Features

- Enables Ethernet drops from fiber node platforms
- Up to 2.125 Gbps bi-directional data links
- Small Form Factor Pluggable (SFP)
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range

2.125 Gbps 1310nm Optical Transceiver Modules

The TR4000-PI and TR4040-PI Optical Transceiver Modules enable additional capabilities for high-speed bi-directional communications required for Aurora Networks' digital networking products. These SFP 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 a wavelength of 1310 nm.

TR4000-PI and TR4040-PI SFP transceivers feature a very low jitter contribution, resulting in extremely clean, high-quality eye patterns. And the modules' metal enclosures 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 operate at extended voltage (3.15 to 3.6 V) and temperature (–40º to +85ºC) ranges, and all modules are supplied with a duplex LC connector.

The TR4000-PI SFP transceiver supports link lengths up to 10 km, and the TR4040-PI SFP transceiver supports link lengths up to 40 km. TR4000-PI and TR4040-PI SFP transceivers can be ordered as optional primary or secondary plug-in modules to activate the capabilities of transceiver units in NC4000 series nodes (*e.g.*, DT4000 series models). TR40x0-PI series SFP transceivers are also used to populate the primary network and local ports of the DS4008 Optical Concentrator module for NC4000 series nodes, and are used on other products from Aurora Networks as described on individual product data sheets.

TR4000-PI / TR4040-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: –40º to +85ºC (–40º to 185ºF)
- Storage temperature range: –40º to +85ºC (–40º to 185ºF)
- Humidity: 5% to 95% non–condensing

Optical Interface:

- Optical connectors: Duplex LC

Power Requirements:

- Input voltage: 3.3 V_{DC} (250 mA max)
- Power consumption:
  TR4000-PI: 700 mW max
  TR4040-PI: 875 mW max

General:

- Supported link length:
  TR4000-PI: 10 km (on SMF-28 or equivalent)
  TR4040-PI: 40 km (on SMF-28 or equivalent)
- Data rate: 2.125 Gb/s
- BER: 10^{-12} max
- Hot plug–in/out

Optical:

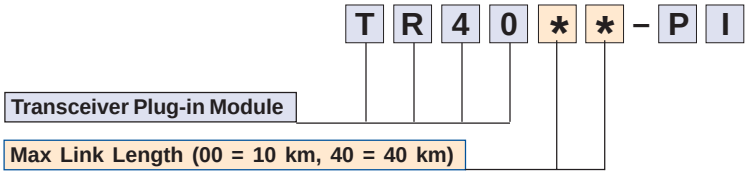
Typical specifications for two models with differing link loss budgets:

Model:	TR4000-PI	TR4040-PI
Transmitter:		
• Transmitter type:	Fabry-Perot	DFB
• Center wavelength (nm):	1310	1310
• Optical output power (dBm):		
Min	–10	–1
Max	–3	+2.5
Receiver:		
• Center wavelength (nm):	1310	1310
• Receiver sensitivity, max (dBm):	–21	–21
• Return loss, min (dB):	12	27
• Receive LOS assert level (dBm):	–20.5	–21.5

Regulatory:

Class 1 devices per FDA 21 CFR 1040.10 and IEC-60825-1 laser safety regulations

Ordering Information



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