manager.
- Replace the fan module within 5 minutes if three alarm notifications occur in the Cisco Catalyst PON Manager.

To replace the fan module, see Fan Module Overview.

Power Supply Module

The PWR1 and PWR2 LEDs indicate whether the power supply module is faulty.

For details about the LED indicators of the pluggable power supply module, see Table 1

If the power supply is faulty, check the following:

- Check if the pluggable power supply module is turned on.
- Check that the power cable is properly connected.
- Check if the input power matches the power ratings of the Cisco Catalyst PON Series OLT.
- Make sure that the Cisco Catalyst PON Series OLT is operating within its permissible operating temperature. If not, move the Cisco Catalyst PON Series OLT to a location where there is proper ventilation.

Interface Indicator

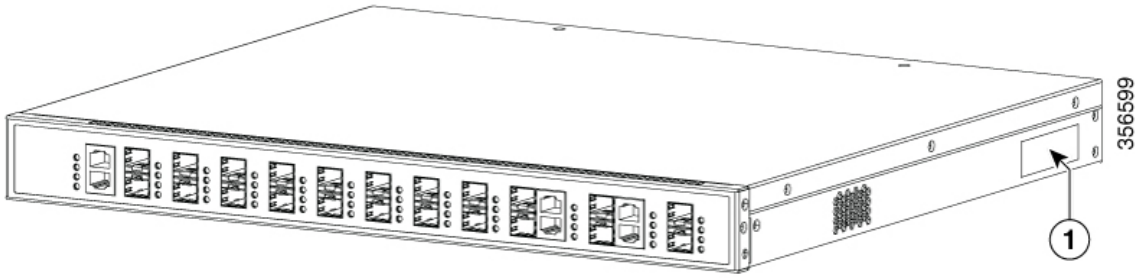
The LINK LED indicates whether the connection is faulty. If the LINK LED is not turned on, do the following:

- Check whether the fiber optic connection is reversed.
- Check whether the optical module is damaged.

Finding a Cisco Catalyst PON OLT Serial Number

If you contact Cisco Technical Assistance, you must know the Cisco Catalyst PON OLT serial number.

Figure 1: Serial Number Location



Cisco Catalyst PON Series ONT Troubleshooting

Finding the Cisco Catalyst PON ONT Serial Number

If you contact Cisco Technical Assistance, you must know the Cisco Catalyst PON ONT serial number.

Figure 2: Serial Number Location

