

# Innolight TR-QQ13E-N00 Datasheet



Innolight TR-QQ13E-N00 40Gb/s QSFP+ ER4 1310nm 40km Optical Transceiver

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This Innolight TR-QQ13E-N00 is a transceiver module designed for 40km optical communication applications. The design is compliant to 40GBASE-ER4 of the IEEE P802.3ba standard. The module converts 4 inputs channels (ch) of 10Gb/s electrical data to 4 CWDM optical signals, and multiplexes them into a single channel for 40Gb/s optical transmission. Reversely, on the receiver side, the module optically de-multiplexes a 40Gb/s input into 4 CWDM channels signals, and converts them to 4 channel output electrical data.

The central wavelengths of the 4 CWDM channels are 1271, 1291, 1311 and 1331 nm as members of the CWDM wavelength grid defined in ITU-T G.694.2. It contains a duplex LC connector for the optical interface and a 148-pin connector for the electrical interface. To minimize the optical dispersion in the long-haul system, single-mode fiber (SMF) has to be applied in this module.

The Innolight TR-QQ13E-N00 is designed with form factor, optical/electrical connection and digital diagnostic interface according to the QSFP+ Multi-Source Agreement (MSA). It has been designed to meet the harshest external operating conditions including temperature, humidity and EMI interference.

## Features

- Compliant with 40G Ethernet IEEE802.3ba and 40GBASE-ER4 Standard

- QSFP+ MSA compliant
- Compliant with QDR/DDR Infiniband data rates
- Up to 11.2Gb/s data rate per wavelength
- 4 CWDM lanes MUX/DEMUX design
- Up to 40km transmission on single mode fiber (SMF)
- 18.5dB link insertion loss budget
- Operating case temperature: 0 to 70oC
- Maximum power consumption 3.5W
- LC duplex connector
- RoHS compliant

## Applications

- 40GBASE-ER4 Ethernet Links
- Infiniband QDR and DDR interconnects
- Client-side 40G Telecom connections

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