

Polarization Patch Cord

Polarization Patch Cord including various connector types. Widely used in the field of optical fiber sensing.

Features:

- I Polarization stable
- I Various connector types

Applications:

- I Fiber gas detection system
- I Passive device production testing
- I Optical fiber sensing
- I Telecommunication



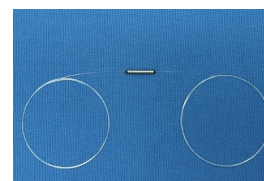
Specifications:

Specification		PARAMETERS					
Wavelength(nm)		1550	1310	980/1060	850	780	633
Insertion Loss (dB)		≤0.3		≤0.5	≤0.8	≤0.8	≤1.5
Return Loss (dB)	UPC	≥50dB					
	APC	≥60dB					
Extinction Ratio (dB)	P	≥25	≥25	≥23	≥22	≥22	≥20
	A	≥23	≥23				
Operating Temperature		-20 ~ +70					

Polarization Micro-Optics Components

Polarization Micro-Optics including various connector types. Widely used in the field of optical fiber sensing.

1064nm Series Technical Parameters



Parameter	Polarization WDM		Polarization-isolate/WDM multiplexer		Polarization-Isolate/Polarization splitting/ Combining Multiplexer
			Single Stage	Dual stage	
Bandwidth (nm)	T1550/R980	T980/R1060 T1060/R980	980/1550		1064
Working wavelength (nm)	1530~1580/ 960~990	960~990 / 1030~1080	T1530~1580/R980±15		±5
insertion loss (dB)	≤0.7(T) / ≤0.6(R)	≤0.8(T) / ≤0.5(R)	≤0.8 (P->C/C->P) ≤0.6 (R->C)	≤1.0 (P->C/C->P) ≤0.6 (R->C)	≤2.1
Extinction ratio (dB)	≥20	≥20	≥20(Type B) / ≥23(Type F)	≥20(Type B) / ≥23(Type F)	≥20(for PBS)
Isolation(dB)	≥30(T) / ≥12(R)	≥25(T) / ≥12(R)	≥30	≥45	≥25
Return loss (dB)	≥50	≥50	≥50	≥50	≥50
Size (mm)	Φ5.5×L35		Φ5.5×L35		Φ5.5×L35

1310/1550nm polarization maintaining device:

Parameter	Polarization splitting/combiner		Faraday rotating mirror	Online polarizer	Polarization fiber Collimator	
Working wavelength (nm)	1310,1480,1550		1310,1480,1550	1310,1550	1310,1550	
Bandwidth (nm)	±40		±15	±40	±30	
Typical insertion loss (dB) @23°C	≤0.5		≤0.5	≤0.5	≤0.25	
Extinction ratio (dB)	≥22(for PBS)		≥20	≥28	≥23	
Rotation angle (degree)	/		45±1	/	/	
Return loss (dB)	≥50		≥50/50	≥50/50	≥60	
Size (mm)	Φ5.5×L34		Φ5.5×L34	Φ5.5×L34	Φ3.2×L10 or Φ2.4×L12	

Parameter	Polarization WDM		Polarization-isolate/WDM multiplexer		Polarization-isolate/polarization splitting/Combining Multiplexer	
			Single stage	Dual stage	Single stage	Dual stage
Bandwidth (nm)	1310/1550	1480/1550	1310,1550		1310,1480,1550	
Working wavelength (nm)	±40	±20	±20		±20	
Insertion loss (dB)	≤0.6(T) ≤0.4(R)	≤0.6(T) ≤0.4(R)	IL related to CR (EL ≤0.8)	IL related to CR (EL ≤0.9)	≤0.7	≤0.9
Splitting ratio	/	/	1%,2%,3%,5%,10%,50%		/	/
Extinction ratio (dB)	≥20	≥20	≥20(Type B) ≥23(Type F)	≥20(Type B) ≥23(Type F)	≥20(for PBS)	
Isolation(dB)	≥30(T)≥12(R)	≥30(T)≥12(R)	≥28	≥45	≥25	≥42
Return loss (dB)	≥50	≥50	≥50	≥50	≥50	≥50
Size (mm)	Φ5.5×L35		Φ5.5×L35		Φ5.5×L35	

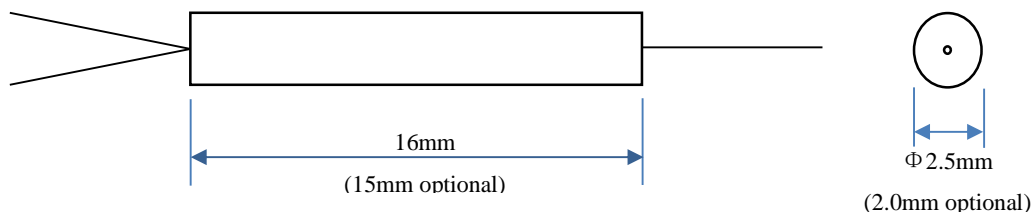
Parameter	Polarization Circulator	Polarization Isolator,		Polarization Beam Splitter	
	1x2	Monopole	Bipolar	1x2	2x2
Working wavelength (nm)	1310,1550	1310,1480,1550		1310,1550	
Bandwidth (nm)	±20	±15		±40	
Typical insertion loss (dB) @23°C	≤0.9	≤0.6	≤0.8	IL related to CR (EL ≤0.7)	IL related to CR (EL ≤1.0)
Extinction ratio (dB)	≥22	≥20(Type B) ≥23(Type F)	≥20(Type B) ≥23(Type F)	≥20(Type B) ≥22(Type F)	≥18(Type B) ≥20(Type F)
Isolation (dB)	≥40	≥32	≥52	/	/
Splitting ratio		/	/	1/99,2/98,5/95, 10/90,50/50	
Return loss (dB)	≥55	≥55/50	≥55/50	≥50	≥50
Size (mm)	Φ5.5×L35	Φ5.5×L34		Φ5.5×L35	

Parameter	Polarization splitting/combiner	Faraday rotating mirror	Online polarizer	Polarization fiber Collimator
Working wavelength (nm)	1064	1064	1064	1064
Bandwidth (nm)	±20	±5	±40	±30
Typical insertion loss (dB) @23°C	≤0.8	≤1.1	≤0.8	≤0.3
Extinction ratio (dB)	≥22(for PBS)	≥20	≥28	≥23
Rotation angle (degree)	/	45±1	/	/
Return loss (dB)	≥50	≥50/50	≥50/50	≥60
Size (mm)	Φ5.5×L34	Φ5.5×L34	Φ5.5×L34	Φ3.2×L10 or Φ2.4×L12

Micro fiber Coupler

Traditional FBT couplers are widely used in the field of optical communication and optical sensing, but usually the FBT coupler has a package size of 3.0×25mm or more, and the spectral width and polarization-preserving extinction ratio are limited, so that the FBT coupler is in some The application of a particular scenario is limited.

Compared to the FBT coupler, the micro-optical coupler has a smaller size, a higher spectral width, and an excellent extinction ratio retention performance.



Features:

- I Smaller size $\varnothing 2.5 \times 15 \text{mm}$
- I Fiber type is optional
- I Split ratio is optional
- I Wide spectral range with low additional loss
- I High reliability

Applications:

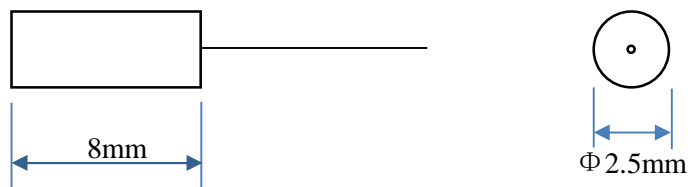
- I Optical fiber communication system and fiber sensing system.
- I EDFA, MSA, HALF-MSA
- I Optical fiber test system
- I CATV system

Specifications:

Specifications	Unit	Parameters	
Center wavelength	nm	1310 or 1550	
Wavelength bandwidth	nm	$\lambda_c \pm 40$	
Features		1 × 2	2 × 2
Additional loss	dB	≤ 0.6	≤ 0.8
Consistency	dB	≤ 0.4	≤ 0.6
Split ratio		1:99 ~ 50:50	
Return loss	dB	≥ 50	≥ 50
Extinction Ratio	dB	≥ 20	≥ 18
Maximum withstand power	mW	300	
Operating temperature	°C	-5 to +70	
storage temperature	°C	-40 to +85	
Package size	mm	$\varnothing 2.5 \times L16 / \varnothing 2.0 \times L15$	
Fiber type		SMF-28 or PM Panda fiber	

Micro Faraday Rotating Mirror

The Faraday rotating mirror rotates the polarization of the incident light by 90 degrees. Our newly designed Faraday rotating mirrors have smaller dimensions, better optical performance and higher reliability.



Features:

- I Small size package $\phi 2.5 \times 8 \text{mm}$
- I low insertion loss
- I Low TDL, low WDL, low PDL.
- I High stability and reliability

Applications:

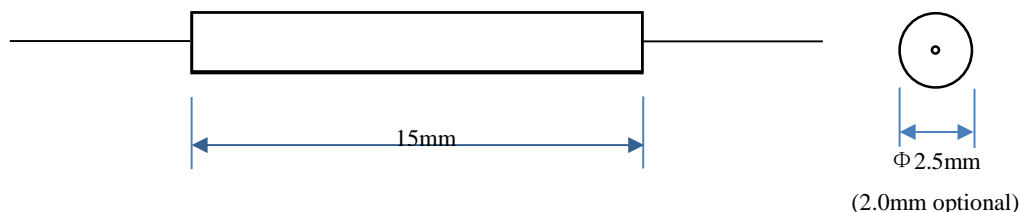
- I EDFA
- I Optical communication system
- I CATV system
- I Fiber laser
- I Optical sensing system

Specifications:

Specifications		
Parameter	Unit	Value
Center Wavelength (λ_c)	nm	1310 or 1550
Operating Wavelength Range	nm	$\lambda_c \pm 15$
Faraday rotation angle @ 23°C	°	90 ± 1
Max. Insertion Loss	dB	0.6
PDL	dB	0.1
Power handling	mw	< 500
Min. Packaging size	dB	$\phi 2.5 \times 8 \text{mm}$
Max. Tensile Load	N	5
Operating Temperature	°C	-5 to +70
Storage Temperature	°C	-40 to +85
Fiber Type		SM fiber or PM Panda fiber

Micro fiber Isolator

Fiber optic isolator have been widely used in the field of optical communication and optical sensing. We design and manufacture micro-miniature isolator that achieve the world's smallest size while maintaining excellent optical performance and high reliability.



Features:

- I Compact package $\varphi 2.5 \times 15\text{mm}$ (optional $\varphi 2.0 \times 15\text{mm}$)
- I low insertion loss
- I Low TDL, low WDL, low PDL
- I High stability and reliability

Applications:

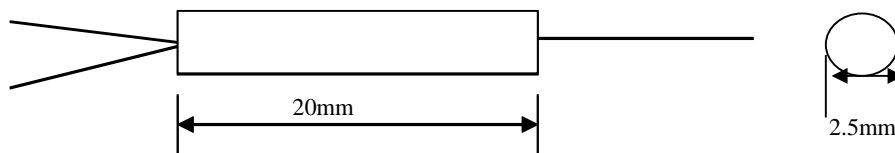
- I EDFA
- I Optical communication system
- I CATV system
- I Fiber laser
- I Optical fiber sensing system

Specifications:

Specifications	Unit	Parameters	
Center wavelength	nm	1310 or 1550	
Wavelength bandwidth	nm	$\lambda_c \pm 15$	
Features		Single Stage	Dual Stage
Insertion loss	dB	≤ 0.4	≤ 0.6
Isolation @all wave and temp. range	dB	≥ 20	≥ 40
Polarization dependent loss	dB	≤ 0.1	
Temperature dependent loss	dB	≤ 0.1	
Polarization mode dispersion	ps	< 0.1	
Extinction ratio @ polarization separator	dB	> 26	
Power margin	mw	< 500	
Return loss	dB	≥ 50	≥ 55
Package size	dB	$\varphi 2.5 \times 15\text{mm} / 2.0 \times 15\text{mm}$	
Operating temperature	$^{\circ}\text{C}$	-5 to $+70$	
storage temperature	$^{\circ}\text{C}$	-40 to $+85$	
Fiber type		SM fiber or PM Panda fiber	

Micro Polarization Circulator

Micro Polarization Circulator Widely used in the field of optical fiber sensing.



Features:

- I High reliability
- I Low insertion loss
- I High return loss
- I High extinction ratio

Applications:

- I Optical amplifier
- I Optical fiber communication system
- I Optical sensing field

Specifications:

Specification	Unit	Min.	Typical	Max.
Working wavelength	nm	1310/1550±30		
Insertion loss (full temperature)	dB		0.6	0.8
Isolation (full temperature)	dB	20	22	
Extinction ratio (full temperature)	dB	18	20	
Return loss (full temperature)	dB		≥ 55	
Directional (full temperature)	dB		≥ 55	
Maximum power	mW	500		
Fiber type	SMF PMF or Specify			
Operating temperature	°C	-40 to 70		
storage temperature	°C	-40 to 85		
Package size	mm	Φ2.5x L20		

Micro gain flattening filter

Micro gain flattening filter applied in the optical fiber amplifier, Television and fiber-optic Laser etc.

Features:

- I Low insertion loss
- I Low PDL & WDL
- I Spectral gain flat

Applications:

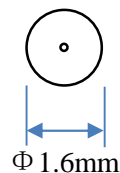
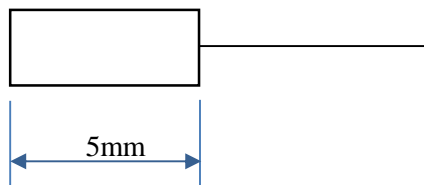
- I optical fiber amplifier
- I Wavelength division multiplexing system
- I cable television
- I fiber-optic laser

Specifications:

Specifications	Unit	Parameters
Wavelength range	nm	1530~1565/1570~1610
Peak insertion loss	dB	0.7
Correction error	dB	0.6
Temperature Coefficient	nm/°C	0.006
Polarization dependent loss	dB	0.1
Return loss	dB	50
power	mW	500
Operating temperature	°C	-5 to +70
storage temperature	°C	-40 to +85
Package size	mm	Φ2.5*15

Micro fiber optic mirror

The compact fiber optic mirror is uniquely designed with very high reflectivity and low temperature sensitivity for fiber sensing applications.



Features:

- I Small size $\phi 1.6 \times 5\text{mm}$
- I Customize fiber type
- I Wide spectral range, high reflectivity
- I High reliability and stability

Applications:

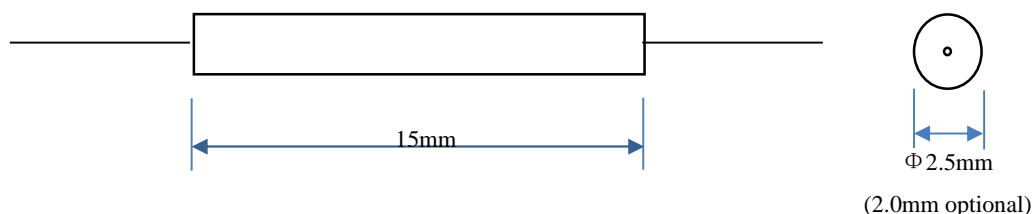
- I ASE Optic source
- I Fiber optic galvanometer
- I Optical fiber sensing system

Specifications:

Parameter		Unit	Value
Center Wavelength (λ_c)	nm		1064nm, 1310nm, 1550nm
Operating Wavelength Range	nm		$\lambda_c \pm 40$
Max. Reflection Loss	dB		0.25
Variation over temperature	dB		< 0.1
Min. Extinction Ratio	dB		> 26
Fiber type			Single mode fiber or PM fiber
Fiber length	m		> 1.0
Dimension	mm		$\phi 1.6 \times 5$
Operation temperature	°C		-40 ~ 75
Storage temperature	°C		-45 ~ 85

Micro Inline Polarizer

An in-line polarizer converts natural light into linearly polarized light or enhances the extinction ratio of linearly polarized light. The polarizer is designed and manufactured by patented technology and has the smallest size in the world. The wavelength covers 400nm~2000nm, which can be widely used in optical fiber sensing systems and high-speed traffic systems.



Features:

- I Compact package $\varnothing 2.5 \times 15\text{mm}$ ($\varnothing 2.0 \times 15\text{mm}$ optional)
- I low insertion loss
- I Low TDL, low WDL, low PDL
- I High stability and high reliability

Applications:

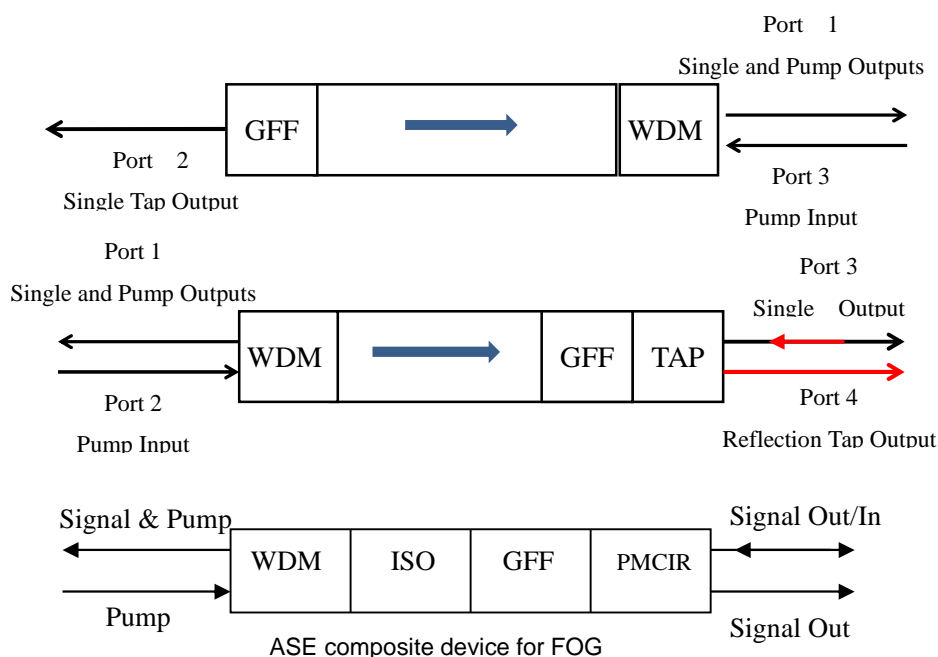
- I EDFA
- I Optical communication system
- I CATV system
- I Fiber laser
- I Optical fiber sensing system

Specifications	Unit	Parameters
Center wavelength (λ_c)	nm	405nm, 532nm.....1310nm, 1550nm, 2000nm
Wavelength bandwidth	nm	$\lambda_c \pm 30$
Insertion loss	dB	≤ 0.5
Extinction Ratio	dB	≥ 28
Return loss	dB	≥ 55
Power margin	mw	500
Package size	dB	2.5 X 15mm (2.0 X 15mm)
Operating temperature	°C	-5 to +70
storage temperature	°C	-40 to +85
Fiber type		SM fiber or PM Panda fiber

Micro fiber Composite Device

In the optical path design of a typical EDFA, ASE source, several passive components are typically included: Tap, Isolator, WDM, GFF. Our composite devices are designed with a unique design that achieves a three-in-one or four-in-one design intent, including GFF+ ISO + WDM, WDM + ISO + GFF + TAP and WDM + ISO + GFF + PMCIR, which can be extremely Reduce overall package size and simplify production processes.

Our original ultra-small 2in1 and 3in1 devices have achieved the industry's smallest package size (φ2.5 X 20mm) and excellent performance.



Features:

- I Smaller size
- I Fiber type is optional
- I Excellent optical performance
- I High stability and high reliability

Applications:

- I Small size EDFA
- I Small size ASE light source

Specifications:

3in1 WDM+ISO+GFF

Specifications		Unit	Typical	Max.
Insertion Loss	Pump Channel	dB		0.6
	Signal Channel	dB	1.2	1.6
Return loss (full temperature)		dB	55dB	
TDL (full temperature)		dB	0.2	
PDL (full temperature)		dB	0.15	
PMD (full temperature)		ps	0.1	
Operating temperature		°C	-40 ~ 70	
storage temperature		°C	-45 ~ 85	
Package size		mm	2.5×20	
Fiber type		Corning Hi1060		
		Corning G652D/G657A etc.		
		Fibercore SM1500		

4in1 WDM+ISO+GFF+TAP

Specifications		Unit	Typical	Max.
Insertion Loss	Pump Channel	dB		0.6
	Signal Channel	dB	4.2	4.5
	Tap Channel	dB	3.5	3.6
Return loss (full temperature)		dB	55dB	
TDL (full temperature)		dB	0.2	
PDL (full temperature)		dB	0.15	
PMD (full temperature)		ps	0.1	
Operating temperature		°C	-40 ~ 70	
storage temperature		°C	-45 ~ 85	
Package size		mm	2.5×20	
Fiber type		Corning Hi1060		
		Corning G652D/G657A etc.		
		Fibercore SM1500		

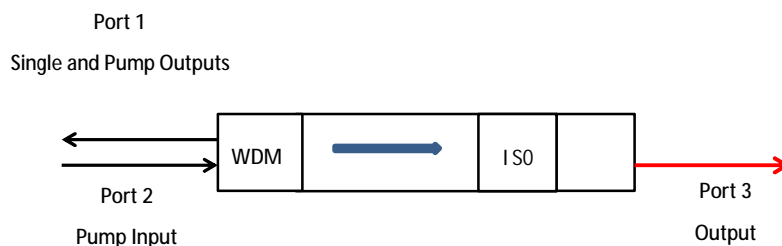
4in1 WDM+ISO+GFF+PMCI

Specifications		Unit	Typical	Max.
Insertion Loss	Signal Channel	dB	4.2	4.5
	CIR Channel	dB	1.0	1.2
Return loss (full temperature)		dB	55dB	
TDL (full temperature)		dB	0.2	
PDL (full temperature)		dB	0.15	
PMD (full temperature)		ps	0.1	
Operating temperature		°C	-40 ~ 70	
storage temperature		°C	-45 ~ 85	
Package size		mm	2.5×25	
Fiber type		Corning Hi1060		
		dB	55dB	
		dB	0.2	

Micro WDM + ISO Composite Device

In the optical path design of a typical EDFA, ASE source, several passive components are typically included: Tap coupler + Isolator + 980/1550 WDM + GFF + Isolator + Tap coupler. Our composite devices are designed with a unique design that achieves a three-in-one or four-in-one design intent, including TAP + ISO or WDM + ISO, which can be extremely Reduce overall package size and simplify production processes.

Our original ultra-small 2in1 and 3in1 devices have achieved the industry's smallest package size (φ2.5 X 20mm) and excellent performance.



ASE composite device for FOG

Features:

- I Smaller size
- I Fiber type is optional
- I Excellent optical performance
- I High stability and high reliability

Applications:

- I Small size EDFA
- I Small size ASE light source

Specifications:

2in1 WDM+ISO

Specifications		Unit	Parameter
Insertion Loss	Pump Channel@980nm	dB	0.6
	Signal Channel@1550nm	dB	1.2
Isolation@ 980nm		dB	>15
Isolation@1550nm		dB	>40
Return loss		dB	55dB
TDL (full temperature)		dB	0.2
PDL (full temperature)		dB	0.15
PMD (full temperature)		ps	0.05
Operating temperature		°C	-5 ~ 70
storage temperature		°C	-45 ~ 85
Package size		mm	2.5×20
Fiber type		Corning Hi1060	
		Corning G652D/G657A etc.	
		Fibercore SM1500	

Fiber Grating & Sensor

We can provide the full range of fiber grating and fiber grating sensors, high measurement accuracy, long-term stability, anti-mechanical fatigue and convenient installation. They can be widely used in aerospace, bridge tunnel, subway, electric power, petroleum, construction, Monitoring areas such as mines and natural disasters.

Features:

- I High measurement accuracy
- I long-term stability
- I Anti-mechanical fatigue and convenient installation

I Optical fiber sensing

I Telecommunication

I Aerospace

I Bridge tunnel

I Subway

I Electric power

I Petroleum

Applications:

- I Fiber gas detection system
- I Passive device production testing

Specifications:

Ordinary Grating technical parameters:

Specification	Min.		Typical	Max.
Grating length (mm)	2	5	10	20
Center wavelength (nm)	1510		1550	1590
Reflectivity(%)	1		>80	99
3dB spectral width (nm)	1	0.6~0.7	< 0.3	0.1~0.15
Side mode suppression ratio (dB)	15		-	-
Temperature measurement range (°C)	-55		85	125
	-55		300	350
Temperature sensitivity factor (pm/°C)	-		10	-
Strain measurement range (με)	-		±10000	-
Strain sensitivity coefficient (pm/με)	-		1.2	-
Tensile strength screening (kpsi)	75 / 150 / 200			
Fiber type	9/125 SMF, Acrylate or Polyimide			
Pigtail length (m)	-		1	-
Connector type	FC/APC, FC/PC			

Fiber grating Array Technical parameters:

Specification	Min.	Typical	Max.
Grating length (mm)	1		40
Center wavelength (nm)	1510	1550	1590
Reflectivity(%)	1	>80	99
3dB spectral width (nm)	-	< 0.3	-
Side mode suppression ratio (dB)	15	-	-
Temperature measurement range (°C)	-55	85	125
	-55	300	350
Strain measurement range (με)	-	±10000	-

Tensile strength screening (kpsi)	Single point 100 / 150, overall 70		
Fiber type	9/125 SMF, Acrylate or Polyimide		
Pigtail length (m)	-	1	-
Connector type	FC/APC, FC/PC		

Polymer material packaging strain sensor technical parameters:

Specification	Min.	Typical	Max.
Number of sensor arrays	1	-	40 (customized)
Center wavelength (nm)	1510	-	1590
Reflectivity(%)	1	>80	99
3dB spectral width (nm)	-	<0.3	-
Side mode suppression ratio (dB)	15	-	-
Strain measurement range (με)	±5000 / ±10000		
Strain sensitivity coefficient (pm/με)	-	1.2	-
Strain test linearity (%)	-	-	0.5
Strain test hysteresis error (%)	-	-	0.5
Strain test repeatability (%)	-	-	0.5
Operating temperature range (°C)	-55	-	85
	-55	-	125
Temperature sensitivity factor (pm/°C)	-	10	-
Base material	Polymer Materials		
Dimensions (mm × mm × mm)	25×5×1		
Installation method	Glue stick		
Fiber type	9/125 SMF, Acrylate or Polyimide, 0.9mm Glass Casing		
Pigtail length (m)	-	1	-
Connector type	FC/APC, FC/PC		

Probe temperature sensor technical parameters:

Specification	Min.	Typical	Max.
Center wavelength (nm)	1510	-	1590
Reflectivity(%)	1	>80	99
3dB spectral width (nm)	-	<0.3	-
Side mode suppression ratio (dB)	15	-	-
Temperature measurement range (°C)	-55	-	85
	-55	-	275
Temperature sensitivity factor (pm/°C)	-	10	-
Temperature test linearity (%)	-	-	0.5
Temperature test hysteresis error (%)	-	-	0.5
Temperature test repeatability (%)	-	-	0.5
Base material	Stainless Steel		
Dimensions (Φ×L) (mm)	30×2		
Fiber type	9/125 SMF, Polyimide, 0.9mm Glass Casing		
Pigtail length (m)	-	1	-
Connector type	FC/APC, FC/PC		

Expanded Beam Tactical Fiber Optic Cable Assembly (Junior Style meet M83526 Interface)

Junior expanded beam fiber optical connectors have been designed for use in the most demanding harsh environment applications including military tactical communications, outside broadcast, petrochemical plant, mining, and offshore systems. The connectors are terminated using an epoxy-polish ferrule termination process with standard fiber optic termination tools and equipment. The terminated ferrules are simply inserted into the expanded beam housing and fixed in place via a spring and cover-plate. Ferrule alignment to the lense is achieved by our unique optical alignment technology with ultra-low insertion loss and very high return loss. In the event of the connector suffering severe damage in use, the connector design enables replacement of the expanded beam insert, connector front body and grip ring without the need to re-terminate the fibers.

The Junior expanded beam connectors offer high performance, flexibility and cost effectiveness, combined with a simple termination process allowing rapid in-field termination and repair.

Features:

- I Neutral Ferrule locked structure with high reliability and stability
- I Designed by neutral structure and does not distinguish between hermaphrodite connector, Plug and socket
- I Wall-seal connect structure, can be coupled with 1 or 2 or 4 fibers in a time
- I Designed by Reinforced casing with 316L stainless steel
- I Use G-lens to expand the beam size

Junior 4CH plug- Junior 4CH plug Assembly



Specifications

Items	Parameter	Note
Insertion Loss	SM fiber @1310/1550nm: -1.3dB Max. (Typical -0.6dB) MM fiber @850/1310nm: -0.8dB Max. (Typical -0.35dB)	
Return Loss	> 50dB (Typical 55dB) for SM > 20dB for Multimode	
Durability	3000 Matings Minimum	
Temperature Range	-45 to +85°C	
Water Immersion	15m for 24 hours (Plug & Bulkhead, Mated & Open Face)	
Free Fall Resistance	500 Falls from 1.2m height	
Vibration	20-500Hz, 3 directions, 0.75mm amplitude@ 10g acceleration	
Shock	50g 11ms Half Size	
Crush Resistance	6.7kN	
Corrosion Resistance	500 Hours Salt Spray	
Cable Retention	1500N (Cable Dependant)	
Connector Shell Material / Color	Black anodised Aluminum or Stainless Steel Grip & Boot: Black or Olive Green	