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Fibers & Tools



Fibers & Tools

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Fibers and Probes

Assembly Identifiers

Our optical fiber and probe assemblies are clearly and cleanly labeled in three ways so that you always know the following about your assembly: its name, its core diameter, and its most efficient wavelength region.

The **BOOT COLLAR** color corresponds to the assembly's fiber type (and its most efficient wavelength range).

A **WHITE PRODUCT LABEL** on an assembly includes the product name item code.



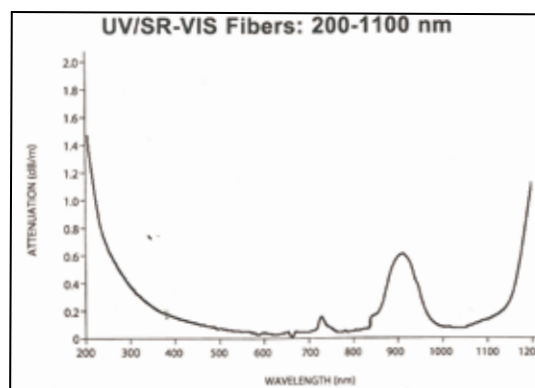
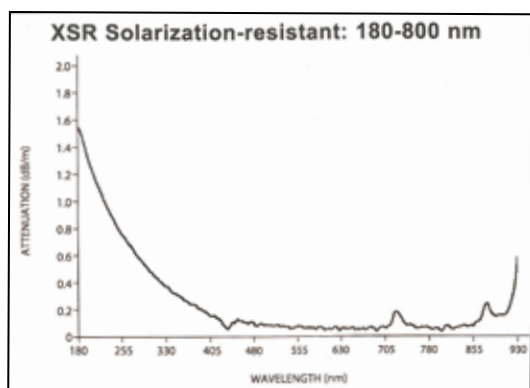
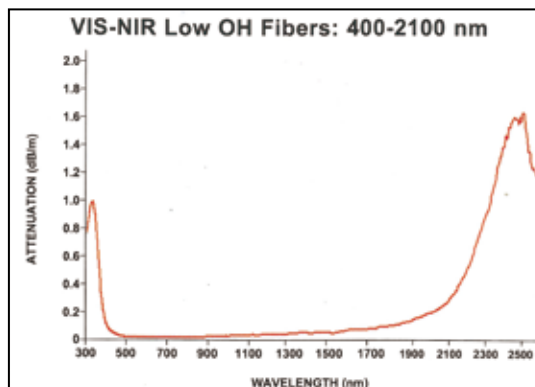
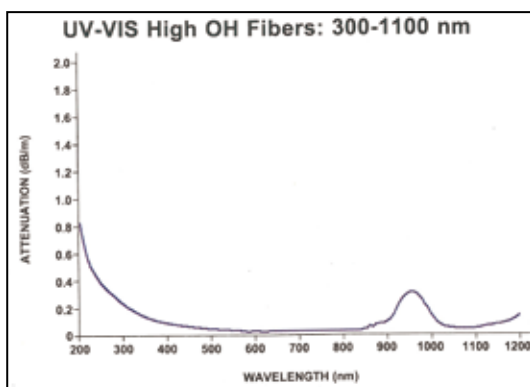
Band Colors

The assembly's band color lets you know the fiber type and the most efficient wavelength range in which your fiber will work.

A color band tells you the diameter fiber with which you are working.

8 μm	Purple
50 μm	Blue
100 μm	Green
200 μm	Yellow
300 μm	Gray
400 μm	Red
500 μm	Orange
600 μm	Brown
1000 μm	Clear

Boot Color	Fiber Type	Most Efficient Wavelength Range	Premium-grade Optical Fiber Assembly for each Fiber Type
Gray	UV-VIS XSR Solarization-resistant	180-800 nm	
Gray	UV/SR-VIS High OH content	200-1100 nm	
Blue	UV-VIS High OH content	300-1100 nm	
Red	VIS-NIR Low OH content	400-2100 nm	
Black	Fluoride	300-4500 nm	



Premium Grade Optical Fiber Assemblies

Our premium-grade fibers are durable, high quality fibers optimized for spectroscopy and enhanced with extra strain relief for use even in demanding environments. We have a full range of standard patch cords and can customize assemblies. Also available are assemblies (see table at bottom) consisting of multiple fibers stacked in a linear arrangement at one end to deliver light more efficiently into the spectrometer.

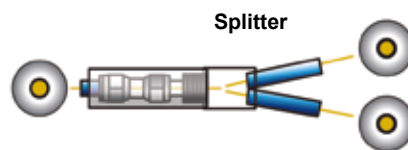
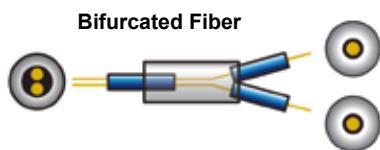


Wavelength Range	Item Code	Core Diameter	Buffer/Coating	Assembly Length	Jacketing	LTBR	STBR
UV-VIS High OH Content 300-1100nm	QP50-2-UV-VIS	50µm	Polyimide	2 M	Silicone Monocoil	4 cm	2 cm
	QP50-2-UV-BX	50µm	Polyimide	2 M	Stainless-steel BX	4 cm	2 cm
	QP100-2-UV-VIS	100µm	Polyimide	2 M	Silicone Monocoil	4 cm	2 cm
	QP100-2-UV-BX	100µm	Polyimide	2 M	Stainless-steel BX	4 cm	2 cm
	QP200-2-UV-VIS	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	QP200-2-UV-BX	200µm	Polyimide	2 M	Stainless-steel BX	8 cm	4 cm
	QP400-1-UV-VIS	400µm	Polyimide	1 M	Silicone Monocoil	16 cm	8 cm
	QP400-1-UV-BX	400µm	Polyimide	1 M	Stainless-steel BX	16 cm	8 cm
	QP400-2-UV-VIS	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
	QP400-2-UV-BX	400µm	Polyimide	2 M	Stainless-steel BX	16 cm	8 cm
	QP600-025-UV-VIS	600µm	Polyimide	0.25 M	Silicone Monocoil	24 cm	12 cm
	QP600-025-UV-BX	600µm	Polyimide	0.25 M	Stainless-steel BX	24 cm	12 cm
	QP600-1-UV-VIS	600µm	Polyimide	1 M	Silicone Monocoil	24 cm	12 cm
	QP600-1-UV-BX	600µm	Polyimide	1 M	Stainless-steel BX	24 cm	12 cm
	QP600-2-UV-VIS	600µm	Polyimide	2 M	Silicone Monocoil	24 cm	12 cm
	QP600-2-UV-BX	600µm	Polyimide	2 M	Stainless-steel BX	24 cm	12 cm
VIS-NIR Low OH content 400-2100nm	QP1000-2-UV-VIS	1000µm	Acrylate	2 M	Silicone Monocoil	40 cm	20 cm
	QP1000-2-VIS-BX	1000µm	Acrylate	2 M	Stainless-steel BX	40 cm	20 cm
	QP8-2-VIS-NIR	8µm	Acrylate	2 M	Silicone Monocoil	4 cm	2 cm
	QP50-2-VIS-NIR	50µm	Polyimide	2 M	Silicone Monocoil	4 cm	2 cm
	QP50-2-VIS-BX	50µm	Polyimide	2 M	Stainless-steel BX	4 cm	2 cm
	QP100-2-VIS-NIR	100µm	Polyimide	2 M	Silicone Monocoil	4 cm	2 cm
	QP100-2-VIS-BX	100µm	Polyimide	2 M	Stainless-steel BX	4 cm	2 cm
	QP200-2-VIS-NIR	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	QP200-2-VIS-BX	200µm	Polyimide	2 M	Stainless-steel BX	8 cm	4 cm
	QP400-1-VIS-NIR	400µm	Polyimide	1 M	Silicone Monocoil	16 cm	8 cm
	QP400-1-VIS-BX	400µm	Polyimide	1 M	Stainless-steel BX	16 cm	8 cm
	QP400-2-VIS-NIR	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
	QP400-2-VIS-BX	400µm	Polyimide	2 M	Stainless-steel BX	16 cm	8 cm
	QP600-025-VIS-NIR	600µm	Polyimide	0.25 M	Silicone Monocoil	24 cm	12 cm
	QP600-025-VIS-BX	600µm	Polyimide	0.25 M	Stainless-steel BX	24 cm	12 cm
	QP600-1-VIS-NIR	600µm	Polyimide	1 M	Silicone Monocoil	24 cm	12 cm
UV/SR-VIS High OH content 200-1100nm	QP600-1-VIS-BX	600µm	Polyimide	1 M	Stainless-steel BX	24 cm	12 cm
	QP600-2-VIS-NIR	600µm	Polyimide	2 M	Silicone Monocoil	24 cm	12 cm
	QP600-2-VIS-BX	600µm	Polyimide	2 M	Stainless-steel BX	24 cm	12 cm
	QP1000-2-VIS-NIR	1000µm	Acrylate	2 M	Silicone Monocoil	40 cm	20 cm
	QP1000-2-VIS-BX	1000µm	Acrylate	2 M	Stainless-steel BX	40 cm	20 cm
	QP200-2-SR-BX	200µm	Polyimide	2 M	Stainless-steel BX	8 cm	2 cm
	QP300-1-SR	300µm	Polyimide	1 M	Silicone Monocoil	12 cm	6 cm
	QP300-1-SR-BX	300µm	Polyimide	1 M	Stainless-steel BX	12 cm	6 cm
	QP400-025-SR	400µm	Polyimide	0.25 M	Silicone Monocoil	16 cm	8 cm
	QP400-025-SR-BX	400µm	Polyimide	0.25 M	Stainless-steel BX	16 cm	8 cm
	QP400-2-SR	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
	QP400-2-SR-BX	400µm	Polyimide	2 M	Stainless-steel BX	16 cm	8 cm
	QP600-025-SR	600µm	Polyimide	0.25 M	Silicone Monocoil	24 cm	12 cm
	QP600-025-SR-BX	600µm	Polyimide	0.25 M	Stainless-steel BX	24 cm	12 cm
	QP600-1-SR	600µm	Polyimide	1 M	Silicone Monocoil	24 cm	12 cm
	QP600-1-SR-BX	600µm	Polyimide	1 M	Stainless-steel BX	24 cm	12 cm
UV-VIS XSR Solarization-resistant 180-900nm	QP600-2-SR	600µm	Polyimide	2 M	Silicone Monocoil	24 cm	12 cm
	QP600-2-SR-BX	600µm	Polyimide	2 M	Stainless-steel BX	24 cm	12 cm
	QP115-025-XSR-BX	115µm	Aluminum	0.25 M	Stainless-steel BX	4 cm	2 cm
	QP115-1-XSR-BX	115µm	Aluminum	1 M	Stainless-steel BX	4 cm	2 cm
	QP115-2-XSR-BX	115µm	Aluminum	2 M	Stainless-steel BX	4 cm	2 cm
	QP230-025-XSR-BX	230µm	Aluminum	0.25 M	Stainless-steel BX	4 cm	2 cm
	QP230-1-XSR-BX	230µm	Aluminum	1 M	Stainless-steel BX	4 cm	2 cm
	QP230-2-XSR-BX	230µm	Aluminum	2 M	Stainless-steel BX	4 cm	2 cm
	QP455-025-XSR-BX	455µm	Aluminum	0.25 M	Stainless-steel BX	8 cm	4 cm
	QP455-1-XSR-BX	455µm	Aluminum	1 M	Stainless-steel BX	8 cm	4 cm
	QP455-2-XSR-BX	455µm	Aluminum	2 M	Stainless-steel BX	8 cm	4 cm
	QP600-025-XSR-BX	600µm	Aluminum	0.25 M	Stainless-steel BX	24 cm	12 cm
	QP600-1-XSR-BX	600µm	Aluminum	1 M	Stainless-steel BX	24 cm	12 cm
	QP600-2-XSR-BX	600µm	Aluminum	2 M	Stainless-steel BX	24 cm	12 cm



Bifurcated Optical Fiber Assemblies

Premium-grade bifurcated assemblies have two fibers in the common end of the assembly that break out into separate legs. Splitters comprise three fibers epoxied at the nexus of a Y-shaped assembly and have lower transmission efficiency than bifurcated fibers.



Wavelength Range	Item Code	Core Diameter	Buffer/Coating	Assembly Length	Jacketing	LTBR	STBR
Premium-grade Bifurcated Optical Fiber Assemblies							
VIS-NIR Low OH content 400-2100nm	QBIF50-VIS-NIR	50µm	Polyimide	2 M	Silicone Monocoil		
	QBIF200-VIS-NIR	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	QBIF200-NIR-BX	200µm	Polyimide	2 M	Stainless-steel BX	8 cm	4 cm
	QBIF400-VIS-NIR	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
	QBIF400-NIR-BX	400µm	Polyimide	2 M	Stainless-steel BX	16 cm	8 cm
	QBIF600-VIS-NIR	600µm	Polyimide	2 M	Silicone Monocoil	24 cm	12 cm
UV-VIS High OH Content 300-1100nm	QBIF600-NIR-BX	600µm	Polyimide	2 M	Stainless-steel BX	24 cm	12 cm
	QBIF50-UV-VIS	50µm	Polyimide	2 M	Silicone Monocoil	4 cm	2 cm
	QBIF200-UV-VIS 200	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	QBIF400-UV-VIS 400	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
300-1100 nm and 400-2100nm (Mixed)	QBIF600-UV-VIS 600	600µm	Polyimide	2 M	Silicone Monocoil	24 cm	8 cm
	QBIF200-MIXED	200µm	Polyimide	2 M	Silicone Monocoil	24 cm	12 cm
	QBIF400-MIXED	400µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
Splitter Optical Fiber Assemblies							
VIS-NIR Low OH content 400-2100nm	SPLIT200-VIS-NIR	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	SPLIT400-VIS-NIR	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm
UV-VIS High OH Content 300-1100nm	SPLIT200-UV-VIS	200µm	Polyimide	2 M	Silicone Monocoil	8 cm	4 cm
	SPLIT400-UV-VIS	400µm	Polyimide	2 M	Silicone Monocoil	16 cm	8 cm

Fiber Optical PatchCord and Pigtail

Applications

- * Telecommunications
- * Data Communications
- * Gigabit Ethernet
- * Audio / Video Transmission
- * Optical Access Network

Features

- * FC/SC/ST/LC/MTRJ Connector
- * Low Insertion loss
- * High Return loss of >45dB
- * Operating temperature -40 to +75°C
- * All assemblies are 100% tested for optical properties
- * Standard length in 1m, 2m, 3m, 5m, 10m
- * Singlemode (Yellow Jacketed), Multimode (Orange Jacketed)



Specifications

Fiber Type	Singlemode		Multimode	
Connector Type	FC, SC, ST, LC		FC, SC, ST, LC	MTRJ
Insertion Loss	< 0.3dB		< 0.3dB	< 0.5dB
Return Loss	PC	≥ 45dB		
	UPC	≥ 50dB		
	APC	≥ 60dB		
Operating Temperature	-40 ~ +75°C			

Order Information

FP - / -

Cable Type

- 1= 0.9mm Fiber
- 2= 2.0mm Simplex Cable
- 4= 2.9mm Simplex Cable
- 5= 2.0mm Zipcord Cable
- 7= 2.9mm Zipcord Cable

Fiber Type

- 9= 9/125 Singlemode Fiber
- 5= 50/125 Multimode Fiber
- 6= 62.5/125 Multimode Fiber
- 3= OM3 Fiber

Cable Material

- C=PVC
- L= LSZH

Connector Type

- FC=FC/PC
- FS= FC/SPC
- FU=FC/UPC
- FA=FC/APC
- SC=SC
- SA=SC/APC
- ST=ST
- LC=LC
- MU=MU
- RJ=MTRJ
- NN=None

Cable Length

- 0010= 1 meter
- 0020= 2 meter
- 0030= 3 meter
- 0050= 5 meter
- 0100= 10 meter

Reflection / Backscattering Probes

Our Reflection Probes are ideal for measuring diffuse or specular reflectance from solid surfaces or backscattering and fluorescence in solutions and powders. Probes are available in lab-grade (R-series) and premium-grade (QR-series) versions. Choose from nearly 40 standard options or customize a probe by selecting different lengths and other features.



Wavelength Range	Item Code	Core Diameter	Fiber Bundle	Probe Ferrule	Jacketing	LTBR	STBR
VIS-NIR Low OH content 400-2100nm	QR200-7-VIS-NIR	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-7-VIS-NIR	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
	QR400-7-VIS-NIR	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
	R400-7-VIS-NIR	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	16 cm	8 cm
	QR400-7-VIS-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	R400-7-VIS-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	QR600-7-VIS-NIR	600µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	24 cm	12 cm
	R600-7-VIS-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Zip tube blue PVDF	24 cm	12 cm
	QR600-7-VIS-125F	600µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	24 cm	12 cm
	QR600-7-VIS125BX	600µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	24 cm	12 cm
UV-VIS High OH Content 300-1100nm	QR200-7-UV-VIS	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-7-UV-VIS	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
	QR400-7-UV-VIS	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
	R400-7-UV-VIS	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	16 cm	8 cm
	QR400-7-VIS-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	R400-7-VIS-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	QR400-7-UV-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	R600-7-UV-VIS	600µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	24 cm	12 cm
	R600-7-UV-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Zip tube blue PVDF	24 cm	12 cm
	QR600-7-UV-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Silicone monocoil	24 cm	12 cm
UV/SR-VIS High OH content 200-1100nm	QR600-7-UV125BX	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Stainless-steel BX	24 cm	12 cm
	QR200-7-SR	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	2 cm
	R200-7-SR	200µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	2 cm
	QR300-7-SR	300µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	12 cm	6 cm
	R300-7-SR	300µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	12 cm	6 cm
	QR400-7-SR	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
	R400-7-SR	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	16 cm	8 cm
	QR400-7-SR-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	R400-7-SR-BX	400µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Stainless-steel BX	16 cm	8 cm
	QR600-7-SR-125F	600µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	24 cm	12 cm
	R600-7-UV-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Zip tube blue PVDF	24 cm	12 cm
	QR600-7-SR125BX	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Stainless-steel BX	24 cm	12 cm
	R600-7-SR-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Zip tube blue PVDF	24 cm	12 cm
	QR600-7-UV-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Silicone monocoil	24 cm	12 cm
	QR600-7-UV125BX	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Stainless-steel BX	24 cm	12 cm
	QR600-7-VIS-125F	600µm	6 Illumination fibers around 1 read fiber	OD3.18x74.3mm	Silicone monocoil	24 cm	12 cm
UV-VIS XSR Solarization-resistant 180-900nm	QR230-7-XSR	230µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	4.6 cm	2.3 cm
	QR450-7-XSR	450µm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	9.0 cm	4.5 cm



Reflection/Backscattering Probes

Angled Reflection



Reflection Probe With Reference Leg



Wavelength Range	Item Code	Core Diameter	Fiber Bundle	Probe Ferrule	Jackefing	LTBR	STBR
Reflection Probes with Reference Leg							
VIS-NIR Low OH content 400-2100nm	QR200-7-REF-VIS-NIR	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-7-REF-VIS-NIR	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
UV-VIS High OH Content 300-1100nm	QR200-7-REF-UV-VIS	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-7-REF-UV-VIS	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
Reflection/Backscattering Probes for Expanded Wavelength Coverage							
UV-VIS and VIS-NIR 300-1100nm	QR200-12-MIXED	200μm	6 UV-VIS and 6 VIS-NIR illumination fibers around 1 UV-VIS and 1 VIS-NIR fibers	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-12-MIXED	200μm	6 UV-VIS and 6 VIS-NIR illumination fibers around 1 UV-VIS and 1 VIS-NIR fibers	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
Angled Probes for Solutions and Powders							
VIS-NIR Low OH content 400-2100nm	QR200-7-ANGLE-VIS	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	R200-7-ANGLE-VIS	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
	QR400-7-ANGLE-VIS	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
	R400-7-ANGLE-VIS	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	16 cm	8 cm
	QR400-ANGLE-VIS	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
UV-VIS High OH Content 300-1100nm	QR200-7-ANGLE-UV	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	8 cm	4 cm
	R200-7-ANGLE-UV	200μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	8 cm	4 cm
	QR400-7-ANGLE-UV	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm
	R400-7-ANGLE-UV	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Zip tube blue PVDF	16 cm	8 cm
	QR400-ANGLE-UV	400μm	6 Illumination fibers around 1 read fiber	OD6.35x76.2mm	Silicone monocoil	16 cm	8 cm

Transmission Dip Probes

General Purpose Probes for the Lab and Other Environments

Our T300-RT and T200-RT Transmission Dip Probes couple to our spectrometers and light sources to measure absorbance and transmission in solutions. These probes are especially useful for embedding into process streams for real-time sample monitoring.

Item	Specifications
Fiber type	T300: 300 μ m solarization-resistant or VIS-NIR optical fiber; T200: 200 μ m VIS-NIR optical fiber
Outer diameter	6.35 mm
Probe length	127 mm
Fiber length	2 meters
Breakout	1.0 meters from the end of the probe
Optics	Fused silica
Probe wetted materials	Stainless steel, fused silica, Epotek 353ND
Pathlength	2, 5 or 10 mm
Internal materials	Second surface aluminum mirror
Pressure	100 psi
Fiber jacketing	PVC Monocoil - PVDF zip tube
Probe sleeve	Stainless steel (300 series)
Connector	SMA 905
Operating temperature	Up to 100°C without sleeve



Item Code: T300-RT, T200-RT

Transmission Probes

Transmission Dip Probes for Hostile Environments

The TP300-UV-VIS Transmission Dip Probe couples to our spectrometers and light sources to measure the absorbance and transmission of solutions in harsh environments. Also, the TP300-UV-VIS Probe is a chemically inert PEEK transmission probe that can be equipped with a tip (RT-PH) for mounting transmissive pH films in the optical path. Light is directed via one fiber through the mounted film to a mirror. Then light is redirected back through the film to a receive fiber that returns the light to the spectrometer. The sample is free to flow over the sides of the film. By using an RTP-2-10 (adjustable 2-10 mm) Transmission Tip, the TP300-UV-VIS can be used for routine transmission measurements.

Item	Specifications
Fiber type	TP300-UV-VIS: 300 μ m UV/SR optical fiber TP300-VIS-NIR: 300 μ m VIS-NIR optical fiber
Outer diameter	3.175 mm diameter for internal stainless steel assembly, 6.35 mm with PEEK polymer sleeve
Probe length	107.9 mm
Fiber length	2 meters
Optics	Fused silica
Pressure limit (w/RT-PH fixed at 16 mm)	100 psi
Temperature limit	Up to 200°C with PEEK sleeve
Pathlength	Adjustable from 2-10 mm (the RTP-2-10) or from 10-20 mm (RTP-10-20)
Probe sleeve	Stainless steel internal assembly, PEEK for outer sleeve
Fiber jacketing	PVDF jacketing
Connector	SMA 905
Operating temperature	Up to 100°C without sleeve



Item Code: TP300-UV-VIS

Industrial Transmission Process Probes

High-Pressure, High-Temperature

The TP300-UV-VIS Transmission Dip Probe couples to our spectrometers and light sources to measure the absorbance and transmission of solutions in harsh environments. Also, the TP300-UV-VIS Probe is a chemically inert PEEK transmission probe that can be equipped with a tip (RT-PH) for mounting transmissive pH films in the optical path. Light is directed via one fiber through the mounted film to a mirror. Then light is redirected back through the film to a receive fiber that returns the light to the spectrometer. The sample is free to flow over the sides of the film. By using an RTP-2-10 (adjustable 2-10 mm) Transmission Tip, the TP300-UV-VIS can be used for routine transmission measurements.

Item	Specifications
Fiber type	TI300-UV-VIS - 300 μ m diameter UV-SR fiber type (200-1100 nm) TI300-VIS/NIR - 300 μ m diameter VIS-NIR fiber type (400-2100 nm)
Pressure limit	250 psi
Temperature limit	300 °C for probe body
Sampling tip body	316 stainless steel
Sampling tip optics	Quartz back-coated mirror and quartz lens
Sampling tip O-ring	Parker perfluoroelastomer (Parofluor ULTRA) O-ring seal
Probe ferrule	12.7 mm outer diameter 316 stainless steel
Probe jacketing	Fully interlocked stainless-steel jacketing over Teflon tubing; total 7.0 mm outer diameter
Length	Fiber: 2 meters Ferrule: 12.7 cm without tip Tips: 2.6 cm to 4.99 cm, depending on tip
Breakout distance	1 meter from the end of the probe
Immersible length	12.7 cm
Optical pathlengths	2, 5, 10, 25 and 50 mm pathlengths available
Connectors	SMA 905



Item Code: TI300-UV-VIS, TI300-VIS-NIR

Step-Index Fiber

Multimode

Fiber	Fig.	Core/Clad/Buffer/Coating Diameter	Attenuation in dB/km @ Wavelength	Coating or Buffer Type	Operating Temperature	Short/Long-Term Bend Radius	Part #
0.43 NA HCS Numerical Aperture MM Step-Index Fibers							
HCS High NA 200	A	200/230/500 μm	≤ 6 dB/km @ 820	ETFE	-65 to +125°C	$\geq 10/16$ mm	CF05578-01
HCS High NA 400	A	400/430/730 μm	≤ 8 dB/km @ 820	ETFE	-65 to +125°C	$\geq 29/47$ mm	CF05578-03
0.37 NA HCS Low OH MM Step-Index Fibers							
HCS 37 Low OH 125	A	125/140/250 μm	≤ 12 dB/km @ 850	ETFE	-65 to +125°C	$\geq 9/15$ mm	CF01493-09
HCS 37 Low OH 200	A	200/230/500 μm	≤ 6 dB/km @ 850	ETFE	-65 to +125°C	$\geq 10/16$ mm	CF01493-10
HCS 37 Low OH 300	A	300/330/650 μm	≤ 8 dB/km @ 850	ETFE	-65 to +125°C	$\geq 15/24$ mm	CF01493-11
HCS 37 Low OH 400	A	400/430/730 μm	≤ 8 dB/km @ 850	ETFE	-65 to +125°C	$\geq 29/47$ mm	CF01493-12
HCS 37 Low OH 600	A	600/630/1040 μm	≤ 8 dB/km @ 850	ETFE	-65 to +125°C	$\geq 43/71$ mm	CF01493-14
HCS 37 Low OH 800	A	800/830/1040 μm	≤ 8 dB/km @ 850	ETFE	-65 to +125°C	$\geq 73/118$ mm	CF01493-65
HCS 37 Low OH 1000	A	1000/1035/1400 μm	≤ 8 dB/km @ 850	ETFE	-65 to +125°C	$\geq 73/118$ mm	CF01493-15
HCS 37 Low OH 1500	A	1500/1535/2000 μm	≤ 15 dB/km @ 850	ETFE	-65 to +125°C	$\geq 182/295$ mm	CF01493-62
0.37 NA HCS High OH MM Step-Index Fibers							
HCS High OH 200	A	200/230/500 μm	≤ 12 dB/km @ 820	ETFE	-65 to +125°C	$\geq 10/16$ mm	CF01493-18
HCS High OH 300	A	300/330/650 μm	≤ 12 dB/km @ 820	ETFE	-65 to +125°C	$\geq 15/24$ mm	CF01493-19
HCS High OH 400	A	400/430/730 μm	≤ 12 dB/km @ 820	ETFE	-65 to +125°C	$\geq 29/47$ mm	CF01493-20
HCS High OH 600	A	600/630/1040 μm	≤ 12 dB/km @ 820	ETFE	-65 to +125°C	$\geq 58/94$ mm	CF01493-22
HCS High OH 800	A	800/830/1040 μm	≤ 12 dB/km @ 820	ETFE	-65 to +125°C	$\geq 73/118$ mm	CF01493-60
0.29 NA Low OH MM Step-Index Fibers							
UltraSil 200	E	200/240/260/375 μm	≤ 12 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 18/30$ mm	BF04746-01
UltraSil 272 Blue	E	272/326/356/420 μm	≤ 12 dB/km @ 850	HCS/ETFE(Blue)	-65 to +125°C	$\geq 24/40$ mm	BF05246
UltraSil 330	E	330/400/430/730 μm	≤ 12 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 30/49$ mm	BF04746-02
UltraSil 200 Pyro	D	200/240/270 μm	≤ 12 dB/km @ 850	PYROCOAT	-65 to +300°C	$\geq 18/30$ mm	BF04830-01
UltraSil 320 Pyro	D	320/385/415 μm	≤ 12 dB/km @ 850	PYROCOAT	-65 to +300°C	$\geq 30/49$ mm	BF04830-02
0.29 and 0.22 Low OH HCXtreme Fibers for High Power in Tight Bends							
272-29 HCXtreme	E	272/362/356/420 μm	≤ 17 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 24/40$ mm	F18939
365-22 HCXtreme	E	365/400/430/730 μm	≤ 8 dB/km @ 820	HCS/ETFE	-65 to +135°C	$\geq 29/47$ mm	F18940
550-22 HCXtreme	E	550/600/630/750 μm	≤ 8 dB/km @ 820	HCS/ETFE	-65 to +135°C	$\geq 58/94$ mm	F18941
940-22 HCXtreme	E	940/1000/1035/1400 μm	≤ 10 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 73/118$ mm	F18942
0.22 NA All Silica High OH MM Step-Index Fibers							
All Silica High OH 200	E	200/240/260/375 μm	≤ 10 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 9/14$ mm	CF01493-41
All Silica High OH 365	E	365/400/430/730 μm	≤ 10 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 29/47$ mm	CF01493-42
All Silica High OH 550	E	550/600/630/750 μm	≤ 10 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 58/94$ mm	CF01493-43
All Silica High OH 940	E	940/1000/1035/1400 μm	≤ 10 dB/km @ 820	HCS/ETFE	-65 to +125°C	$\geq 73/118$ mm	CF01493-44
All Silica High OH 100	D	100/110/140 μm	≤ 14 dB/km @ 820	PYROCOAT	-65 to +300°C	$\geq 9/14$ mm	CF04406-01
All Silica High OH 200/220	D	200/220/250 μm	≤ 10 dB/km @ 820	PYROCOAT	-65 to +300°C	$\geq 17/28$ mm	CF04406-03
All Silica High OH 200/240	D	200/240/270 μm	≤ 10 dB/km @ 820	PYROCOAT	-65 to +300°C	$\geq 18/31$ mm	CF04406-04
All Silica High OH 400	D	400/440/470 μm	≤ 10 dB/km @ 820	PYROCOAT	-65 to +300°C	$\geq 66/112$ mm	CF04406-06
0.22 NA All Silica Low OH MM Step-Index Fibers							
All Silica Low OH 200	E	200/240/260/375 μm	≤ 10 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 9/14$ mm	CF01493-51
All Silica Low OH 365	E	365/400/430/730 μm	≤ 10 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 29/47$ mm	CF01493-52
All Silica Low OH 550	E	550/600/630/750 μm	≤ 10 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 58/94$ mm	CF01493-53
All Silica Low OH 940	E	940/1000/1035/1400 μm	≤ 10 dB/km @ 850	HCS/ETFE	-65 to +125°C	$\geq 73/118$ mm	CF01493-54
All Silica Low 200 PYRO	D	200/220/250 μm	≤ 8 dB/km @ 850	PYROCOAT	-65 to +300°C	$\geq 17/28$ mm	CF04406-13
All Silica Low 320 PYRO	D	320/385/415 μm	≤ 8 dB/km @ 850	PYROCOAT	-65 to +300°C	$\geq 29/49$ mm	CF04406-15
All Silica Low 600 PYRO	D	600/660/690 μm	≤ 8 dB/km @ 850	PYROCOAT	-65 to +300°C	$\geq 99/167$ mm	CF04406-17
Launch Fibers							
40/125 Launch	C	40/125/250 μm	≤ 10 dB/km @ 850	Dual Acrylate	-40 to +85°C	$\geq 10/17$ mm	BF06269
50/125 Launch	C	50/125/250 μm	≤ 5 dB/km @ 850	Dual Acrylate	-40 to +85°C	$\geq 10/17$ mm	BF06864
60/125 Launch	C	60/125/250 μm	≤ 6 dB/km @ 850	Dual Acrylate	-40 to +85°C	$\geq 10/17$ mm	F8950
105/125 Launch	C	105/125/250 μm	≤ 12.0 dB/km @ 850	Dual Acrylate	-40 to +85°C	$\geq 5/9$ mm	BF05859
105/125 Low NA Launch	C	105/125/250 μm	≤ 20.0 dB/km @ 850	Dual Acrylate	-40 to +85°C	$\geq 5/9$ mm	F10017



Step-Index Fiber

Multimode

Fig. A



Fig. B

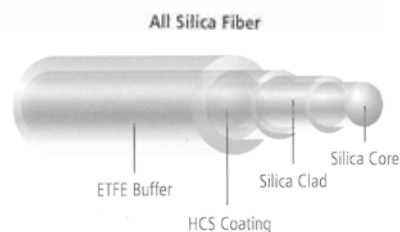


Fig. C

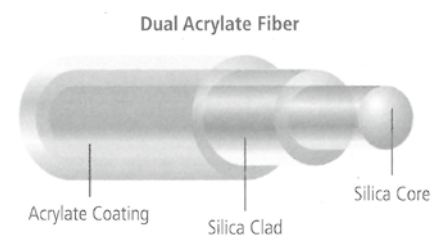
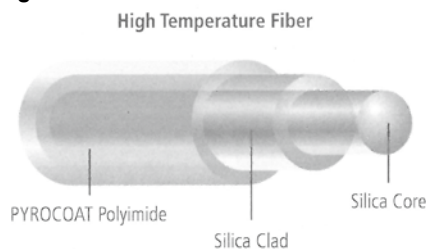


Fig. D



Graded-Index Fiber

Multimode

Fiber	Fig.	Core/Clad/ Buffer Diameter	Attenuation @ 850/1300	Coating or Buffer Type	Operating Temperature	NA	Short/Long-Term Bend Radius	Part #
50 μ m Graded-Index HCS	A	50/200/500 μ m	<2.8/1.0 dB/km	ETFE	-65 to +125°C	0.20	>10/16	F16496
62.5 μ m Graded-Index HCS	A	62.5/200/500 μ m	<3.5/1.2 dB/km	ETFE	-65 to +125°C	0.275	>10/16	F14404
50/125 Acrylate	B	50/125/245 μ m	$\leq 2.3/0.6$ dB/km	Dual UV Acrylate	-60 to +85°C	0.20	$\geq 10/17$	BF04430-01
50/125 Hermetic PYROCOAT	D	50/125/155 μ m	$\leq 4/2$ dB/km	Hermetic/ PYROCOAT	-65 to +300°C	0.20	$\geq 8/10$	BF05781
Geo50	D	50/125/155 μ m	$\leq 4/2$ dB/km	Hermetic PYROCOAT	-65 to +300°C	0.20	$\geq 10/17$	F13469
Geo50 SA	E	50/125/250 μ m	$\leq 4/2$ dB/km	High-Temperature Acrylate	-45 to +125°C	0.20	$\geq 8/10$	F18961-02
50/125 PYROCOAT	C	50/125/155 μ m	$\leq 3.2/1.2$ dB/km	PYROCOAT	-65 to +300°C	0.20	$\geq 10/17$	BF04433
62.5/125 Acrylate	B	62.5/125/245 μ m	$\leq 2.9/0.6$ dB/km	Dual UV Acrylate	-65 to +85°C	0.275	$\geq 10/17$	BF04431-01
62.5 PYROCOAT	C	62.5/125/155 μ m	$\leq 3.5/1.5$ dB/km	PYROCOAT	-65 to +300°C	0.275	$\geq 10/17$	BF04434
100/140 - 250	B	100/140/250 μ m	$\leq 4.0/1.5$ dB/km	Dual UV Acrylate	-40 to +85°C	0.29	$\geq 11/19$	BF04432-01
100/140 - 500	B	100/140/500 μ m	$\leq 4.0/1.5$ dB/km	Dual UV Acrylate	-40 to +85°C	0.29	$\geq 11/19$	BF04432-02
100/140 High-Temp	C	100/140/170 μ m	$\leq 5.0/3.0$ dB/km	PYROCOAT	-65 to +300°C	0.29	$\geq 11/19$	BF04436

Fig. A

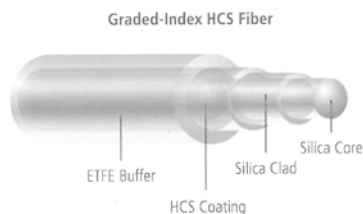


Fig. B

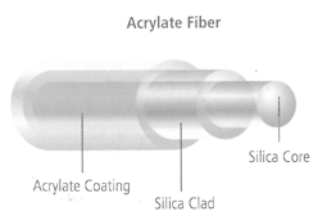


Fig. C

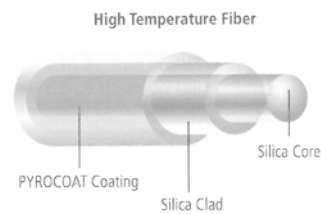


Fig. D

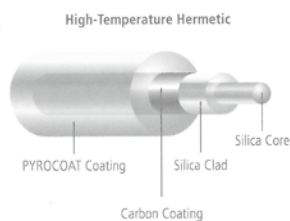
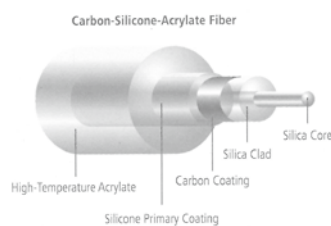


Fig. E



ClearLite Photonic Fibers - Single-Mode

Short Wavelength

Fiber	Fig.	Operating Wavelength	MFD at Operating Wavelength	Numerical Aperture	Clad/Coating Diameter	Coating Type	Part #
780 11	A	780 nm	5.4	0.11	125/245 μ m	Dual Acrylate	CF04247-03
Micro 820 16	B	820 nm	4.1	0.16	80/135 μ m	Single Acrylate	CF04246-03
980							
980 14	A	980/1550 nm	5.9/9.4	0.14	125/245 μ m	Dual Acrylate	F9232
980 16	A	980/1550 nm	5.0/7.5	0.16	125/245 μ m	Dual Acrylate	BF05635-02
980 20	A	980/1550 nm	4.0/6.5	0.20	125/245 μ m	Dual Acrylate	F10984
1310 11							
Micro 1310 11	B	1310/1550 nm	9.3/10.5	0.11	80/165 μ m	Dual Acrylate	BF06257-01
Geo 1310 11	C	1310/1550 nm	9.3/10.5	0.11	125/155 μ m	Carbon/PYROCOAT	BF05717
Carbon/Poly 1310 11	B	1310/1550 nm	9.3/10.5	0.11	125/155 μ m	Carbon/PYROCOAT	BF04447
Poly 1310 11	B	1310/1550 nm	9.3/10.5	0.11	125/155 μ m	PYROCOAT	BF04446
1310 16							
Micro 1310 16S	B	1310/1550 nm	6.7/7.5	0.16	80/135 μ m	Single Acrylate	CF04246-31
Micro 1310 16D	B	1310/1550 nm	6.7/7.5	0.16	80/165 μ m	Dual Acrylate	F9002
1310 16	B	1310/1550 nm	6.7/7.5	0.16	125/245 μ m	Dual Acrylate	F9001
Carbon/Acrylate 1310 16	B	1310/1550 nm	6.7/7.5	0.16	125/250 μ m	Carbon/ Dual Acrylate	BF06631
1310 21							
1310 21	B	1310/1550 nm	5.1/5.8	0.21	125/200 μ m	Single Acrylate	BF06160
Poly 1310 21	B	1310/1550 nm	5.1/5.8	0.21	125/155 μ m	PYROCOAT	BF06160-02
1550							
1550 12	A	1550 nm	10.3	0.12	124/245 μ m	Dual Acrylate	F10819-01
Micro 1550 17 Gyrosil	A	1550 nm	7.5	0.17	80/130 μ m	Single Acrylate	BF06159
1550 17	A	1550 nm	7.5	0.17	125/245 μ m	Dual Acrylate	BF06158
Poly 1550 17	C	1550 nm	7.5	0.17	125/155 μ m	PYROCOAT	BF06158-02
Micro 1550 21	C	1550 nm	6.0	0.21	80/100 μ m	Carbon/PYROCOAT	F9697-03

Fig. A

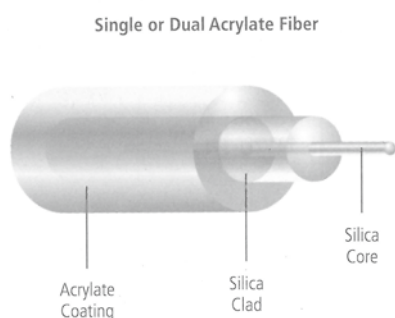


Fig. B

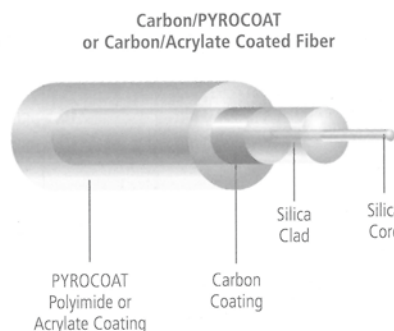
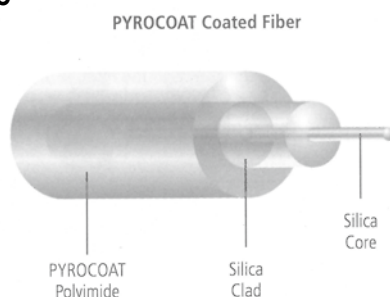


Fig. C



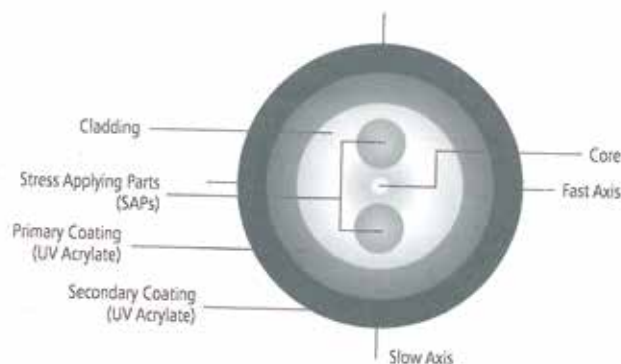
Polarization-Maintaining

ClearLite TruePhase Photonic Fiber

We offer a full line of ClearLite TruePhase Polarization Maintaining Fibers in several popular wavelengths, all using industry-standard Stress Applying Parts (SAPs). This design creates two axes in the core, each of which guides light at a different velocity. Crosstalk between the fast and slow axes is suppressed so that linearly polarized light launched into either axis will remain polarized as it is guided.

When spliced correctly according to any of the standard splice recipes from major splice equipment manufacturers, TruePhase Fibers exhibit low loss and high extinction ratios.

Fiber	Operating Wavelength	MFD at Operating Wavelength	Beat Length at Operating WL	Clad/Coating Diameter	Part Number
TruePhase 980 400	980 nm	6.6µm	≤2.8 mm	125/400µm	F9920
TruePhase 980 250	980 nm	6.6µm	≤2.8 mm	125/125µm	F9920-01
TruePhase 980 Micro	980 nm	6.6µm	≤2.8 mm	80/165µm	F11317
TruePhase 1310 400	1310 nm	9.3µm	≤3.8 mm	125/400µm	F9922
TruePhase 1310 250	1310 nm	9.3µm	≤3.8 mm	125/250µm	F9922-01
TruePhase 1310 Sensor	1310 nm	5.5µm	≤3.0 mm	125/250µm	F11358
TruePhase 14XX 400	1400-1490 nm	9.8µm (@1455 nm)	≤4.2 mm	125/400µm	BF06832
TruePhase 14XX 250	1400-1490 nm	9.8µm (@1455 nm)	≤4.2 mm	125/250µm	BF06832-01
TruePhase 1550 400	1550 nm	10.5µm	≤4.5 mm	125/400µm	BF06734
TruePhase 1550 250	1550 nm	10.5 µm	≤4.5 mm	125/250µm	BF06734-01

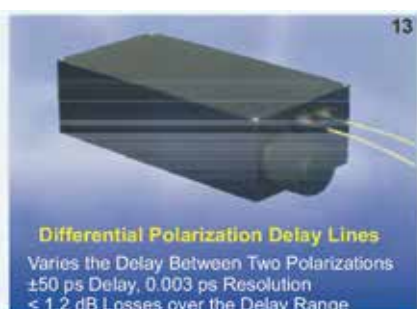
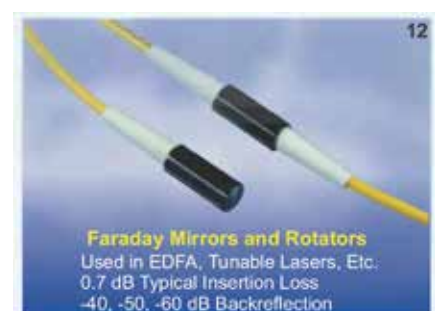
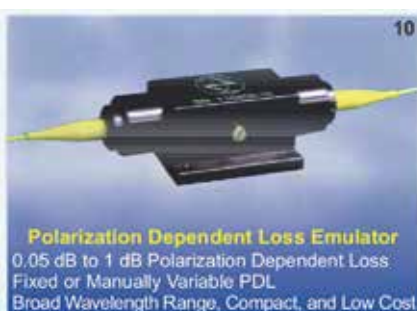
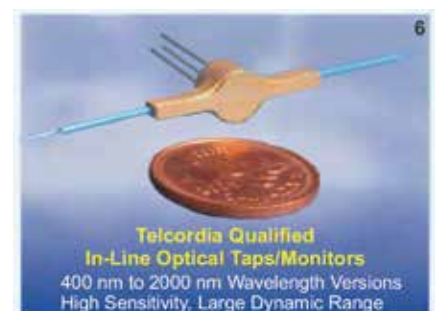


Coating

Comparison Chart

Material	Typical Uses	Refractive Index Relative to Silica	Buffering or Overcoat Required	Crimp & Cleave Compatible	Coating Strip Method	Use Temperature Range	Comments
Urethane Acrylate	Single coating	Higher	optional	No	Chemical	-40 to +85°C	For thin-walled designs
	Dual coating	Higher	optional	No	Chemical or Mechanical	-40 to +85°C	Telecomm. Standard
HCS	Hard cladding	Lower	ETFE	Yes	If needed; Needed; Pyrolytic or Chemical methods	-65 to +125°C	Medium- or High-NA versions available
	Non-optical	Higher	ETFE	Yes	If needed; Pyrolytic or Chemical methods	-65 to +125°C	Designed especially for crimp/cleave termination
PYROCOAT Polyimide	High-temperature coating	Higher	optional	No	Chemical	-60 to +300°C continuous; ≤400°C short duration	Preferred for high temperature environments
Silicone	Soft cladding, non-optical coating, or soft buffer	Lower	Typically over-jacketed with thermoplastic	No	Mechanical	-60 to +200°C	Superior low temperature performance and high temperature stability
Carbon	Hermetic layer	n/a	Yes	No	n/a	≤300°C continuous; ≤400°C short duration	Minimizes effects of hydrogen ingress and moisture-induced static fatigue

Polarization Maintaining Fiber Optic Components



Laser & Laser Diode to Fiber Delivery Components

Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories



16

Laser to Fiber Couplers

> 60% Coupling Efficiency for SMF & PMF
Low / High Power Versions up to 100 W
180 nm to 3000 nm Wavelengths



17

Laser to Fiber Couplers with Adjustable Focus

> 80% Coupling Efficiency for SMF & PMF
SMF, MMF & PMF Versions
0.1 Micron Resolution in Focus Adjustment



18

Adjustable Fiber Collimators/Focusers/Connectors

Use for Adjustable Focusers and Couplers
Super & Angled FC/PC, and SMA905 Connectors
SMF, MMF & PMF Versions



19

Delivery Systems for Flow Visualization

Uniform Intensity Along the Line
< 1 mm Linewidths, 10° to 60° Fan Angles
Cross Targets also available



20

Red/Green/Blue WDM Combiners

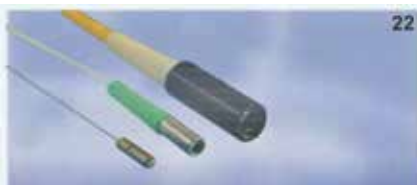
Combine Red, Green and Blue Sources with Low Loss
Singlemode, Multimode and PM Fiber Versions
High Power Handling, 2 to 6 Wavelength Versions



21

Receptacle Style Collimators/Focusers

0.2 mm to > 15 mm Beam Diameters
180 nm to 3000 nm Wavelengths
Achromatic Collimators available



22

Pigtail Style Collimators/Focusers

As Small As 2µm Spot Sizes, up to 5 W Power
Up to -60 dB Backreflection SMF, PMF & MMF
1.6 mm, 2.5 mm, 4 mm and 8 mm OD Housing



23

U-Bracket with Removable Optics

As Good As 0.6 dB Insertion Loss
-40, -50, -60 dB Backreflection
Use with A/O Modulators, Bulk Optics



24

Variable Optical Delay Lines

Motor Driven Version is available
Over 300 ps Delay Range, < 1 dB IL
As Fine As 0.003 ps Resolution



25

OEM Laser Diode to Fiber Couplers

375 nm to 1625 nm Wavelengths
Up to 80% Coupling Efficiency into SMF & PMF
PC Board Mountable, Reusable Optics



26

Turnkey OEM Laser Diode Sources

Wavelength Range: 375 nm to 2000 nm
Externally Modulatable
Red, Green, Blue Combiner Versions available



27

Fused Fiber Optic Couplers

1x2, 2x2 and 1xN Couplers available
SM, MM, and PM Fibers
400 nm to 1550 nm Wavelengths



28

Fiber to Photodiode Couplers

>70% Coupling Efficiency, SMF, MMF & PMF
-40 dB, -50 dB, -60 dB Backreflection
Low Cost, Rugged and Compact Size



29

Vacuum Feedthroughs

Singlemode and Multimode Versions
Easy to Install and Use. Compact and Rugged
Gas Leak Rate 10⁻⁶ scc/sec

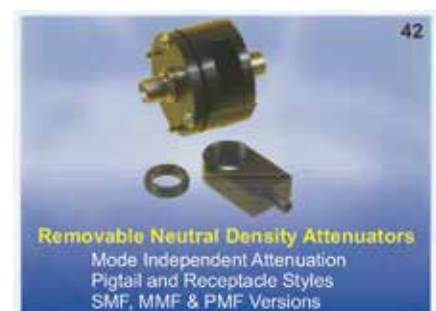
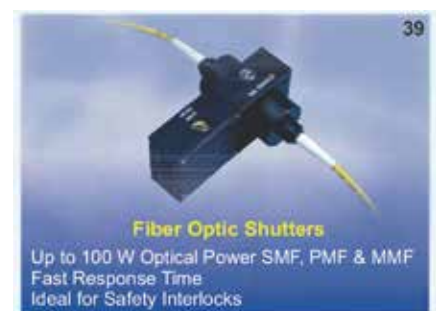
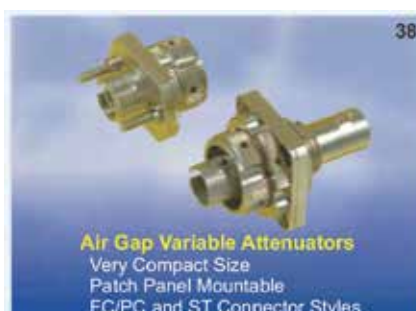


30

Alignment Kits & Tools

Polarization Tool Aligns Polarization in Seconds
Alignment Kit Simplifies Laser to Fiber Coupling
Video/DVD Demonstrates the Coupling Process

Fiber Optic Attenuators



Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories



Fiber Optic Connectors, Patchcords and Components for Optoelectronic Packaging

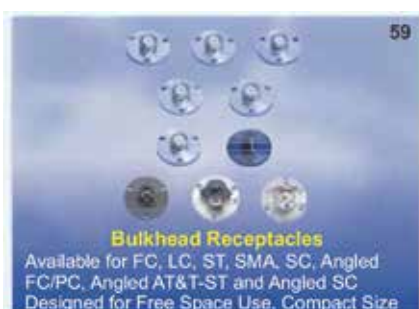
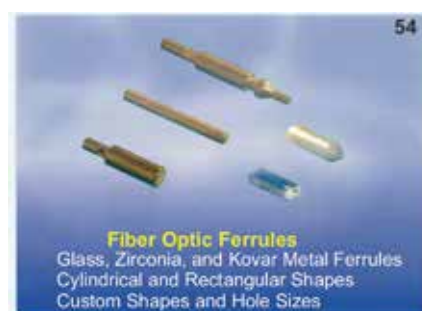
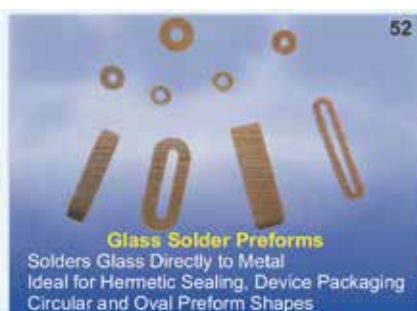
Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories



High Power Fiber Optic Components

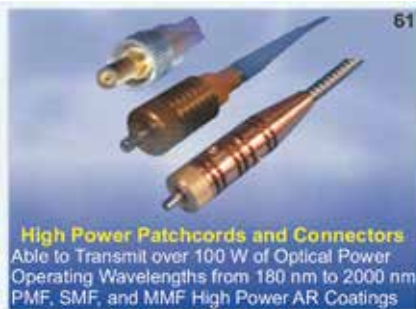
Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories



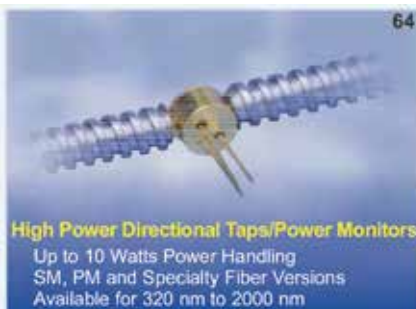
High Power Patchcords and Connectors
Able to Transmit over 100 W of Optical Power
Operating Wavelengths from 180 nm to 2000 nm
PMF, SMF, and MMF High Power AR Coatings



High Power Collimators/Focusers
Up to 100 Watts CW Power Handling
Available for 180 nm to 2000 nm Wavelengths
Receptacle and Pigtailed Versions



High Power Fiber Pigtailed Isolators
Low Insertion Loss, up to 100 Watts
1064 nm Fiber-to-Fiber and Fiber-to-Air Versions
Polarization Independent, High Isolation



High Power Directional Taps/Power Monitors
Up to 10 Watts Power Handling
SM, PM and Specialty Fiber Versions
Available for 320 nm to 2000 nm



High Power Fiber Optic Shutters with Safety Interlocks
Up to 100 Watts Power Handling
Fiber-Fiber and Source-Fiber Versions
Available for 180 nm to 2000 nm Wavelengths



High Power Mode Field Adapters
High Power Handling
Adapts and Conserves Modal Content
Custom Designs available



High Power Bulkhead Receptacles/Sleeve Thru Adaptors with Safety Interlocks
High Power Handling
Contact, Temperature, Proximity Sensors
Fiber to Air and Fiber to Fiber Versions



High Power Wavelength Division Multiplexer
0.8 dB Insertion Losses, 65 dB Isolation
Up to 2 Watt Power Handling
-40 dB, -50 dB, -60 dB Backreflection



High Power Free Space Splitters Fiber to Fiber Version
Up to 100 Watts Power Handling
Available Wavelengths from 400 nm to 2000 nm
MM, SM, PM Fiber Versions



High Power Free Space Splitters Source to Fiber Type
Up to 100 Watts Power Handling
Available Wavelengths from 400 nm to 2000 nm
MM, SM, PM Fiber Versions



Pin Gauges for Fiber OD Measurements
Easy-to-use, Low Cost
124-128 micron Gauges available
Individual or 5-in-One Gauges



Connectors
FC, SMA, SC, LC, MU, E2000 Versions
Angled or Ultra FC/PC Versions
Singlemode or Multimode Versions



Mechanical Bare Fiber Adapters
Use to Hold Bare Fibers
FC, ST Versions available
80-1000 micron



Fiber Optic Fixed Filters
400 nm to 1600 nm Wavelengths, SMF & PMF
-40 dB, -50 dB, -60 dB Backreflection
Filters can be Fixed or Removable



Polarization Insensitive Tunable Filter
Manual and Electrically Controlled Versions
50 nm Range, As Low As 0.4 nm Line Widths
< 0.35 dB Polarization Dependent Losses



Miscellaneous Fiber Optic Components

Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories

**Planar Light Circuit Splitter (PLCS)**

Polarization and Singlemode Fiber Versions
Broad Bandwidth
1x2, 1x4, 1x8, 1x16, 1x32 available

**Laser Diode Power Combiners**

Up to 45% Coupling from Each Diode
-40, -50, -60 dB Backreflection SMF, PMF & MMF
Can Combine Equal / Different Wavelengths

**Soldering Station Inductive System**

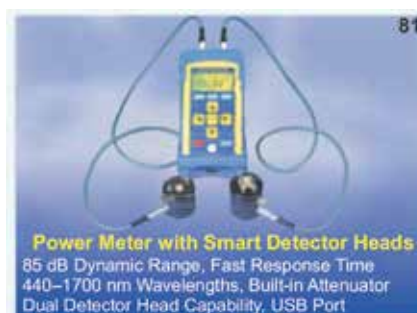
Used for Hermetic Sealing
Easy-to-use
Custom Jigs are available

**Polarization Measurement System for V-Grooves**

Measures Polarization Angle to ± 0.5 Degrees
Measures Extinction Ratios up to 40 dB
Measures Relative Power (650 Hz Sample Rate)

**OCT Module/Components**

Complete Module or Separate Components
Such as Broadband Isolators, Sources, Attenuators, Collimators, Fused Splitters, Delay Lines

**Power Meter with Smart Detector Heads**

85 dB Dynamic Range, Fast Response Time
440-1700 nm Wavelengths, Built-in Attenuator
Dual Detector Head Capability, USB Port

**2000 nm Components**

Fiber Pigtailed Sources
Isolators, Attenuators
Fused Splitters, Collimators

**Pen & Pocket Size Fault Locators**

Detect Breaks in Fiber Optic Cables
Use as an End-to-End Fiber Identifier, 635 nm
Up to 10 mW, Low Cost

**High Power Antireflection (AR) and Highly Reflective (HR) Coated Fiber Ends**

HR, R>98%, AR < 0.3%
350 nm to 2000 nm Wavelength Coatings
SMF, MMF & PMF Versions

**High Power Optical Coatings**

High Power AR, Beamsplitter, Dichroic Coatings on
Fibers, Micro Optics, Lenses, Plates, Prisms etc.
Low Temperature High Abrasion Resistant Coatings

**OZPEN CO, Cleaning Unit for High Power Components**

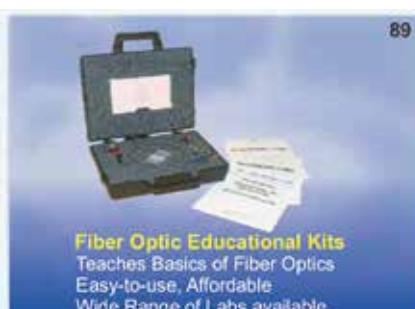
Designed to Clean Small Surfaces
Superior to Other Cleaning Methods
Quick Dry and Solvent-Free Cleaning Process

**Connector Video Microscope**

Easy-to-use
Up to 400x Magnification
LC, FC, SC, E2000 or Other Custom Connectors

**Connector Cleaning Unit**

Easy-to-use
Low Cost
2.5 mm, 1.25 mm, Custom Design Connectors

**Fiber Optic Educational Kits**

Teaches Basics of Fiber Optics
Easy-to-use, Affordable
Wide Range of Labs available

**Fiber Optic Termination Kits**

For FC, LC, ST, SMA or SC Connectors
Contains all the Necessary Polishing Films, Tools, Epoxies and Accessories

Manual Polarization Controller, FPC - 1



Features

- * Easy top-down fiber loading with paddles in locked positions (no tools required)
- * Dual diameter channels in each paddle broaden the wavelength operation of one fiber type
- * Accommodates both 900µm buffer and 250µm bare fiber
- * Sure grip pliable caps easily secure fiber in paddles
- * Small footprint, lightweight design
- * Multidirectional placement on optical table with 1/4" x 20 or M6 screws
- * Smooth adjustable rotation
- * Inserts quickly into fiber-based systems without splicing
- * Multiple color paddles enhance identification for WDM

Specifications

Extinction Ratio (typical)	35dB*
Insertion Loss (typical)	≤ 0.1dB*
PDL (typical)	0.003dB
Footprint Dimensions	1.0" x 5.9"; 25.4mm x 150mm
Broadband Operation	500nm x 1600nm

* measured with Lucent SMF; two loops outer channel, at 1550 nm

When ordering, please select from the option tables below

FPC - 1 ☐ - ☐☐☐ - ☐☐☐ - ☐PC - ☐

Paddle Color: Red 1 White 2 Blue 3 Yellow 4 Green 5 Orange 6 Assorted 7		Buffer: Bare fiber 2 Buffer 900µm 9		Connector Polish: ≤ -60dB A ≤ -50dB U		Operating Wavelength: 1450 - 1570 nm 1 1270 - 1350 nm 2 950 - 1200 nm 3 780 - 900 nm 4 620 - 700 nm 5 470 - 600 nm 6	
Fiber Type: None 0 Lucent SMF 1 Lucent DSF 2 3M (80µm) 3 3M (125µm) 4 Corning CS-980 5 Corning Flexcore-1060 6 Other 7		Buffer Color: Red 1 White 2 Blue 3 Yellow 4 Green 5 Orange 6 Assorted 7		Connector Type: FC SC ST D4 Biconic BC		Connectors: Pigtail (one connector) P Jumper (two connectors) J	

Manual Polarization Controller, FPC - 2, FPC - 3



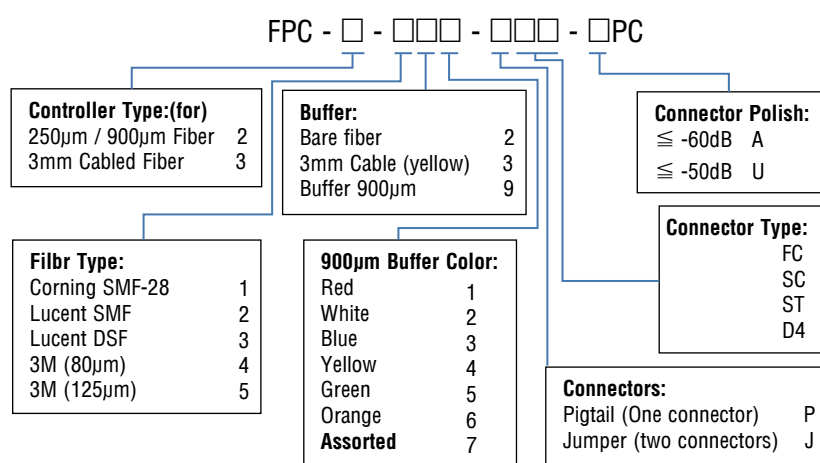
Features

- * Easy top-down fiber loading with paddles in locked horizontal position
- * FPC - 2 accommodates both 900 μ m buffer and 250 μ m bare fiber
- * FPC - 3 accommodates 3mm cabled fiber
- * Multidirectional placement on optical table with 1/4" x 20 or M6 screws
- * Smooth adjustable rotation
- * Inserts quickly into fiber-based systems without splicing

Specifications

Extinction Ratio (typical)	33 dB
Insertion Loss (typical)	≤ 0.1 dB
Polarization Dependent Loss	< 0.005 dB
Footprint Dimensions	1.0" x 10 3/8" ; 2.54 cm x 27.6 cm
Broadband Operation	1300nm x 1600nm
Diameter FPC - 2	2.2" (5.6cm)
Diameter FPC - 3	2.14" (5.4cm)

When ordering, please select from the option tables below:



光纖檢測器 / Fiber Checker

主要應用於檢測光纖瑕疵的小型化手持檢測工具。

光纖檢測器雷射為波長 650 nm 紅色可見光，可耦合進入單模光纖 (Singlemode Fiber) 或是多模光纖 (Multimode Fiber) 之中。若光纖中存在斷裂點或瑕疵處，該斷裂瑕疵處將產生反射呈現紅色光點，亦可研判光纖之熔接施工品質，以維護光訊號通訊品質。



產品特性

- * RoHS 驗證合格。
- * 雷射波長：650nm。
- * 檢測範圍：3 公里光纖。
- * 可檢測單模光纖 (Singlemode Fiber) 或是多模光纖 (Multimode Fiber)。
- * 可連接 ST/SC/FC 全球普遍使用的光纖接頭。
- * 連接檢測 LC/MU 光纖接頭，可選購 2.5 mm 轉 1.25 mm 轉換接頭。
- * APC 光功率控制電路 (Auto Power Control) 提供穩定光功率。
- * 連續光 (CW Mode) 或脈衝光 (Pulse Mode) 操作模式。
- * 保護蓋設計
- * 電源耗盡 LED 智慧型指示。

產品規格

雷射光等級(Laser Class)	Class 2M
波長(Wavelength)	650nm $\pm$ 10nm @ 25°C
頻譜寬(Spectral Width)	<10nm
輸出光功率(Output Power)	>0.5mW @ 25°C into 9 μ m fiber
輸出光功率(Output Power) Part Number -1	>1mW @ 25°C into 9 μ m fiber
輸出光功率(Output Power) Part Number -2	>2mW @ 25°C into 9 μ m fiber
雷射光輸出模式(Emitting Mode)	CW / Pulse Mode
電池型號(Battery Type)	AAA 1.5V x 2
LED指示燈(LED Indicator)	Power On (Green) / Battery Low (Red)
檢測距離(Emitting Range)	3Km
檢測範圍(Operating Temp.)	0°C~50°C
儲存溫度範圍(Storage Temp.)	0°C~70°C
尺寸	132 x 34 x 19mm

訂購資訊

產品型號	產品內容
S2000111-650	650nm光纖檢測器，輸出光功率> -3dBm (0.5mW)
S2000111-650-1	650nm光纖檢測器，輸出光功率> 0dBm (1mW)
S2000111-650-2	650nm光纖檢測器，輸出光功率> +3dBm (2mW)
S200411	LC轉接頭，2.5mm to 1.25mm
S200421	ML轉接頭，2.5mm to 1.25mm

X=0, LC Connector

X=1, SC Connector

*CWDM LD λ C:

S200125Xxxx

1270 nm / 1290 nm / 1310 nm / 1330 nm / 1350 nm / 1370 nm / 1390 nm / 1410 nm / 1430 nm / 1450 nm / 1470 nm / 1490 nm / 1510 nm / 1530 nm / 1550 nm / 1570 nm / 1590 nm / 1610 nm / 1625 nm

可攜式光源 / Light Sources

為小型化耐用及輕巧設計，專為光纖鋪設工程設計。內建小型化光收發模組 SFP Module，勿須事先暖機即可啟動雷射光源。可更換不同波長光模組之熱插拔設計，模擬不同波長傳輸訊號，諸如波長 850nm / 1300nm 或波長 1310nm / 1550nm / WDM 1270nm ~ 1610nm 或是 1625nm CWDM 之光訊號模擬測試。

產品特性

- * RHS 驗證合格。
- * 小型化耐用及輕巧設計，勿須事先暖機即可啟動雷射光源。
- * 內建小型化熱插拔 SFP Module 設計，可更換所需要模擬之波長。
- * 雷射光功率以及波長輸出穩定。
- * LC / SC 接頭，高穩定的可重覆插拔式機構設計。
- * 電池電源耗盡 LED 智慧型指示設計。
- * 可切換成連續光 (CW Mode) 或是脈衝光 (Pulse Mode) 20Hz / 2KHz 操作模式，模擬不同頻率之訊號。
- * 防塵蓋保護之設計。



產品規格

雷射光等級(Laser Class)	Class I
雷射光波長(Wavelength)	850nm, 1300 nm
	1310 nm, 1550 nm
	1270 nm, 1290 nm, 1310 nm, 1330 nm,
	1350 nm, 1370 nm, 1390 nm, 1410 nm,
	1430 nm, 1450 nm, 1470 nm, 1490 nm,
	1510 nm, 1530 nm, 1550 nm, 1570 nm,
	1590 nm, 1610 nm, 1625 nm
輸出模式(Emitting Mode)	CW / Pulse Mode 270 Hz / 2 KHz
所需電池型態(Battery Type)	AAA 1.5V x 2
顯示指示器(LED Indicator)	Power On (GREEN) / Battery Low(RED)
輸出光功率準確度(Output Power Accuracy)	+/- 0.2 dB
輸出光功率穩定度(Output Power Stability I HR)	+/- 0.05 dB
操作溫度範圍(Operating Temp.)	0°C ~ 50°C
儲存溫度範圍(Storage Temp.)	0°C ~ 70°C
尺寸(Dimension)	134 x 35 x 24mm

訂購資訊

產品型號	光源類型	波長	輸出光功率
S20012009999	Main Frame	None	None
S200126 X 0850	VCSEL	850nm	-5 dBm
S200122 X 1300	LED	1300nm	-22 dBm
S200123 X 1310	FP LD	1310nm	-5 dBm
S200123 X 1550	FP LD	1550nm	-5 dBm
S200124 X 1310	DFB LD	1310nm	-3 dBm
S200124 X 1550	DFB LD	1550nm	-3 dBm
S200125 X 1270~1625	CWDM LD	1270nm~1625nm	-3 dBm

X=0, LC Connector

X=1, SC Connector

*CWDM LD AC:

S200125Xxxx

1270 nm / 1290 nm / 1310 nm / 1330 nm / 1350 nm / 1370 nm / 1390 nm / 1410 nm / 1430 nm / 1450 nm / 1470 nm

/ 1490 nm / 1510 nm / 1530 nm / 1550 nm / 1570 nm / 1590 nm / 1610 nm / 1625 nm

檢光器 / Fiber Meter

為小型化耐用及輕巧，專為光纖鋪設施工設計。主要功能為量測光纖的光訊號輸出功率。諸如數位通訊光纖網路 (Datacom)，或是電訊光纖網路 (Telecom) 或是 FTTH 光纖到戶光訊號。



產品特性

- * RoHS 驗證合格。
- * 小型化耐用及輕巧設計，專為光纖鋪設施工設計。
- * 操作簡易，LED 顯示數字為實際量測光功率。
- * 全球通用的 SC/ST/FC 光纖接頭設計。
- * 檢測 LC/MU 光纖，可選購 2.5 mm 轉 1.25 mm 轉換接頭。
- * 保護蓋保護功能設計。

光功率轉換表

dBm	μW	dBm	μW	dBm	μW	dBm	μW
		-30	1	-18	15.8	-6	251
		-29	1.3	-17	19.9	-5	316
-40	0.1	-28	1.6	-16	25.1	-4	398
-39	0.126	-27	2	-15	31.6	-3	501
-38	0.158	-26	2.5	-14	39.8	-2	631
-37	0.199	-25	3.2	-13	50.1	-1	794
-36	0.251	-24	4	-12	63	0	1000
-35	0.316	-23	5	-11	79.4	1	1259
-34	0.398	-22	6.3	-10	100	2	1585
-33	0.501	-21	7.9	-9	125	3	1995
-32	0.631	-20	10	-8	158	4	2512
-31	0.794	-19	12.5	-7	199	5	3162

產品規格

多模光纖(Multimode Fiber)量測波長(Wavelength)	850 nm / 1300 nm
多模光纖(Multimode Fiber)量測範圍(Range)	-40 dBm ~ +5 dBm
單模光纖(Singlemode Fiber)量測波長(Wavelength)	1310 nm / 1490 nm / 1550 nm
單模光纖(Singlemode Fiber)三字節(3 Digits)量測範圍(Range)	-40 dBm ~ +5 dBm
解析度(Resolution 2 Digits)	1 dB
量測光纖接頭(Fiber Connector)	SC/ST/FC (直徑: 2.5mm)
轉接器量測LC/MU光纖接頭(Fiber Connector with Adapter)	LC/MU (直徑: 1.25mm)
LED數位化顯示器(LED Display 2 Digits / 3 Digits)	2 Digits / 3 Digits Display
電池電源(Battery)	AAA 1.5V X 2
操作溫度範圍(Operating Temp.)	0°C ~ 50°C
儲存溫度範圍(Storage Temp.)	0°C ~ 70°C
尺寸	132 x 32 x 19mm

訂購資訊

產品型號	產品類型	波長(nm)	光功率範圍(dBm)
S2002121	多模光纖 二字節檢光器	850 nm / 1300 nm	+5 dBm ~ -40 dBm
S2002312	單模光纖 三字節檢光器	1310 nm / 1490 nm / 1550 nm	+5 dBm ~ -40 dBm
S200412	轉換器-LC adapter for fiber meter		
S200422	轉換器-Mu adapter for fiber meter		

Fiber Tools & Accessories

Fiber Optic Stripper Line



Model	Finished Cladding Diameter		Part No.
	(Microns)	(Inches)	
FO-103-S	125 μm	0.005 in.	80355
FO-103-S-100	80-100 μm	0.003-0.004 in.	80355-1
FO-103-S-140	140 μm	0.005 in.	80355-15
FO-103-S-150	150 μm	0.006 in.	80355-2
FO-103-S-162	162 μm	0.0065 in.	80355-3
FO-103-S-007	175 μm	0.007 in.	83055-4
FO-103-S-187.5	187.5 μm	0.0075 in.	80355-5
FO-103-S-200	200 μm	0.008 in.	80355-10
FO-103-S-225	225 μm	0.009 in.	80355-12
FO-103-S-250	250 μm	0.010 in.	80355-6
FO-103-S-280	275-280 μm	0.011 in.	80355-7
FO-103-S-300	300 μm	0.012 in.	80355-8
FO-103-S-400	400 μm	0.016 in.	80355-16
FO-103-S-525	525 μm	0.021 in.	80355-9
FO-103-S-880	880 μm	0.035 in.	80355-17
FO-103-S-1140	1140 μm	0.045 in.	80355-18

Optic Stripper



Model	Description	Full Length	Part No.
CFS-2	stripper for 125 μm finish & 2-3 mm jackets	6.5 in. (165 mm)	46107-M
CFS-2-900	stripper for 900 μm	6.5 in. (165 mm)	81281

Diamond-Tip Fiber Optic Scribe



Model	Description	Full Length	Part No.
DS-60-C	60° Cone Angle-Diamond Tip Retractable Scribe	5.375 in. (137 mm)	46137
DS-90-W	90° Wedge-Diamond Tip Retractable Scribe	5.375 in. (137 mm)	46140

Carbide-Tip Fiber Optic Scribe



Model	Description	Full Length	Part No.
CS-30-W	30° Wedge-Carbide Tip	4.375 in. (112 mm)	46124

Double End Carbide Fiber Optic Scribe



Model	Description	Full Length	Part No.
CS-30-DE	3/16 in. (5 mm)	5-1/4 in. (133 mm)	46123

Fiber Optic Inspection Microscope 200x/400x

- * Available in magnification strengths of either 200x or 400x
- * Achromatic glass objective for excellent image quality
- * Focus wheel for proper focus at all times
- * Universal 2.5 mm adapter for nearly all ST, SC and FC connector ferrules included as the standard adapter
- * Integrated laser safety filters (not intended for viewing lit fibers)
- * Coaxial Illumination by LED light giving up to 100,000 lamp hour life and extended battery life
- * Side illumination port allows back lit inspection of jumpers and can be used as a fault finder
- * Body of durable aluminum comes in soft padded storage case
- * Takes 3 AAA batteries (included)



Model	Description	Full Length	Part No.
CLV-200	Inspection Microscope 200x	9 in. (230 mm)	80760
CLV-400	Inspection Microscope 400x	9 in. (230 mm)	80761

PushCleaner™ Fiber Optic Cleaner

- * Push type
- * Thin type to clean SFP on bottom of PCB direct
- * Both for Adapter / Bulkhead / Receptacle and Patchcord Connector
- * 800+ cleans per unit
- * Best Cleaning Effect
- * Cleaning Cost Save
- * Used advanced cleaning thread which has better suction oil and dust than present swabs
- * Easy and Simple and Pocket Portable
- * Windows for showing the remain cleaning times
- * Very useful cleaner in field

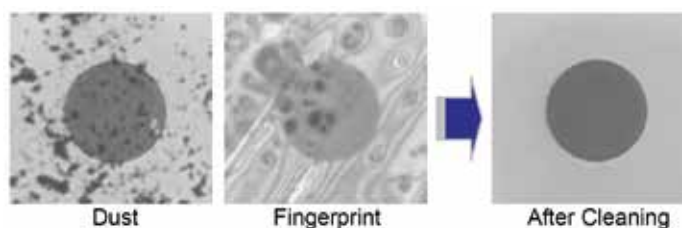


Model Name	PushCleaner
No. of cleanings per unit	800 +
Housing Material	Plastic
Cleaning Thread	Special Yarn
Length (included Cap)	160mm
Thickness ¹	13mm
Packing	Individual
Weight	10g

¹ Thickness of PushCleaner is thin to clean Optical Module (Receptacle, SFP) on bottom of PCB direct.

How To Clean

1. Adapter / Bulkhead side: Push to Adapter
2. Connector side: Join Cap and Push to Connector
3. APC side: Push APC side toward APC Key



Model	Description
PushCleaner-2.5	For SC / FC / ST / E2000
PushCleaner-1.25	For LC / MU
PushCleaner-2.0	For 2.0mm LEMO Type
PushCleaner-1.6	For Harsh Environment 1.6mm type
PushCleaner-3.2	For 3.2mm SMA Type

Note: We can make the Tip for any customer size Ferrule/Stub.

Fiber Tools

 FO-R12 Fiber Ribbon Access Tool	 FO-CF Fiber Optic-Center Feed Stripper	 FOJST Fiber Optic Jacket Slitting Tool	 KC699 Kevlar® Shears
 STR Steel Tape Remover	 FOC-SS Fiber Optic Cleaver	 FDS Fiber Drop Stripper	 F400 Fiber Buffer Tube and Drop Cable Slitter
 Bright Path EMS 6.6/4.0 CommScope® Mid-Span Entry Tool	 MSAT Mid-Span Access Tool	 FTS Fiber Tube Scorer	 RBT Riser Break-out Tool
 FOPD-25, FOPD-LC, FS800, FS900 Fiber Optic Polishing Disc	 FIBER OPTIC POLISHING KIT Complete Kit Includes	 FIBER-SAFE™ Safety Kit SAFETY KIT	 FIBER OPTIC CRIMP TOOL Fiber Optic Crimp Tool

MEMO

Handwriting practice area with horizontal dotted lines.

Patchcords

Probes

Fibers

Fiber Components

Fiber Tools / Accessories

