

## Article Overview

Optical module alarms are managed by monitoring power, temperature, and hardware status, diagnosing the root cause, and applying corrective actions such as threshold adjustment, module replacement, or environmental control.

## Alarm Monitoring and Configuration

Optical modules generate alarms when transmit (Tx) or receive (Rx) power exceeds configured thresholds, or when temperature or hardware faults occur. By default, the alarm function is enabled, but it can be enabled or disabled in the system view. Administrators can configure upper and lower thresholds for Tx and Rx power to prevent unnecessary alarms and ensure only significant deviations trigger alerts. Commands like `display transceiver` or `display transceiver slot slot-id verbose` provide diagnostic and alarm information.

## Common Alarm Types and Handling

### 1. Low Receive Power (Rx Power Too Low)

- o Indicates the optical module is receiving insufficient signal power.
- o Steps to handle:
  - o Verify the Rx power is within the acceptable range using diagnostic commands.
  - o If within range, collect logs and contact technical support.
  - o If below threshold, adjust the receive power lower threshold using commands like `transceiver diagnosis threshold rx-power`.
- o Check the peer port status and perform an external loopback test if necessary.

### 2. High Temperature Alarm

- o Triggered when the module temperature exceeds the configured threshold, potentially affecting performance and heat dissipation.
- o Steps to handle:
  - o Check for fan or environmental alarms.
  - o Ensure proper airflow and ambient temperature in the equipment room.
  - o Replace the optical module if the temperature remains abnormal after environmental adjustments.

### 3. Hardware Faults

- o Includes issues like RX-ADC failure, TX-LOP ADC failure, or PCB shorts.
- o Troubleshooting steps:
  - o Inspect soldering and connections of ROSA and TOSA components.
  - o Check for short circuits between module PCB and shell.
  - o Replace or rework the module PCB if necessary.

## Diagnostic and Maintenance Tips

# Optical Module Alarm Handling

- o Use commands to display logs and diagnostic information to identify fluctuating alarms or threshold violations .
- o Replace the optical module for testing if the link is normal but alarms persist.
- o Regularly monitor module power, temperature, and signal integrity to prevent unexpected network disruptions.

## Summary

Effective optical module alarm handling involves monitoring thresholds, diagnosing power and temperature issues, performing loopback or hardware tests, and taking corrective actions such as threshold adjustment, module replacement, or environmental control. Proper configuration and proactive maintenance help maintain network stability and prevent unnecessary alarms .

**Background**In past projects and testing experience, it was commonly believed that Huawei CE series switches would not generate

By default, a large number of alarm messages will be generated if the module is verified as non-H3C original. H3C

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Different vendors adopt different handling strategies for non-original or uncertified modules, such as prohibiting

ALM-0x100000EB Optical Module on Mainboard Overtemperature (Mainboard, Minor Alarm)  
ALM-0x100000ED Failed to Read the

Alarm Overview Temperature Alarms Power Supply Alarms ALM-0x0000008B CPU VDDFIX Overvoltage (CPU, Major Alarm) ALM

If so, run the transceiver diagnosis threshold rx-power command to change the receive power lower threshold of the

You can configure the alarm thresholds for the power of optical modules to shield unnecessary alarms. To check alarm information,

Huawei CE and S series switches both incorporate an optical module authentication mechanism. On S series switches,

# Optical Module Alarm Handling

Check whether the transmit power lower threshold of the optical module is within the acceptable range. If so, run the

Check whether there is a fan alarm. If yes, go to 2. If no, go to 3. Replace the fan module. Then, check whether the alarm is cleared.

Procedure Run the display transceiver verbose command to check the power of the optical module. Check whether

Fundamentals of an Optical Module As an important part of fiber-optic communication, an optical module is a

ModuleTek Limited Laboratory lists some of the mainstream switch brands that have customized compatibility

Optical Transport Network (OTN) systems have several alarms to monitor network health and detect issues that could

If the alarm standardization function is enabled, a unified power threshold is used, and the threshold is calculated based on the

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