

PRODUCT PREVIEW

Zarlink's ZL60615 ZLynx is a fully integrated electrical-optical-electrical (EOE) cable designed for direct connection to industry-standard 4-wide I/O electrical high-speed powered CX-4 and InfiniBand ports.

Designed for interconnecting enterprise data centers and high-performance computer clusters, the optical fiber-based cable is a plug-and-play solution that delivers significant weight, flexibility and reach advantages versus copper-based cables. The product supports data rates up to InfiniBand single data rate (SDR) and dual data rate (DDR), as well as XAUI-10 GbE applications of 3.125 Gbps per channel.

The ZL60615 ZLynx cable supports an extended reach of up to 100 meters. In comparison, copper is limited to a reach of less than 10 meters. The optical cable is 60 percent more flexible and 80 percent smaller and lighter than 24-gauge copper cable. These flexibility and weight advantages provide system installers with reduced installation times and improved airflow management while eliminating weight-related layout concerns.



Fully Integrated Optical Cable Interconnect Solution

- ➔ Compact, single-construction cable solution with integrated optical-electrical conversion
- ➔ Four independent differential electrical I/Os
- ➔ Plug-and-play solution, with electrical connection to front panel via a CX-4/InfiniBand powered ports
- ➔ Supports data rate up to 5 Gbps per channel (IB DDR)
- ➔ High-performance Bit Error Rate (BER) better than 1×10^{-15}
- ➔ Electrically hot-pluggable with latch-based insertion
- ➔ Status indicator lights for ease-of-installation
- ➔ Power consumption typically 1 W per port
- ➔ Single 3.3-volt power supply
- ➔ Operating temperature of 0°C to 70°C

Reduced Installation and Maintenance Costs

- ➔ Significant performance advantages versus copper
 - Extended reach up to 100 meters ➔ versus 10 meter reach of copper-based solutions
 - Bend radius of 25 mm ➔ an improvement of 60 percent compared to 24-gauge copper cable
 - Weighs just 175 grams for a 10 meter cable ➔ 80 percent lighter than equivalent copper solution

Applications

- ➔ InfiniBand-based cluster configurations operating at SDR (2.5 Gbps per channel) and DDR (5 Gbps per channel). Connections between
 - Switch to switch
 - Switch to HCA
 - HCA to HCA
- ➔ High-performance computing and proprietary interconnections up to 5 Gbps per channel
- ➔ XAUI-10 GbE applications of 3.125 Gbps per channel

ZL60615 ZLYNX ACTIVE OPTICAL CABLE

APPLICATION

Data Center and Computer Cluster Interconnect

Zarlink's ZL60615 ZLynx cable is a fully integrated electrical-optical cable product that provides installers and operators with unbeatable advantages in terms of reach, weight and flexibility versus standard copper cable assemblies. The product is built on Zarlink's proven arrayed photonics and IC components and proprietary optical alignment technology.

Today 10-Gigabit Ethernet interconnect relies on a combination of CX-4 connectors terminating fat copper cable assemblies for short-reach demands and pluggable optical transceivers for longer reach requirements. The weight, power demands, inflexibility and limited reach of multi-strand copper cable assemblies pose an installation, maintenance and expansion barrier. The need to support both electrical and optical ports limits initial equipment design flexibility and easy future expansion of data centers and computer clusters.

In comparison, the ZL60615 product is a one-piece fiber optic cable assembly with integrated, industry-standard electrical terminations capable of 20 Gbps aggregate transmission in both directions using 5 Gbps duplex four-channel data transmission, as per InfiniBand DDR. The ZLynx's standard connector allows

the optical solution to use the CX-4 port. The optical cable product provides high-performance, bit error rate (BER) of better than 1×10^{-15} . Typical power consumption is a low 1-watt per port.

The ZL60615 ZLynx cable is a true plug-and-play solution that requires no configuration. The standard connector, compact size and robust latch mechanism allow ease-of-use with most equipment chassis. To ease installation, the product includes status LEDs at each connector. The LEDs indicate if power is being supplied to the connector and data is being transmitted on all channels, and notify the user if no power is being supplied or a fault is detected on any data channels.

The ZLynx cable is available in different jacket types and lengths to meet a variety of customer applications. Zarlink's ZLynx product is the industry's first optical cables to be tested and accepted by the Infiniband Trade Association (IBTA) as compliant with the InfiniBand architecture specification. The ZL60615 ZLynx cable reliability assurance is based on Telecordia GR-468-CORE. The product is CE and FCC Part 15 Class B certified and is compliant to the EU directive 2002/95/EC issued January 27, 2004 (RoHS).

ZL60615 Application Diagram

