



Fibre Passive Devices

AFL manufacture a comprehensive portfolio of fibre passive devices (FPD) and associated enclosures to suit a range of applications including FTTx, CATV, LAN and telecommunications networks.

FPD's are available in a 1RU format or scalable modular format compatible with a range AFL fixed and sliding rack mount enclosures.

AFL's FPD range comprises of:

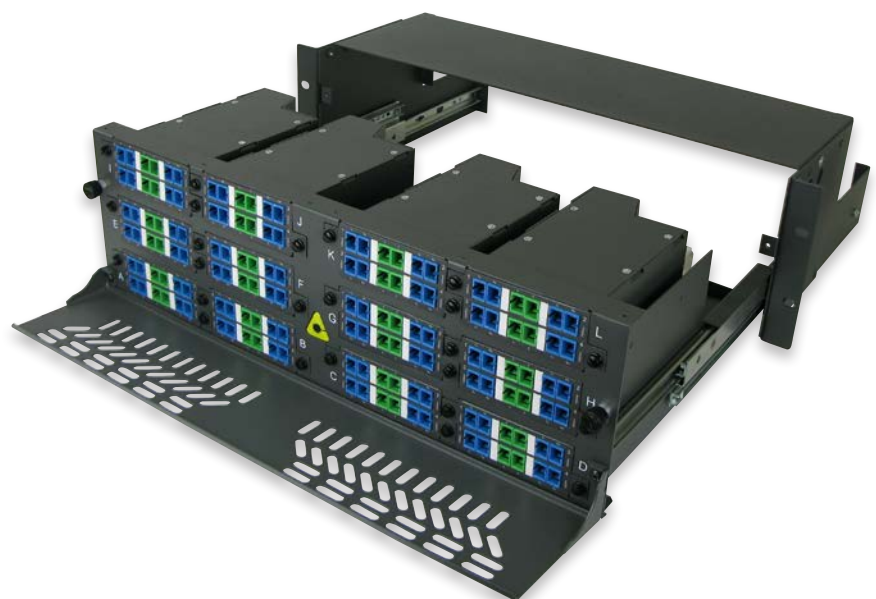
- Splitters
- Circulators
- Wave Division Multiplexers (WDM)
- Filtered Wave Division Multiplexers (FWDM)
- Coarse Wave Division Multiplexers (CWDM)
- Dense Wave Division Multiplexers (DWDM)

Features

- Plug and play design
- Optimise fibre utilisation
- Scalable modular design or 1RU variations
- Customisation also available
- Telcordia GR-1221, GR-1209 & GR-326-CORE compliant

Applications

- FTTx
- LAN
- Telecommunication
- Optical monitoring



Fibre Passive Devices

FPD Splitter Modules

PART NUMBER	DESCRIPTION
FPD-OS114SCA1-H1	1 x 1:4 planar splitter module, SCA 1260-1650 nm
FPD-OS114SCA2-H1	2 x 1:4 planar splitter module, SCA 1260-1650 nm
FPD-OS118SCA1-H1	1 x 1:8 planar splitter module, SCA 1260-1650 nm



1RU Planar Splitter FPD

PART NUMBER	DESCRIPTION
FPD-OS114SCA4-X1	4 x 1:4 planar splitter, SCA 1260-1650 nm, 1RU
FPD-OS118SCA2-X1	2 x 1:8 planar splitter, SCA 1260-1650 nm, 1RU
FPD-OS1132SCA1-X1	1 x 1:32 planar splitter, SCA 1260-1650 nm, 1RU

Contact AFL for alternate configurations.



Technical Specifications

Type	1:2	1:4	1:8	1:16	1:32
Operating Window	1260 - 1650 nm				
Insertion Loss* (dB)	4	7	10	13.2	16.5
Uniformity (dB)	0.5	0.8	1.0	1.4	1.6
PDL (Max)	0.2	0.3	0.3	0.3	0.3
TDL (Max)	0.5 dB				
Return Loss	≤ 55 / 50 dB				
Directivity	≥ 50 dB				
Fibre Type	G657A1				

* Insertion loss excludes connectors

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature (°C)	-40 - +85
Storage Temperature (°C)	-40 - +85
Operating Humidity (%RH)	≤ 93
Storage Humidity (%RH)	≤ 93

CONNECTOR PERFORMANCE

LC, SC, ST and FC connectors*				
	Singlemode			
	UPC at 1310 and 1550 nm		APC at 1310 and 1550 nm	
	Average	Max/Min	Average	Max/Min
Insertion Loss (dB)	0.10	0.25 Max	0.15	0.25 Max
Return Loss (dB)	58	55 Min	70	65 Min

* Please contact AFL for performance of other connectors.

Fibre Passive Devices

FPD Optical Circulator Module

PART NUMBER	DESCRIPTION
FPD-OC113SCASC1-H1	1 x 1310 nm circulator module, SCA/SC
FPD-OC113SCASC2-H1	2 x 1310 nm circulator module, SCA/SC
FPD-OC113SCASC4-H1	4 x 1310 nm circulator module, SCA/SC
FPD-OC113SCALC6-H1	6 x 1310 nm circulator module SCA/LC
FPD-OC115SCASC1-H1	1 x 1550 nm circulator module, SCA/SC
FPD-OC115SCASC2-H1	2 x 1550 nm circulator module, SCA/SC
FPD-OC115SCASC4-H1	4 x 1550 nm circulator module, SCA/SC
FPD-OC115SCALC6-H1	6 x 1550 nm circulator module, SCA/LC
FPD-OC11315SCALC3-H1	3 x 1310 nm + 3 x 1550 nm circulator module, SCA/LC



FPD Optical Circulator Module



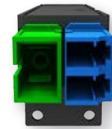
FPD-MOD3-M1

Mini FPD Optical Circulator Module

PART NUMBER	DESCRIPTION
FPD-OC113SCALC1-M1	1 x 1310 nm circulator, SCA/LC, Mini
FPD-OC113SCLC1-M1	1 x 1310 nm circulator, SC/LC, Mini
FPD-OC115SCALC1-M1	1 x 1550 nm circulator, SCA/LC, Mini
FPD-OC115SCLC1-M1	1 x 1550 nm circulator, SC/LC, Mini
FPD-MOD6-M1	Standard density modular insert for mini FPD
FPD-MOD3-M1	High density modular insert for mini FPD



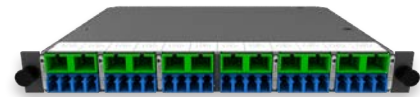
FPD-MOD6-M1



Mini FPD Module

IFDF FPD Optical Circulator Module

PART NUMBER	DESCRIPTION
FPD-OC113SCALC12-F1	12 x 1310 nm CIRCULATOR SCA/LC, IFDF
FPD-OC115SCALC12-F1	12 x 1550nm CIRCULATOR SCA/LC, IFDF



IFDF FPD Module

1RU Optical Circulator FPD

PART NUMBER	DESCRIPTION
FPD-OC113SCASC6-X1	6 x 1310 nm circulator, SCA/SC, 1RU
FPD-OC115SCASC6-X1	6 x 1550 nm circulator, SCA/SC, 1RU

Contact AFL for alternate configurations



1RU Optical Circulator FPD

Technical Specifications

Wavelength (nm)	1310 or 1550 +/- 30 nm
Insertion loss (dB)	0.6
Isolation – Port 2-1, Port 3-2 (dB)	≥ 50
Return Loss (dB)	≥ 50
Polarisation dependent loss (dB)	< 1.0
PMD (ps)	< 1.0
Power Handling (mW)	300
Fibre Type	G652.D

* Insertion loss excludes connectors

Fibre Passive Devices

Environmental Specifications

Operating Temperature (°C)	-0 - +70
Storage Temperature (°C)	-40 - +85

Connector Performance				
LC, SC, ST and FC connectors*				
	SINGLEMODE			
	UPC at 1310 and 1550 nm		APC at 1310 and 1550 nm	
	Average	Max/Min	Average	Max/Min
Insertion Loss (dB)	0.10	0.25 Max	0.15	0.25 Max
Return Loss (dB)	58	55 Min	70	65 Min

* Please contact AFL for performance of other connectors

FPD WDM Modules

PART NUMBER	DESCRIPTION
FPD-OMW11315SCASC1-H1	1 x 1310/1550 nm WDM module, SCA/SC
FPD-OMW11315SCASC2-H1	2 x 1310/1550 nm WDM module, SCA/SC
FPD-OMW11315SCASC4-H1	4 x 1310/1550 nm WDM module, SCA/SC



1RU WDM FPD

PART NUMBER	DESCRIPTION
FPD-OMW11315SCASC6-X1	6 x 1310/1550 nm WDM SCA/SC, 1 RU

Contact AFL for alternate configurations



Technical Specifications

Insertion Loss (dB)	0.6
Isolation (dB)	≥ 30
PDL (dB)	≤ 0.1
Operating Wavelength (nm)	1310 / 1550
Directivity (dB)	≥ 55
Return Loss (dB)	≥ 55

* Insertion loss excludes connectors

Environmental Specifications

Operating Temperature (°C)	-20 - +70
Storage Temperature (°C)	-40 - +85

CONNECTOR PERFORMANCE				
LC, SC, ST and FC connectors*				
	SINGLEMODE			
	UPC at 1310 and 1550 nm		APC at 1310 and 1550 nm	
	Average	Max/Min	Average	Max/Min
Insertion Loss (dB)	0.10	0.25 Max	0.15	0.25 Max
Return Loss (dB)	58	55 Min	70	65 Min

* Please contact AFL for performance of other connectors

Fibre Passive Devices

FPD OCW

PART NUMBER	DESCRIPTION
FPD-OCW1SCASC1-H1	1 x 1310/1550 nm OCW module, SCA/SC
FPD-OCW1SCASC2-H1	2 x 1310/1550 nm OCW module, SCA/SC
FPD-OCW1SCALC4-H1	4 x 1310/1550 nm OCW module, SCA/LC



1RU OCW FPD

PART NUMBER	DESCRIPTION
FPD-OCW1SCASC2-X1	2 x 1310/1550 nm OCW, SCA/SC, 1 RU
FPD-OCW1SCASC4-X1	4 x 1310/1550 nm OCW, SCA/SC, 1 RU
FPD-OCW1SCALC4-X1	6 x 1310/1550 nm OCW, SCA/LC, 1 RU

Contact AFL for alternate configurations



OCW Technical Specifications

Wavelength (nm)	1310 or 1550 +/- 15 nm
Insertion loss (dB)	1.3
Tx / Rx Port Isolation (dB)	≥ 50
Return Loss (dB)	≥ 50
Polarisation dependent loss (dB)	< 0.1
PMD (ps)	< 0.1
Power Handling (mW)	300

* Insertion loss excludes connectors

Environmental Specifications

Operating Temperature (°C)	-0 - +70
Storage Temperature (°C)	-40 - +85

CONNECTOR PERFORMANCE

LC, SC, ST and FC connectors*

	SINGLEMODE			
	UPC @ 1310 and 1550 nm		APC @ 1310 and 1550 nm	
	Average	Max/Min	Average	Max/Min
Insertion Loss (dB)	0.10	0.25 Max	0.15	0.25 Max
Return Loss (dB)	58	55 Min	70	65 Min

* Please contact AFL for performance of other connectors

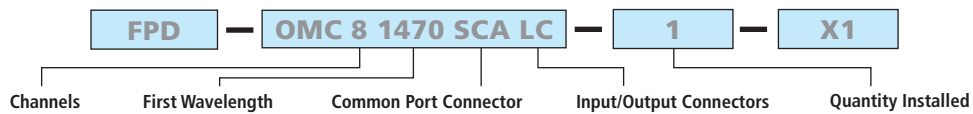
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CWDM Technical Specifications

Channels		2	4	8	16	18
Central Wavelength		ITU-T Grid				
Passband 0.5 dB Passband (nm)		≥ 14				
Channel Passband (nm)		+/- 6.5				
Ripple (dB)		≤ 0.5				
Insertion Loss (dB)	Typical	1.4	1.6	1.8	4.3	5.1
	Max	1.8	2	2.5	5	5.8
PDL (dB)		≤ 0.10	≤ 0.15	≤ 0.20	≤ 0.25	≤ 0.30
Adjacent Channel Isolation (dB)		≥ 30				
Non-adjacent Channel Isolation (dB)		≥ 45				
Return Loss (dB)		≥ 45				
Directivity (dB)		≥ 50				
Operating Temperature (°C)		-10 ~ +70				

Ordering Information



DWDM Technical Specifications (100GHz)

Channels		2	4	8	16	32	40
Central Wavelength		ITU-T Grid					
Passband at 0.5 dB (nm)		≥ 0.3					
Passband (nm)		+/-0.11					
Passband Flatness (dB)		≤ 0.5					
Insertion Loss (dB)	Typical	1.4	1.6	2.6	3.8	4.8	5.2
	Max	1.8	2	3.2	4.5	5.5	6
PDL (dB)		≤ 0.10	≤ 0.15	≤ 0.20	≤ 0.25	≤ 0.30	≤ 0.30
Adjacent Channel Isolation (dB)		≥ 25					
Non-adjacent Channel Isolation (dB)		≥ 45					
Return Loss (dB)		≥ 45					
Directivity (dB)		≥ 50					
Operating Temperature (°C)		-5 ~ +65					

Ordering Information

