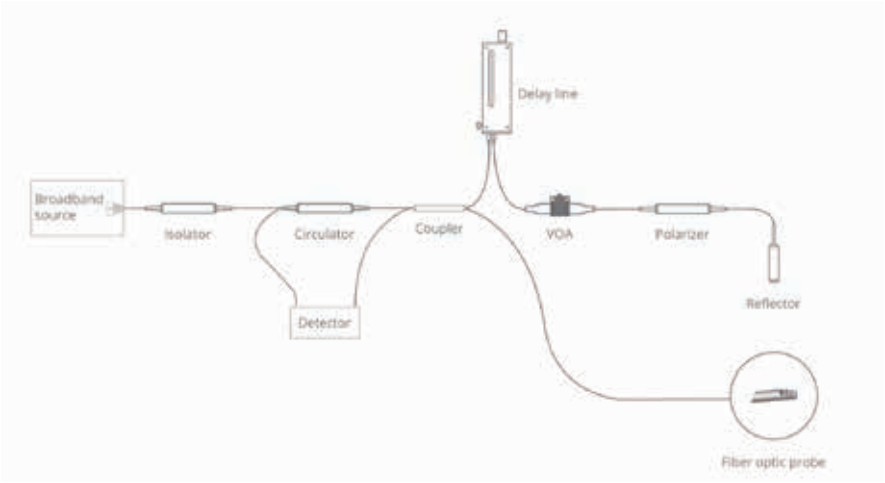
AFR™ Advanced Fiber Resources

YOU IMAGINE, WE DESIGN.

COMPONENTS FOR OCT SYSTEM

AFR could provide fused coupler, circulator, VOA, optical delay line, isolator, in-line reflector, collimator, WDM, in-line polarizer, and fiber PBS. Moreover, AFR specializes in polarization maintaining components, which offer excellent optical performance, i.e., high extinction ratio, low insertion loss, and high reliability. Custom designed device will also be available, such as fiber optic probe and interferometer module.



KEY FEATURES

- Working in 850/1064/1310nm Wavelength with Broad Band Width
- Device with Low IL and Flat WDL
- Low Optical Noise
- Custom Design
- PM Components Available

SPECIFICATIONS

FUSED COUPLER

The fused coupler offers low insertion loss, low polarization dependence and excellent environmental stability. Accurate coupling ratios from 50/50 to 1/99 are available with good uniformity in a wide wavelength range.

Parameter	Unit	Value		
Pattern		1 x 2, 2 x 2		
Center wavelength	nm	850	1064	1310
Operating wavelength range	nm	±100	±100	±100
Coupling ratio	%	5/95, 10/90, 50/50, Specified		
Coupling ratio tolerance (e.g. 50/50)	dB	6	5	5
Max. uniformity for 50/50 ratio	dB	1	0.5	0.5
Return loss	dB	50		
Max. optical power	mW	300		
Fiber type		HI 780C	HI 1060 flex	SMF-28e+

CIRCULATOR

The optical circulator is a compact, high performance light wave component that routes incoming signals from port 1 to port 2, and port 2 to port 3. This component provides high isolation, low insertion loss, high extinction ratio, and excellent environmental stability.

Parameter	Unit	Value		
Center wavelength	nm	850	1064	1310
Operating wavelength range	nm	±30	±50	±50
Max. insertion loss	dB	1.7	1.2	1
Min. isolation	dB	20	20	35
Max. crosstalk	dB	50	50	50
Max. return loss	dB	50	50	55
Max. polarization dependent loss	dB	0.2	0.2	0.1
Max. polarization mode dispersion	ps	0.1		
Max. optical power	mW	300		
Fiber type		HI 780C	HI 1060	SMF-28e+

MINIATURE MANUAL VARIABLE ATTENUATOR

Miniature manual variable attenuator operates by manually moving a shading element into optical beam. The shading element can be continously adjusted to get any attenuation value in a range. MVOA features low insertion loss, good resolution, high stability and good reliability.

Parameter	Unit	Value		
Center wavelength	nm	850	1064	1310
Operating wavelength range	nm	±30	±50	±60
Max. WDL, 23℃, minimum attenuation	dB	1	0.5	0.3
Max. excess loss	dB	0.6		
Attenuation range	dB	IL to 60 (continuous)		
Min. return loss	dB	55		
Min. extinction ratio（for PM mode)	dB	20		
Max. optical power	mW	300		

OPTICAL DELAY LINE

The optical delay line could be adjusted by manual lead screw or servo motor. Low insertion loss and high reliability make this device ideal for integration in optical coherence tomography system.

Parameter	Unit	Value		
Wavelength	nm	850	1064	1310
Operation wavelength range	nm	±50	±50	±60
Travel mechanism		manual lead screw/servo motor		
Optical delay range	mm	150 (continuous)		
Zero point delay offset	mm	132		
Insertion loss	dB	1.5	1.2	1.2
Flatness over travel	dB	0.7	0.5	0.3
Max. PDL	dB	0.1		
Min. extinction ratio (for PM model)	dB	18		
Min. return loss	dB	500		
Max. input power	mW	300		
Fiber type		HI 780	HI 1060	SMF-28e+

FUSED WDM

The single mode wavelength division multiplexer combines or separates light at different wavelengths. It offers low insertion loss, low polarization dependence, high isolation, and excellent environmental stability.

Parameter	Unit	Value
Longer operating wavelength	nm	1064±50, specified
Max. insertion loss	dB	0.7
Min. isolation	dB	10
Shorter operating wavelength	nm	635±10, specified
Max. insertion loss	dB	1
Min. isolation	dB	10
Max. polarization dependent loss	dB	0.1
Thermal stability	dB/℃	≤0.002
Min. return loss	dB	55
Min. directivity	dB	55
Max. optical power	W	5