

I2R LABS

IDEAS INTO REALITY



I2R Labs Fiber Optic Probe – VIS/UV Range

Precision Light Delivery for Spectroscopy & Optical Sensing

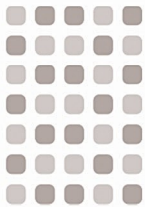


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This precision-engineered VIS-UV Fiber Optic Probe is designed for high-efficiency light transmission in spectroscopic and photometric applications. Built with an SMA905 standard connector, the probe is compatible with most commercial spectrometers, light sources, and optical interfaces.



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This precision-engineered VIS–UV Fiber Optic Probe is designed for high-efficiency light transmission in spectroscopic and photometric applications. Built with an SMA905 standard connector, the probe is compatible with most commercial spectrometers, light sources, and optical interfaces.

With excellent mechanical tolerances and broadband transmission capabilities, this probe is ideal for use in UV-Visible spectrophotometry, fluorescence detection, chemical sensing, and biomedical diagnostics.

Key Features:

Broad Wavelength Support :

- Supports UV to Visible light transmission
- Ideal for applications from ~200 nm to ~800 nm

SMA905 Connector (Standardized) :

- Industry-standard threaded coupling
- Ensures tight, secure, and repeatable optical connections

Precision Core and Ferrule Alignment :

- Core Diameter: $\phi 1.05\text{ mm}$
- Tip Ferrule: $\phi 3.17\text{ mm}$ with SMA sleeve
- Minimal insertion loss and excellent mode coupling

Tightly Toleranced Structure :

- Total length from tip to ferrule: 35 mm
- Mechanical accuracy for repeatable optical setups
- Outer tube: $\phi 6\text{ mm} \pm 0.02\text{ mm}$ for tight mechanical fit
- Textured grip section: $\phi 8\text{ mm}$ (7.1 mm length) for easy handling

Mechanical Durability & Optical Efficiency :

- Machined to high-precision with durable external tubing
- Fiber ends polished for optimized light input/output

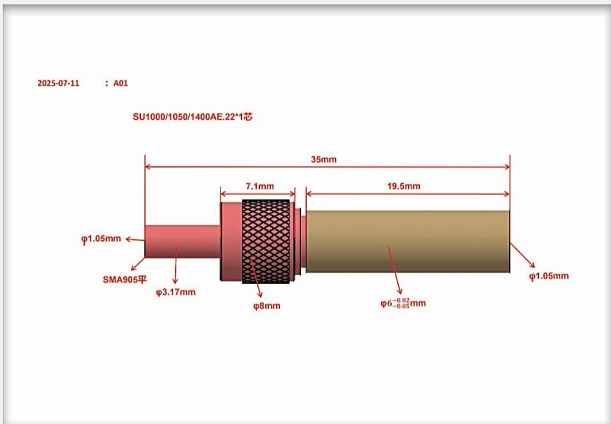
Advantages

- Seamless plug-and-play with SMA-based spectrometers
- Engineered for VIS and UV compatibility
- Compact, durable, and easy to integrate into optical setups
- High-precision tolerances minimize variability in experiments

Technical Drawing Summary

Parameter Value

- Total Length 35 mm
- SMA Ferrule Outer Diameter $\phi 3.17\text{ mm}$
- Textured Grip Section $\phi 8\text{ mm}$, 7.1 mm length
- Fiber Tube Diameter $\phi 6\text{ mm} \pm 0.02\text{ mm}$
- Core Diameter $\phi 1.05\text{ mm}$
- Tip End Diameter $\phi 1.05\text{ mm}$



Package Includes

- SMA905 VIS/UV Fiber Probe (single or bundled units)
- Protective sleeve or cap (optional)
- Custom length or connector type available upon request

Precision Light Path. Trusted Connectivity.

The essential fiber probe for UV-VIS optical sensing and diagnostics.

Applications:

UV-VIS Spectrophotometry :

Accurate light delivery and collection for absorbance/transmittance measurements

Fluorescence Sensing :

Deliver UV excitation light and collect emission through the same or adjacent fiber

Colorimetric and Biochemical Analysis :

Compatible with cuvettes, flow cells, or custom test fixtures

Surface Reflectance & Scattering Studies :

Suitable for reflection-based probes in clinical or lab setups

Environmental & Chemical Monitoring :

Robust enough for field-use with high repeatability

