Features

- **Interconnects Aurora digital return transport devices and integrated Ethernet products**
- **2.125 Gbps data throughput**
- **Pluggable SFP MSA footprint**
- **Duplex LC connector**
- **Very low jitter**
- **Metal enclosure for lower EMI**
- **3.3 V power supply with low power dissipation**
- **Extended operating temperature range**

CWDM
Optical Transceiver Module

Pictured above: SFP module for 1 of 15 available CWDM wavelengths

TR4440B series CWDM Optical Transceiver Modules enable additional capabilities for high-speed communications required for Aurora Networks' digital networking products. These modules are functionally identical to the transceivers already built into many of Aurora Networks' products (*e.g.*, DT4000 and DT5000 series optical node transceivers), but provide a flexible, plug-in means of enabling additional optional secondary ports in several of those products.

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these state-of-the-art components are designed expressly for high-speed bi-directional communication applications that require rates of up to 2.125 Gbps, with the laser transmission portion of the device operating at one of 15 available ITU-compliant (G.694.2) CWDM wavelengths.

TR4440B series modules feature a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. And the modules' metal enclosure not only makes them sturdier, but also improves their FCC test margins. This emission and ESD control is particularly important in applications with sensitive multiport hubs and switches. The modules, which dissipate less than 1.75 W, are supplied with a duplex LC connector.

TR4440B series modules can be ordered as an optional plug-in transceiver module to activate the primary or secondary ring capabilities of transceiver units in NC4000 series nodes. TR4440B series modules may also be used to populate ports of the DS4004 Optical Ethernet Multiplexer module for NC4000 series nodes as well as a variety of other products from Aurora Networks.

TR4440B-*xxxx*-PI Product Specifications

Physical:

- Dimensions:

  2.2” L x 0.4” H x 0.5” W (5.6 cm x 1.0 cm x 1.3 cm)
- Weight: 0.1 lbs (0.05 kg)

Environmental:

- Operating temperature range:

  CWDM wavelengths 1270-1350: –40ºC to +80ºC (–40ºF to 176ºF)

  CWDM wavelengths 1430-1610: –40ºC to +85ºC (–40ºF to 185ºF)
- Storage temperature range: –40ºC to +85ºC (–40ºF to 185ºF)
- Humidity: 5% to 95% non–condensing

Optical Interface:

- Optical connectors: Duplex LC

Power Requirements:

- Input voltage: 3.3 V_{DC}
- Power consumption: 1.75 W max

General:

- Supported link length: 40 km (on SMF-28 or equivalent)
- Data rate: 2.125 Gb/s
- Hot plug–in/out

Optical Interface:

Transmitter:

- Transmitter type: Uncooled CWDM DFB
- CWDM optical wavelengths: 15 (five in the range 1270, 1290, ..., 1350, and ten in the range 1430, 1450, . . ., 1610 nm)
- Optical output power:

  CWDM wavelengths 1270-1350: > –3 dBm min, +5 dBm max

  CWDM wavelengths 1430-1610: –1 dBm min, +5 dBm max
- Optical extinction ratio (ER): 9 dB min
- Dispersion penalty (at 40 km): 1 dB
  (measured with a PRBS of 2^7-1 at 2.125 Gbps and $1x10^{-12}$ BER)

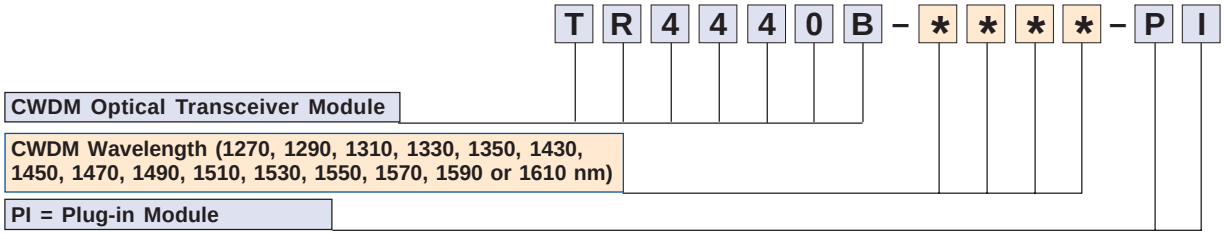
Receiver:

- Receiver sensitivity at 2X FC: –21 dBm max
  (measured with a PRBS of 2^7-1 at $1x10^{-12}$ BER and 9.0 dB extinction ratio)
- Maximum input power: –3 dBm
- Optical center wavelength: 1260nm min, 1620nm max
- Receive LOS assert level: –34 dBm

Regulatory:

Class 1 devices per FDA/CDRH and IEC-825-1 laser safety regulations

Ordering Information



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