

Greater flexibility, lower density.

Introduction

ProLabs line of 10G copper transceivers are designed for the delivery of 10 Gbps data rates over Cat6a/7 cable within an MSA compliant transceiver package. The 10G copper SFP+ transceiver offers greater flexibility for low density 10G copper deployments than a fixed-port 10G switch by utilizing the existing SFP port for copper transmission.

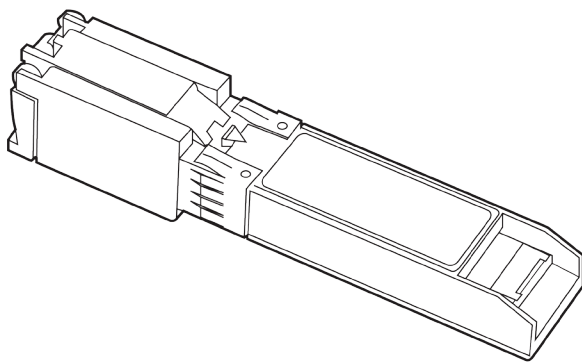
The unique nature of the 10G Copper SFP+ transceivers requires users understand the characteristics and factors that impact performance. Please contact your ProLabs representative for additional applications assistance.

Application

The ProLabs 10G copper transceiver is a unique product offering the flexibility to deliver 10 Gbps data over Cat6a/7 while providing a 10G data transmission to equipment with copper interfaces. ProLabs offers this in an MSA compliant transceiver package enabling use within existing equipment supporting SFP+ transceivers. Such transceiver ports are designed to support a 10G fiber optic transceiver with maximum power draw of 1.5W. Given the nature of copper transmission, the ProLabs 10G copper SFP+ has a power draw from 2.0W up to 2.5W dependent upon cable length and SFP+ case temperature.

While the overall power budget in most switches/routers can accommodate the additional 1W power draw, this minimum power requirement needs to be taken into consideration when deploying this solution to insure a fully functional port.

Note that the actual power draw is a function of ambient operating temperature and the length of the cable used for transmission. In a study of the impact of ambient temperature and cable length on power draw, ProLabs identified a correlation between cable length, ambient temperature, and power draw. The trend was clear that the higher the ambient temperature and longer the cable length, the higher the power draw of the 10G Copper SFP+ transceiver.



Safe use recommendations

Due to the unique power usage from this module, ProLabs offer these recommendations for safe use:

Do not fill any more than 30% of the allotted switch ports to the 10G Copper SFP+.

Where possible, leave the adjacent SFP+ port empty.

The 10G Copper SFP+ can get hot to the touch due to the higher power consumption. This will not damage the SFP+ or the SFP+ port. However, care should be taken when handling a part when it is removed from a switch after time in operation.

Current software and firmware

Some first-generation OEM 10G switch models require software and firmware updates to support 10G data rates. ProLabs recommends users verify the current firmware and software releases that are running on their system.

Installation and testing tools

The network ports on laptop computers are typically 1G and so cannot connect to a 10G link to test it.

Typically, the IP stack and internal drivers running the NIC cannot support true line-rate traffic generation or capture.

The combination of these factors will impact the ability to properly test the link.

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