COMMSCOPE TKA1310-TLxx

4.250 GBPS 1310 NM OPTICAL TRANSCEIVER MODULE

The TKA1310-TLxx series 1310 nm Optical Transceiver Modules feature high-speed communications functionality required for selected COMMSCOPE' digital networking products such as the DT4250N-xx Universal Digital Transceiver.

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these state-of-the-art components are designed expressly for high-speed communication applications that require rates of up to 4.250 Gbps, with the laser transmission portion of the device operating at a wavelength of 1310 nm.

- Supports DT4250N Universal Digital Return Platform links up to 40 km
- 4.250 Gbps data throughput
- MSA compliant pluggable SFP Transceiver
- 2 km, 10 km, and 40 km link distance options
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range (–40°C to +85°C)
- RoHS compliant and lead free

SPECIFICATIONS

PHYSICAL	
Dimensions	2.2" L x 0.4" H x 0.5" W (5.7 cm x 1.1 cm x 1.4 cm)
Weight	0.1 lbs (0.05 kg)
ENVIRONMENTAL	
Application temperature range	–40° to +85°C (–40° to +185°F)
Storage temperature range	–40° to +85°C (–40° to +185°F)
Humidity	5% to 95% non–condensing
OPTICAL INTERFACE	
Optical connectors	Duplex LC
POWER REQUIREMENTS	
Input voltage	3.3 VDC
Power consumption	1.04 W max (at 3.465VDC 300mA)
GENERAL	
Supported link length on SMF-28 or equivalent	• TKA1310-TL2: 2 km • TKA1310-TL10: 10 km • TKA1310-TL40: 40 km
Data rate	4.25 Gbps
Hot plug–in/out	

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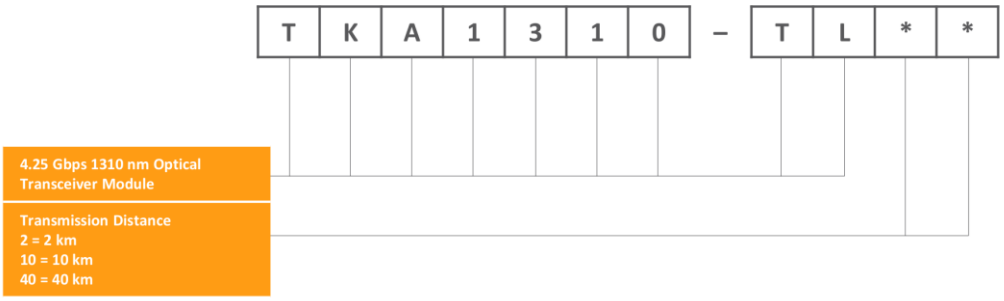
OPTICAL INTERFACE	
TKA1310-TL2	
Transmitter type	FP uncooled
Transmit wavelength	1260 - 1350 nm
Optical output power, min	–8.4 dBm
Transmit distance	2 km
Bail latch color	Gray
TKA1310-TL10	
Transmitter type	DFP uncooled
Transmit wavelength	1285 - 1345 nm
Optical output power, min	–8 dBm
Transmit distance	10 km
Bail latch color	Blue
TKA1310-TL40	
Transmitter type	DFB uncooled
Transmit wavelength	1285 - 1345 nm
Optical output power, min	0 dBm
Transmit distance	40 km
Bail latch color	Yellow
Receiver	
Receiver type	PIN
Receiver wavelength	1260 - 1620 nm
Optical output power, min	–18 dBm (PRBS 223-1, 0km SMF-28 BER < 10-12)
Overload, min	–1 dBm
LOS assert level, min	–30 dBm
LOS de-assert level, max –20 dBm	

ORDERING INFORMATION



CAUTION

The TKA1310-TLxx transceiver is only approved for use in the DT4250N-xx Universal Digital Transmitter for optical nodes.

COMMSCOPE TKB1550-TL40

4.250 GBPS 1550 NM OPTICAL TRANSCEIVER MODULE

The TKB1550-TL40 1550 nm Optical Transceiver Module features high-speed communications functionality required for selected COMMSCOPE' digital networking products such as the DT4250N-xx Universal Digital Transceiver.

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 4.250 Gbps, with the laser transmission portion of the device operating at a wavelength of 1550 nm.

- Supports DT4250 Universal Digital Return Platform links up to 40 km
- 4.250 Gbps data throughput
- MSA compliant pluggable SFP Transceiver
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range (–40°C to +85°C)
- RoHS compliant and lead free

SPECIFICATIONS

PHYSICAL	
Dimensions	2.2" L x 0.4" H x 0.5" W (5.7 cm x 1.1 cm x 1.4 cm)
Weight	Weight 0.1 lbs (0.05 kg)
ENVIRONMENTAL	
Application temperature range	–40° to +85°C (–40° to +185°F)
Storage temperature range	–40° to +85°C (–40° to +185°F)
Humidity	0% to 85% non–condensing
OPTICAL INTERFACE	
Optical connectors	Duplex LC
POWER REQUIREMENTS	
Input voltage	3.3 VDC
Power consumption	1.04 W max (at 3.465VDC 300mA)
GENERAL	
Supported link length	40 Km (on SMF-28 or equivalent)
Data rate	4.250 Gbps
BER	10-12 max
Hot plug–in/out	

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OPTICAL INTERFACE	
Transmitter	
Transmitter type	DFB uncooled
Transmit wavelength	1510 - 1580 nm
Optical output power, min	–8.4 dBm
Transmit distance	2 km
Bail latch color	Gray
Receiver	
Receiver type	PIN
Receiver wavelength	1260 - 1620 nm
Receiver sensitivity, max	–18 dBm (PRBS 223-1, 0km SMF-28 BER < 10-12)
Input power, max	3 dBm
LOS assert level, min	–30 dBm
LOS de-assert level, max	–18 dBm

ORDERING INFORMATION

T	K	B	1	5	5	0	–	T	L	4	0

4.25 Gbps 1550 nm Optical Transceiver Module, 40 km

CAUTION

The TKB1550-TL40 transceiver is only approved for use in the DT4250N-xx Universal Digital Transmitter for optical nodes.

COMMSCOPE TKCxxxx-TL40

4.250 GBPS CWDM OPTICAL TRANSCEIVER MODULE

TKCxxxx-TL40 series CWDM Optical Transceiver Modules enable additional transmission capabilities for high-speed communications modules offered by COMMSCOPE, such as the DT4250N-xx Universal Digital Return Platform Transmitter. A single SFP unit supports the transport of two separate 5–100 MHz returns, including 5–85 MHz returns, over a single wavelength.

- Supports DT4250 Universal Digital Return Platform links up to 40 km
- 4.25 Gbps data throughput
- Enables transport of 2x 5–100 MHz returns over a single wavelength
- 15 CWDM ITU grid wavelengths
- Pluggable SFP MSA footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- Extended operating temperature range (–40°C to +85°C)

SPECIFICATIONS

PHYSICAL	
Dimensions	2.2” L x 0.4” H x 0.5” W (5.7 cm x 1.1cm x 1.4 cm)
Weight	0.1 lbs (0.05 kg)
ENVIRONMENTAL	
Application temperature range	–40°to +85°C (–40°to +185°F)
Storage temperature range	–40°to +85°C (–40°to +185°F)
Humidity	5% to 95% non–condensing
OPTICAL INTERFACE	
Optical connectors	Duplex LC
POWER REQUIREMENTS	
Input voltage	3.3 VDC
Power consumption	1.1W max
GENERAL	
Link budget	40 km on SMF-28 or equivalent
Data rate	4.250 Gbps
Hot plug–in/out	

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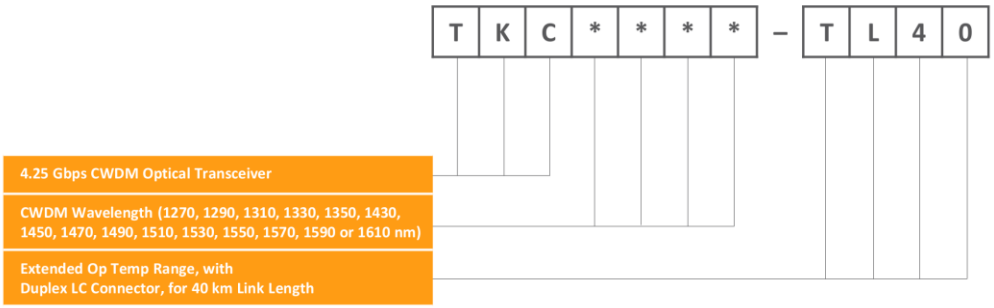
OPTICAL INTERFACE	
Transmitter	
Transmitter type	CWDM uncooled DFB
CWDM optical wavelengths	15 (five in the range 1270, 1290, . . ., 1350, and ten in the range 1430, 1450, . . ., 1610 nm)
Dispersion penalty (at 40 km)	2 dB
Receiver	
Optical wavelength	1260 -1620 nm
Sensitivity	–18 dBm min
Input power	0 dBm max
LOS of Signal assert level	3 dBm
REGULATORY AND SAFETY	
IEC/EN-60825-1	
21 CFR 1040.10/1040.11	
Class 1 Laser	

ORDERING INFORMATION



CAUTION

TKCxxxx-TL40 series transceiver modules are currently approved for use in DT4250 series Digital Transceiver modules for optical nodes.

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COMMSCOPE TKD4580-xx-PI

4.250 GBPS DWDM OPTICAL TRANSCEIVER MODULE

TKD4580-xx-PI series DWDM Optical Transceiver Modules enable additional transmission capabilities for high-speed communications modules offered by COMMSCOPE, such as the DT4250N-xx Universal Digital Return Platform Transmitter. A single SFP unit supports the transport of two separate 5–100 MHz returns, including 5–85 MHz returns, over a single wavelength.

- Supports DT4250N Universal Digital Return Platformlinks up to 80 km
- 4.25 Gbps data throughput
- Enables transport of 2x 5–100 MHz returns over a single wavelength
- Pluggable SFP MSA footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- Extended operating temperature range -40°C to 85°C
- Cold start wavelength compliance (INF-8478i)

SPECIFICATIONS

PHYSICAL	
Dimensions	2.2” L x 0.4” H x 0.5” W (5.7 cm x 1.1cm x 1.4 cm)
Weight	0.1 lbs (0.05 kg)
ENVIRONMENTAL	
Application temperature range	–40°to +85°C (–40°to +185°F)
Storage temperature range	–40°to +85°C (–40°to +185°F)
Humidity	5% to 95% non–condensing
OPTICAL INTERFACE	
Optical connectors	Duplex LC
POWER REQUIREMENTS	
Input voltage	3.3 VDC
Power consumption	1.7W max
GENERAL	
Data rate	4.250 Gbps
Supported link length	80 km (on SMF-28 or equivalent) NOTE: This is strictly a dispersion limitation. Actual transmission distance is also dictated by the power budget of each transmission link. EDFAs and Dispersion Compensation Modules are suitable for use with the TKD4580-xx-PI.
Hot plug–in/out	

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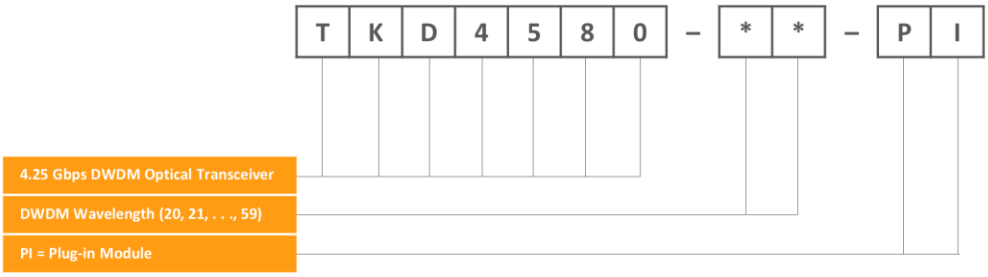
OPTICAL	
Transmitter	
Transmitter type	Cooled DWDM DFB
DWDM channels	40 channels (20 through 59) (Center wavelengths per ITU-T G.694.2)
Wavelength stability, EOL	±0.1 nm
Optical output power	+3 dBm min
Optical extinction ratio (ER)	5.0 dB min
Dispersion penalty	3 dB (Measured with PRBS 223-1 at 4.25 Gbps, 80km SMF, and 10-12BER)
Receiver	
Receiver sensitivity	–23 dBm max
Optical center wavelength	1525–1565 nm
Maximum input power	–8 dBm
Loss of signal assert level	–40 dBm
REGULATORY AND SAFETY	
Class 1 devices per FDA/CDRH and IEC-60825-1 laser safety regulations	

ORDERING INFORMATION



CAUTION

TKD4580-*xx*-PI series transceiver modules are currently approved for use in DT4250 series Digital Transceiver modules for optical nodes.

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