Avenir PHOTONICS

Fiber-Optic Patch Cables

Multi-mode step index optical fibers with SMA connectors

Optical fibers are the easiest way to connect light sources, sampling optics and detectors in the lab. We offer a selection of optical fibers that are most commonly used in spectroscopy. In addition, custom-designed fibers for specific applications are available on request. All fiber cables include two SMA905 connectors with protective rubber caps and a PVC jacket.

Wavelength ranges

We offer two different types of optical fibers:

- The UV/VIS fibers can be used for wavelengths between 180 and 1200 nm. They are solarization-resistant, which means they offer significantly higher transmission in the UV range and much less degradation from exposure to UV light. The UV/VIS fiber have a larger attenuation at around 950 nm, but for shorter fibers this should usually not be a problem.
- The less expensive VIS/NIR fibers are well suited for wavelengths between 400 and 2200 nm.

Core Diameters

Optical fibers are available with different core diameters. The most popular diameters for spectroscopy are 400 and 600 µm.

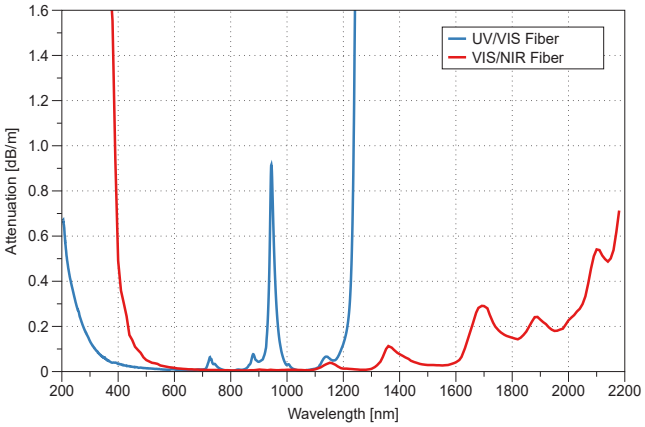
Lengths

Standard lengths are 1 and 2 m. Shorter cables have less attenuation, so unless a certain distance needs to be covered, we recommend a length of 1 m.

Specifications

	UV/VIS	VIS/NIR
Wavelength range	180 - 1200 nm	400 - 2200 nm
Numerical aperture	0.22	0.39
Core material	pure silica	
Minimum bend radius (short term)	5.3 cm	4.8 cm
Minimum bend radius (long term)	10.6 cm	9.6 cm
Protective jacket	PVC Ø 3 mm	
Fiber connectors	SMA905 (both ends)	
Available lengths	1 / 2 m (others on request)	

Attenuation spectrum



Typical values are shown. Note that 1 dB/m corresponds to 21 % loss per meter. So for example the blue peak at 950 nm means a transmission dip of about 20 % for a 1 meter fiber.

Ordering Information

Part number	Description
AC-FISMA-400-1-UV	1 m Fiber with SMA, Ø 400 µm, UV/VIS
AC-FISMA-400-2-UV	2 m Fiber with SMA, Ø 400 µm, UV/VIS
AC-FISMA-600-1-UV	1 m Fiber with SMA, Ø 600 µm, UV/VIS
AC-FISMA-600-2-UV	2 m Fiber with SMA, Ø 600 µm, UV/VIS
AC-FISMA-400-1	1 m Fiber with SMA, Ø 400 µm, VIS/NIR
AC-FISMA-400-2	2 m Fiber with SMA, Ø 400 µm, VIS/NIR
AC-FISMA-600-1	1 m Fiber with SMA, Ø 600 µm, VIS/NIR
AC-FISMA-600-2	2 m Fiber with SMA, Ø 600 µm, VIS/NIR

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