

FEATURES

- Simplified logistics with Small Form-factor Pluggable (SFP) optics
- Tailor network demands with 1310, CWDM, or DWDM optics
- For use in the following CommScope Digital Return Path Transmitters:
 - OM4DTX-SFP-242-5A8
 - OM4DTX-SFP-265-5A8
 - OM4DTX-SFP-185-5A8
 - OM3DTX-SFP-242-5A6
 - OM3DTX-SFP-265-5A6
 - OM3DTX-SFP-185-5A6

Small Form-factor Pluggable, MSA-compliant optics are available in a variety of technologies designed to satisfy a wide range of network requirements. CommScope 3.7 Gbps, industrial, temperature-rated SFP transmitters ensure the overall maintenance of return path link performance when installed in digital return transmitters. For short links of less than 10 km, CommScope offers a low-power, 1310 nm SFP that delivers a lower-cost solution than analog return transmitters on a per RF stream basis. For longer links of up to 40 km, CWDM SFPs are available in 18 wavelengths. With the addition of ruggedized optical passives, operators can aggregate multiple wavelengths fiber savings.

For greater distances of up to 80 km, DWDM SFPs are available in 42 ITU wavelengths to maximize wavelength aggregation and provide design flexibility. Optical amplification can be utilized to extend distances as required by network designs. When utilizing network designs with Service Group Aggregation (SGA), CommScope offers an SFP transceiver option for connecting to downstream nodes.



SPECIFICATIONS

Characteristics	Specifications ¹		
Environmental			
Case Operating Temperature Range	-40° to 85°C (-40° to 185°F)		
Storage Temperature Range	-40° to 85°C (-40° to 185°F)		
Storage Relative Humidity	5% to 95%		
1310 nm DFB SFP	Min	Typ	Max
Input Voltage, V _{cc}	—	3.3	—
Power Consumption, W	—	—	1.0
Data Rate, Gbps	—	—	2.125
Supported Link Length, km	—	10 (on SMF-28 or equivalent)	—
Hot Plug	—	In/Out	—
Transmitter			
Transmitter Type		Fabry-Perot	
Center Wavelength, nm		1310	
Optical Output Power, dBm	-6	—	—
Receiver			
Receiver Sensitivity (Input Power), dBm	-18	—	—
Receiver Overload (Input Power), dBm	—	—	0
Optical Center Wavelength, nm		1310	
Return Loss, dB	12	—	—
Regulatory		Class 1 product IEC-60825-1. Complies with 21 CFR 1040.10 and 21 CFR 1040.11	
CWDM SFP	Min	Typ	Max
Input Voltage, V _{cc}	—	3.3	—
Power Consumption, W	—	—	1.75
Data Rate, Gbps	1	—	2.125
Supported Link Length, km ²	—	60 (on SMF-28 or equivalent)	—
Hot Plug	—	In/Out	—
Transmitter			
Transmitter Type		Uncooled CWDM DFB	
Transmitter Extinction Ratio, dB	9	—	—
CWDM Optical Wavelengths, nm		15	
Optical Output Power, dBm	-1	—	—
Receiver			
Receiver Sensitivity at 2X FC, dBm ³	—	—	-21
Input Power, dBm	—	—	-3
Optical Center Wavelength, nm	1260	—	1620
Regulatory		Class 1 devices per FDA/CDRH and IEC-825-1 laser safety regulations	
DWDM SFP	Min	Typ	Max
Input Voltage, V _{cc}	—	3.3	—
Power Consumption, W	—	—	1.5
Data Rate, Gbps	1	—	2.125
Supported Link Length, km ⁴	—	120 (on SMF-28 or equivalent)	—
Hot Plug	—	In/Out	—
Transmitter			
Transmitter Type		Cooled DFB	
Transmitter Extinction Ratio, dB	9	—	—
DWDM Channels		40 (20 through 59)	
Optical Output Power, dBm	+3	—	—
Optical Extinction Ratio, dB ⁵	8.2	—	—
Dispersion Penalty, dB	—	3	—
Receiver			
Receiver Sensitivity, dBm	—	—	-29
Input Power, dBm	—	—	-8
Optical Center Wavelength, nm	1525	—	1565
Regulatory		Class 1 devices per FDA/CDRH and IEC-825-1 laser safety regulations	

NOTES:

1. CommScope provides assurance of digital return link performance only when using a CommScope supplied SFP.
2. Dispersion limitation only. Actual transmission distance is also dictated by the power budget of each transmission link.
3. Measured with a PRBS of 2²³-1 at 1x10⁻¹² BER and 9 dB extinction ratio.
4. Dispersion limitation only. 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 TR4580-xx-PI.
5. PRBS 2²³-1 at 2.125 Gbps, BER < 10⁻¹², 120 km SMF-28.

ORDERING INFORMATION

Part Number	Description
1310 nm SFP Transceivers¹	
TR4000-PI ²	SFP Environment Hardened 92°C, 1310 nm LC/PC Transceiver
TR4040-PI	SFP Environment Hardened 92°C, 1310 nm LC/PC Transceiver
CWDM SFP Transceivers¹	
TR4440B-1270-PI ³	SFP Environment Hardened 80°C, 1270 nm LC/PC CWDM Transceiver
TR4440B-1290-PI	SFP Environment Hardened 80°C, 1290 nm LC/PC CWDM Transceiver
TR4440B-1310-PI	SFP Environment Hardened 80°C, 1310 nm LC/PC CWDM Transceiver
TR4440B-1330-PI	SFP Environment Hardened 80°C, 1330 nm LC/PC CWDM Transceiver
TR4440B-1350-PI	SFP Environment Hardened 80°C, 1350 nm LC/PC CWDM Transceiver
TR4440B-1430-PI	SFP Environment Hardened 85°C, 1430 nm LC/PC CWDM Transceiver
TR4440B-1450-PI	SFP Environment Hardened 85°C, 1450 nm LC/PC CWDM Transceiver
TR4440B-1470-PI	SFP Environment Hardened 85°C, 1470 nm LC/PC CWDM Transceiver
TR4440B-1490-PI	SFP Environment Hardened 85°C, 1490 nm LC/PC CWDM Transceiver
TR4440B-1510-PI	SFP Environment Hardened 85°C, 1510 nm LC/PC CWDM Transceiver
TR4440B-1530-PI	SFP Environment Hardened 85°C, 1530 nm LC/PC CWDM Transceiver
TR4440B-1550-PI	SFP Environment Hardened 85°C, 1550 nm LC/PC CWDM Transceiver
TR4440B-1570-PI	SFP Environment Hardened 85°C, 1570 nm LC/PC CWDM Transceiver
TR4440B-1590-PI	SFP Environment Hardened 85°C, 1590 nm LC/PC CWDM Transceiver
TR4440B-1610-PI	SFP Environment Hardened 85°C, 1610 nm LC/PC CWDM Transceiver
DWDM SFP Transmitters¹	
TR4580-20-PI ⁴	SFP Environment Hardened 92°C, CH 20, 1561.42 nm LC/PC DWDM Transmitter
TR4580-21-PI	SFP Environment Hardened 92°C, CH21, 1560.61 nm LC/PC DWDM Transmitter
TR4580-22-PI	SFP Environment Hardened 92°C, CH22, 1559.79 nm LC/PC DWDM Transmitter
TR4580-23-PI	SFP Environment Hardened 92°C, CH23, 1558.98 nm LC/PC DWDM Transmitter
TR4580-24-PI	SFP Environment Hardened 92°C, CH24, 1558.17 nm LC/PC DWDM Transmitter
TR4580-25-PI	SFP Environment Hardened 92°C, CH25, 1557.36 nm LC/PC DWDM Transmitter
TR4580-26-PI	SFP Environment Hardened 92°C, CH26, 1556.56 nm LC/PC DWDM Transmitter
TR4580-27-PI	SFP Environment Hardened 92°C, CH27, 1555.75 nm LC/PC DWDM Transmitter
TR4580-28-PI	SFP Environment Hardened 92°C, CH28, 1554.94 nm LC/PC DWDM Transmitter
TR4580-29-PI	SFP Environment Hardened 92°C, CH29, 1554.13 nm LC/PC DWDM Transmitter
TR4580-30-PI	SFP Environment Hardened 92°C, CH30, 1553.33 nm LC/PC DWDM Transmitter
TR4580-31-PI	SFP Environment Hardened 92°C, CH31, 1552.52 nm LC/PC DWDM Transmitter
TR4580-32-PI	SFP Environment Hardened 92°C, CH32, 1551.72 nm LC/PC DWDM Transmitter
TR4580-33-PI	SFP Environment Hardened 92°C, CH33, 1550.92 nm LC/PC DWDM Transmitter
TR4580-34-PI	SFP Environment Hardened 92°C, CH34, 1550.12 nm LC/PC DWDM Transmitter
TR4580-35-PI	SFP Environment Hardened 92°C, CH35, 1549.32 nm LC/PC DWDM Transmitter
TR4580-36-PI	SFP Environment Hardened 92°C, CH36, 1548.51 nm LC/PC DWDM Transmitter
TR4580-37-PI	SFP Environment Hardened 92°C, CH37, 1547.72 nm LC/PC DWDM Transmitter
TR4580-38-PI	SFP Environment Hardened 92°C, CH38, 1546.92 nm LC/PC DWDM Transmitter
TR4580-39-PI	SFP Environment Hardened 92°C, CH39, 1546.12 nm LC/PC DWDM Transmitter
TR4580-40-PI	SFP Environment Hardened 92°C, CH40, 1545.32 nm LC/PC DWDM Transmitter
TR4580-41-PI	SFP Environment Hardened 92°C, CH41, 1544.53 nm LC/PC DWDM Transmitter
TR4580-42-PI	SFP Environment Hardened 92°C, CH42, 1543.73 nm LC/PC DWDM Transmitter
TR4580-43-PI	SFP Environment Hardened 92°C, CH43, 1542.94 nm LC/PC DWDM Transmitter
TR4580-44-PI	SFP Environment Hardened 92°C, CH44, 1542.14 nm LC/PC DWDM Transmitter
TR4580-45-PI	SFP Environment Hardened 92°C, CH45, 1541.35 nm LC/PC DWDM Transmitter
TR4580-46-PI	SFP Environment Hardened 92°C, CH46, 1540.56 nm LC/PC DWDM Transmitter
TR4580-47-PI	SFP Environment Hardened 92°C, CH47, 1539.77 nm LC/PC DWDM Transmitter
TR4580-48-PI	SFP Environment Hardened 92°C, CH48, 1538.98 nm LC/PC DWDM Transmitter
TR4580-49-PI	SFP Environment Hardened 92°C, CH49, 1538.19 nm LC/PC DWDM Transmitter
TR4580-50-PI	SFP Environment Hardened 92°C, CH50, 1537.40 nm LC/PC DWDM Transmitter
TR4580-51-PI	SFP Environment Hardened 92°C, CH51, 1536.61 nm LC/PC DWDM Transmitter
TR4580-52-PI	SFP Environment Hardened 92°C, CH52, 1535.82 nm LC/PC DWDM Transmitter
TR4580-53-PI	SFP Environment Hardened 92°C, CH53, 1535.04 nm LC/PC DWDM Transmitter
TR4580-54-PI	SFP Environment Hardened 92°C, CH54, 1534.25 nm LC/PC DWDM Transmitter

NOTES:

1. Must order fiber optic pigtail with bulkhead connectors. Refer to the applicable Opti Max Optical Node Equipment Manual for more information.
2. Replaces legacy CommScope p/n 1506401.
3. Replaces legacy CommScope p/n 1506017-TAB.
4. Replaces legacy CommScope p/n 1505605-TAB.

ORDERING INFORMATION

Part Number	Description
DWDM SFP Transmitters¹ (continued)	
TR4580-55-PI	SFP Environment Hardened 92°C, CH55, 1533.47 nm LC/PC DWDM Transmitter
TR4580-56-PI	SFP Environment Hardened 92°C, CH56, 1532.68 nm LC/PC DWDM Transmitter
TR4580-57-PI	SFP Environment Hardened 92°C, CH57, 1531.90 nm LC/PC DWDM Transmitter
TR4580-58-PI	SFP Environment Hardened 92°C, CH58, 1531.12 nm LC/PC DWDM Transmitter
TR4580-59-PI	SFP Environment Hardened 92°C, CH59, 1530.33 nm LC/PC DWDM Transmitter
TR4580-60-PI	SFP Environment Hardened 92°C, CH60, 1529.54 nm LC/PC DWDM Transmitter
TR4580-61-PI	SFP Environment Hardened 92°C, CH61, 1528.75 nm LC/PC DWDM Transmitter
TR4580-62-PI	SFP Environment Hardened 92°C, CH62, 1527.96 nm LC/PC DWDM Transmitter
Fiber Optic Pigtailed with Bulkhead Connectors	
1505889	Kit, Opti Max OM4100 LC/UPC to SC/APC 1.6 mm jacketed, 0.5 meter
1505890	Kit, Opti Max OM4100 LC/UPC to SC/UPC 1.6 mm jacketed, 0.5 meter

NOTE:

1. Must order fiber optic pigtail with bulkhead connectors. Refer to the applicable Opti Max Optical Node Equipment Manual for more information.

RELATED PRODUCTS

CHP Chassis	Optical Patch Cords
Opti Max Power Supplies	Optical Passives
CHP Management Module	Installation Services

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