



Collimator with Single or Dual Fibers

Optical Transmitters and Receivers for optical communications

The EM4 Fiber collimator module is designed for both single and dual fiber applications with a large clear aperture and diffraction-limited wavefront error.

The module contains a single/dual fiber assembly with precision aligned lens. The package is bonded with materials that meet outgassing standards for space operations. The module can be utilized as both a transmitter and receiver. The device meets performance requirements in vacuum conditions.



Features

- High reliability/ durability
- 2W power handling capacity
- High coupling efficiency
- High polarization extinction ratio
- Near-Gaussian output beam

Applications

- Space communications
- Aerospace & Defense
- Multiplex systems





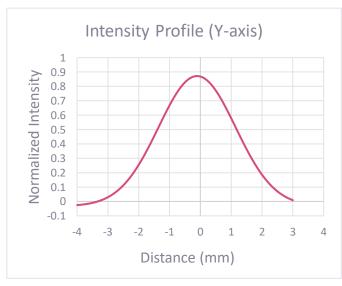
Optical Performance Characteristics

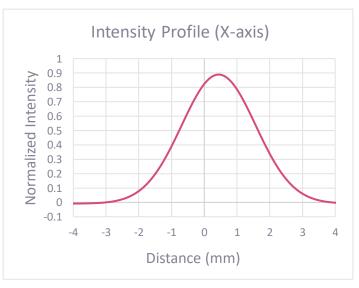
	Symbol	Min	Typical	Max	Unit
Wavelength range	λ		1550		nm
Optical input power	P _{in}		.5	2	W
Coupling efficiency	CE	70	75	78	%
Polarization extinction ratio	PER	20	22	25	dB
Wavefront error (measured @ 1550nm &25°C)	WFE		.022	.025	waves
Beam Waist	ω		10		mm
Lens focal length	f		50		mm
Return loss	RL	-55	-60		dB
Dual fiber field angle separation	θ	n/a	13	17	mrad
Survival temperature	T_{sv}	-40		85	°C
Operating temperature	T _{op}		25		°C
Weight	W		.2		lbs

^{*}Customization available upon request

Performance data

Beam profile at output of collimator:

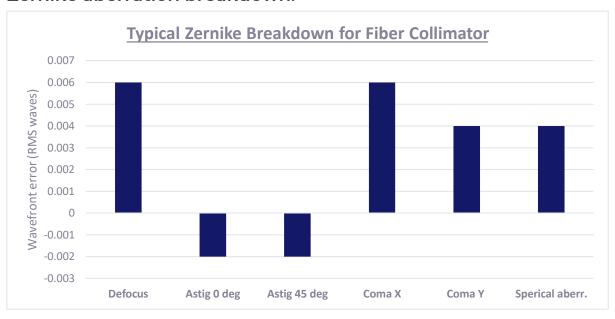








Zernike aberration breakdown:



Ordering information

r code					1	2							3		4		5
М	5	9	0	-	0	0	-	1	5	5	0	-	1	-	0	-	0
Fiber ty	ber type channel 1 SM								PM								
Code				0						1							
Fiber ty	pe cha	nnel	No Fiber						SM				PM				
Code				0					1				2				
Fiber Le	ength			1 meter min, 2 meter max													
Code				1													
Connec	tor ¹			FC/APC					FC/PC			Bare fiber					
Code			0				1			2							
Strain F	Relief B	oot		Boot included						No Boot included							
Code				0					1								
	Fiber ty 2 Code Fiber Le Code Code Code Strain F	Fiber type character	M 5 9 Fiber type channel 1 Code Fiber type channel 2 Code Fiber Length Code Connector ¹ Code Strain Relief Boot	M 5 9 0 Fiber type channel 1 Code Fiber type channel 2 Code Fiber Length Code Connector¹ Code Strain Relief Boot	M 5 9 0 - Fiber type channel 1 Code Fiber type channel 2 Code Fiber Length Code Connector 1 F Code Strain Relief Boot	M 5 9 0 - 0 Fiber type channel 1 Code Fiber type channel No Fiber 2 Code 0 Fiber Length Code Connector 1 FC/APC Code 0 Strain Relief Boot Boot	M 5 9 0 - 0 0 Fiber type channel 2 Code 0 No Fiber 2 Code 0 0 Fiber Length Code Connector 1 FC/APC Code 0 Strain Relief Boot Boot included	M 5 9 0 - 0 0 - Fiber type channel 0 No Fiber 2 Code 0 O Fiber Length Code 0 FC/APC Code Code O Strain Relief Boot Boot included	M 5 9 0 - 0 0 - 1 Fiber type channel 2 Code 0 No Fiber 2 0 1 n 1 n Code 3 1 n Code 3	M 5 9 0 - 0 0 - 1 5 Fiber type channel 2 0 No Fiber 2 2 2 2 1 meter r 1 meter r Code 0 5 5 1 meter r 1 meter r	M 5 9 0 - 0 0 - 1 5 5 Fiber type channel O O SM S	M 5 9 0 - 0 0 - 1 5 5 0 Fiber type channel 2 O SM SM	M 5 9 0 - 0 0 - 1 5 5 0 - Fiber type channel 0 No Fiber SM SM	M 5 9 0 - 0 0 - 1 5 5 0 - 1 Fiber type channel Code 0 1 SM SM	M 5 9 0 - 0 0 - 1 5 5 0 - 1 - Fiber type channel 2 No Fiber SM SM	M 5 9 0 - 0 0 - 1 5 5 0 - 1 - 0 Fiber type channel 2 No Fiber SM PM Code 0 1 2 Fiber Length 1 meter min, 2 meter max Code 1 2 Connector ¹ FC/APC FC/PC Bare fib Code 0 1 2 Strain Relief Boot Boot included No Boot included	M 5 9 0 - 0 0 - 1 5 5 0 - 1 - 0 - Fiber type channel 2 No Fiber SM PM Code 0 1 2 Fiber Length 1 meter min, 2 meter max Code 1 2 Connector ¹ FC/APC FC/PC Bare fiber Code 0 1 2 Strain Relief Boot Boot included No Boot included

For further information

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