

SM COLLIMATORS

Low Power Single-Mode (SM) Fiber Optic Collimators

PRODUCT DATASHEET

G&H SM collimators offer low optical loss and high reliability across a wide range of wavelengths.

Fiber optic collimators are components designed to collimate/focus light exiting a fiber to a desired optical beam.

G&H's SM low power fiber optic collimators offer high reliability with low optical loss. Ideal for use in fiber sensors and fiber lasers.

The fiber collimators are available in single fiber and dual fibers with operating center wavelengths starting at 450 nm, 520 nm, 630 nm up to 1064 nm, 1310 nm, 1550 nm, and 2000 nm.



Key Features

- Low optical loss
- High reliability

Applications

- Fiber sensors
- Fiber lasers



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PRODUCT CODE: SCOL

Datasheet revision no. 1.1

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.

January 2020

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Optical Specifications

Low Power SM Fiber Collimator

Parameter	Value									
Center wavelength	450, 473 nm	520, 532 nm	630 nm	780 nm	850 nm	980 nm	1064 nm	1310 nm	1550 nm	2000 nm
Operating bandwidth	±15 nm	±15 nm	±15 nm	±15 nm	±20 nm	±20 nm	±20 nm	±40 nm	±40 nm	±40 nm
Insertion loss at WD ¹	≤2.5 dB	≤2.5 dB	≤1 dB	≤0.55 dB	≤0.55 dB	≤0.5 dB	≤0.5 dB	≤0.35 dB	≤0.3 dB	≤0.5 dB
Return loss ¹	≥50 dB									
Working distance	5 mm or customer request									
Power handling	≤0.1 W	≤0.3 W	≤0.3 W	≤0.3 W			≤0.5 W			
Fiber type (fiber code)	460-HP (62)		630HP (79)	HI-780C (06)		HI1060 (27)		SMF-28 (03)		SM- 1950 (68)
Operation temperature	-5 - +70°C									
Storage temperature	-40 - +85°C									
Polarization dependent loss	≤0.15 dB									
Dimensions	Glass tube Ø2.78x8 mm, Ø2.85x8 mm									
	Gilded tube Ø3.2x10 mm, Ø1.3x8 mm (figure 2)									
	Metal tube Ø2.4x12 mm (figure 2)									

¹ For each connector added IL is 0.3 dB (1310 - 1550 nm), 0.5 dB (980 - 1060 nm), 0.8 dB (780 - 850 nm), or 1.5 dB (630 nm) higher, RL is 5dB lower per.

Mechanical Specifications

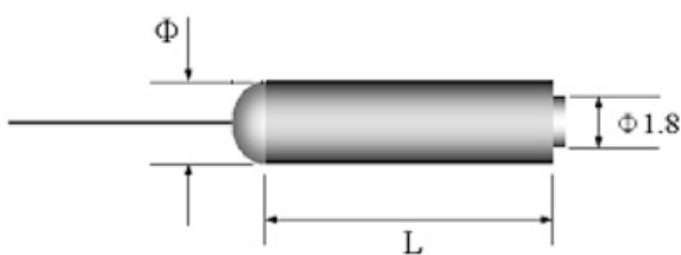


Figure 1

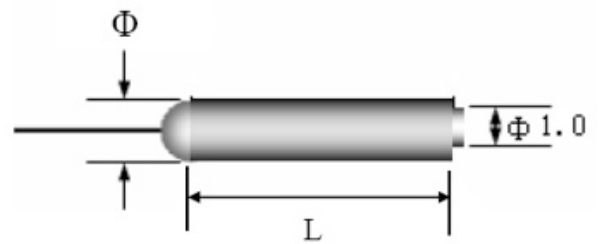


Figure 2

Order code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
SCOL	-		-		-		-		1	-		-
① Stage type	Single stage						Dual stage					
Code	S						D					
② Lens type	C-lens						G-lens					
Code	C						G					
③④ Fiber type	SM1950	SMF-28	HI-1060	HI-780(c)	630-HP	460-HP						
Code	68	03	27	06	79	62						
⑤⑥ Wavelength examples	450 nm	630 nm	780 nm	1310 nm	1550 nm	2000 nm						
Code	45	63	78	31	55	00						
⑦ Working distance	5 mm						20 mm etc					
Code	05						20					
⑧ Package code	Glass tube Ø2.78x8 mm (250 µm bare fiber)	Glass tube Ø2.78x8 mm (900 µm bare fiber)	Glass tube Ø2.85x8 mm (250 µm bare fiber)	Glass tube Ø2.85x8 mm (900 µm bare fiber)	Gilded tube, Ø3.2x10 mm (250 µm bare fiber)							
Code	1	A	2	B	3							
⑧ Package code continued	Gilded tube, Ø3.2x10 mm (900 µm bare fiber)	Gilded tube, Ø1.3x8 mm (250 µm bare fiber)	Gilded tube, Ø1.3x8 mm (900 µm bare fiber)	Metal tube Ø2.4x12 mm (250 µm bare fiber)	Metal tube Ø2.4x12 mm (900 µm bare fiber)							
Code	C	4	D	5	E							
⑥ Lead length ¹	1 m			1.5 m			etc					
Code	10			15			etc					
⑥⑦ Connector style	None	MU	ST	FC	SC	LC	FC/ APC	SC/ APC	LC/ APC			
Code	0	1	2	3	44	5	6	7	A			

Specifications are based on non-connectorized products. For connectorized specifications, please contact sales for details. Custom optical & mechanical configurations are available upon request.



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LOW POWER SINGLE-MODE FIBER OPTIC COLLIMATORS

Datasheet revision no. 1.1

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January 2020

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SM COLLIMATORS

High Power Single-Mode (SM) Fiber Optic Collimators

PRODUCT DATASHEET

G&H high power SM collimators offer low optical loss and high reliability across a wide range of wavelengths up to 10 W.

Fiber optic collimators are components designed to collimate/focus light exiting a fiber to a desired optical beam.

G&H's SM high powered fiber optic collimators offer high reliability with low optical loss. Ideal for use in fiber sensors and fiber lasers.

The fiber collimators are available in several single mode fiber types with operating center wavelengths starting at 630 nm, 780 nm up to 1064 nm, 1310 nm, 1550 nm, and 2000 nm. Power handling options from 1 to 10 W or customer requested.



Key Features

- Low optical loss
- High reliability

Applications

- Fiber sensors
- Fiber lasers



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PRODUCT CODE: HSCO

Optical Specifications

High Power SM Fiber Collimator

Parameter	Value							
Center wavelength	630 nm	780 nm	850 nm	980 nm	1064 nm	1310 nm	1550 nm	2000 nm
Operating bandwidth	±15 nm	±15 nm	±20 nm	±20 nm	±20 nm	±40 nm	±40 nm	±40 nm
Insertion loss at WD	≤1 dB	≤0.55 dB	≤0.55 dB	≤0.5 dB	≤0.5 dB	≤0.35 dB	≤0.3 dB	≤0.5 dB
Return loss	≥50 dB							
Working distance	5, 20 mm or customer request							
Power handling	1, 2 W	1, 2, 5, 10 W or customer request				1, 2, 5, 10 W or customer request		
Fiber type (fiber code)	630HP (79)	HI-780C (06)	HI1060 (27)		SMF-28 (03)	SM-1950 (68)		
Operation temperature	-5 - +70°C							
Storage temperature	-40 - +85°C							
Polarization dependent loss	≤0.15 dB							
Dimensions	Gilded tube Ø3.2x10 mm							

1 No connector is recommended.

2 250 µm bare fiber only.

Order code		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
HSCO	-			-			-			-	3 1 - - - 0
① ②	Power handling	1 W				5 W (etc)					
	Code	01				05 (etc)					
③ ④	Fiber type	SM1950	SMF-28	HI-1060	HI-780(c)	630-HP	460-HP				
	Code	68	03	27	06	79	62				
⑤ ⑥	Wavelength examples	450 nm	630 nm	780 nm	1310 nm	1550 nm	2000 nm (etc)				
	Code	45	63	78	31	55	00 (etc)				
⑦ ⑧	Working distance	5 mm				20 mm etc					
	Code	05				20					
⑨ ⑩	Lead length	1 m		1.5 m		etc					
	Code	10		15		etc					

Specifications are based on non-connectorized products. For connectorized specifications, please contact sales for details. Custom optical and mechanical configurations are available upon request.



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HIGH POWER SINGLE MODE FIBER OPTIC COLLIMATORS

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PM COLLIMATORS

Low Power Polarization-Maintaining (PM) Fiber Optic Collimators

PRODUCT DATASHEET

G&H PM collimators offer low optical loss and high reliability across a wide range of wavelengths.

Fiber optic collimators are components designed to collimate/focus light exiting a fiber to a desired optical beam.

G&H's PM low power fiber optic collimators offer high reliability with low optical loss. Ideal for use in fiber sensors and fiber lasers.

The fiber collimators are available in single fiber and dual fibers with operating center wavelengths starting at 450 nm, 520 nm, 630 nm up to 1064 nm, 1310 nm, 1550 nm, and 2000 nm.



Key Features

- Low optical loss
- High reliability

Applications

- Fiber sensors
- Fiber lasers



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PRODUCT CODE: PCOL

Datasheet revision no. 1.1

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Optical Specifications

Low Power PM Fiber Collimator

Parameter	Value									
Center wavelength	450, 473 nm	520, 532 nm	630 nm	780 nm	850 nm	980 nm	1064 nm	1310 nm	1550 nm	2000 nm
Operating bandwidth	±15 nm	±15 nm	±15 nm	±15 nm	±20 nm	±20 nm	±20 nm	±40 nm	±40 nm	±40 nm
Insertion loss at WD	≤2.5 dB	≤2.5 dB	≤1 dB	≤0.55 dB	≤0.55 dB	≤0.5 dB	≤0.5 dB	≤0.35 dB	≤0.3 dB	≤0.5 dB
Extinction ratio ¹	≥18 dB	≥18 dB	≥20 dB		≥23 dB					
Return loss ¹	≥50 dB									
Working distance	5 mm or customer request									
Power handling	≤0.1 W	≤0.3 W	≤0.3 W	≤0.3 W				0.5 W		
Fiber type	Refer to ordering code table									
Operation temperature	-5 - +70°C									
Storage temperature	-40 - +85°C									
Dimensions	Glass tube Ø2.78x8 mm, Ø2.85x8 mm									
	Gilded tube Ø3.2x10 mm, Ø1.3x8 mm (figure 2)									
	Metal tube Ø2.4x12 mm (figure 2)									

¹ For each connector added IL is 0.3 dB (1310 - 1550 nm), 0.5 dB (980 - 1060 nm), 0.8 dB (780 - 850 nm), or 1.5 dB (630 nm) higher, RL is 5dB lower and ER is 2 dB (2000 nm, 1310 - 1550 nm, 980 - 1060 nm) or 3dB (780 - 850 nm, 630 nm) lower per connector added. The default connector key is aligned to slow axis.

Mechanical Specifications

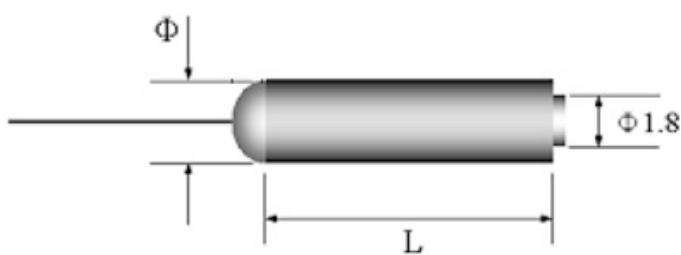


Figure 1

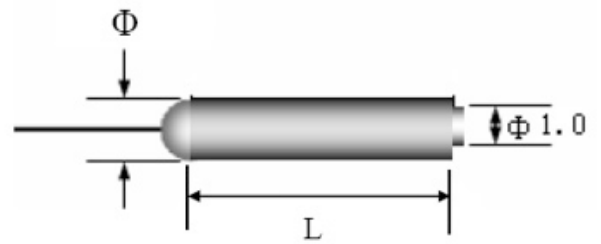


Figure 2



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Order code	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫
PCOL	-									X	-	
①	Fiber number	Single fiber					Dual fiber					
	Code	S					D					
②	Lens type	C-lens					G-lens					
	Code	C					G					
③④	Fiber type	PM460-HP	PM630-HP	PM780C-A	SM98-PS-U25	SM13-PS-U25	SM15-PS-U25					
	Code	65	66	89	84	86	88					
⑤⑥	Wavelength examples	450 nm	630 nm	780 nm	1310 nm	1550 nm	2000 nm					
	Code	45	63	78	31	55	00					
⑦	Working distance	5 mm					20 mm etc					
	Code	05					20					
⑨	Package code	Glass tube Ø2.78x8 mm (250 µm bare fiber)	Glass tube Ø2.78x8 mm (900 µm bare fiber)	Glass tube Ø2.85x8 mm (250 µm bare fiber)	Glass tube Ø2.85x8 mm (900 µm bare fiber)	Gilded tube, Ø3.2x10 mm (250 µm bare fiber)	Gilded tube, Ø3.2x10 mm (900 µm bare fiber)					
	Code	1	A	2	B	3	C					
⑨	Package code continued	Gilded tube, Ø1.3x8 mm (250 µm bare fiber)	Gilded tube, Ø1.3x8 mm (900 µm bare fiber)	Metal tube Ø2.4x12 mm (250 µm bare fiber)	Metal tube Ø2.4x12 mm (900 µm bare fiber)	Glass tube Ø2.78x9 mm (1.8 mm OD lens) (250 µm bare fiber)	Glass tube Ø2.78x9 mm (1.8 mm OD lens) (900 µm bare fiber)					
	Code	4	D	5	E	6	F					
⑨	Package code continued	Glass tube Ø1.3x8 mm (1 mm OD lens) (250 µm bare fiber)	Glass tube Ø1.3x8 mm (1 mm OD lens) (900 µm bare fiber)	Metal tube Ø3.2x10 mm (1.8 mm OD lens) (250 µm bare fiber)	Metal tube Ø3.2x10 mm (1.8 mm OD lens) (900 µm bare fiber)	Metal tube Ø1.7x7 mm (1 mm OD lens) (250 µm bare fiber)	Metal tube Ø1.7x7 mm (1 mm OD lens) (900 µm bare fiber)					
	Code	7	G	8	H	9	I					
⑩	Lead length¹	1 m			1.5 m			etc				
	Code	10			15			etc				
⑪⑫	Connector style	None			FC			FC/APC				
	Code	0			3			6				

Specifications are based on non-connectorized products. For connectorized specifications, please contact sales for details. Custom optical and mechanical configurations are available upon request.

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High Power Polarization-Maintaining (PM) Fiber Optic Collimators

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Fiber optic collimators are components designed to collimate/focus light exiting a fiber to a desired optical beam.

G&H's PM high powered fiber optic collimators offer high reliability with low optical loss. Ideal for use in fiber sensors and fiber lasers.

The fiber collimators are available in several polarization maintaining fiber types with operating center wavelengths starting at 630 nm, 780 nm up to 1064 nm, 1310 nm, 1550 nm, and 2000 nm.



Key Features

- Low optical loss
- High reliability

Applications

- Fiber sensors
- Fiber lasers



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Optical Specifications

High power PM fiber collimator

Parameter	Value							
Center wavelength	630 nm	780 nm	850 nm	980 nm	1064 nm	1310 nm	1550 nm	2000 nm
Operating bandwidth	±15 nm	±15 nm	±20 nm	±20 nm	±20 nm	±40 nm	±40 nm	±40 nm
Insertion loss at WD	≤1 dB	≤0.55 dB	≤0.55 dB	≤0.5 dB	≤0.5 dB	≤0.35 dB	≤0.3 dB	≤0.5 dB
Extinction ratio	≥20 dB		≥23 dB					
Return loss	≥50 dB							
Working distance	5, 20 mm or customer request							
Power handling	1, 2 W	1, 2, 5, 10 W or customer request				1, 2, 5, 10 W or customer request		
Fiber type	Refer to order code table							
Operation temperature	-5 - +70°C							
Storage temperature	-40 - +85°C							
Dimensions	Gilded tube Ø3.2x10 mm,							

1 No connector is recommended.

2 250 µm bare fiber only.

