

I2R LABS

IDEAS INTO REALITY



I2R Labs Angled Dual-Arm Fiber Optic Probe Y-Coupled Probe for Targeted Sensing

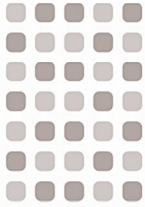


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This angled dual-arm fiber optic probe from I2R Labs is designed to enable simultaneous light delivery and collection in compact, field-ready optical setups. Featuring a 38° angled main output tip, the probe enhances targeted reflectance and fluorescence excitation, especially on surfaces or biological samples. The split arms are terminated with SMA905 connectors, allowing easy integration with spectrometers and light sources.



I2R Labs Angled Dual-Arm Fiber Optic Probe

Precision Y-Coupled Probe with 38° Output for Targeted Reflectance & Fluorescence Sensing

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Key Features:

38° Angled Output Tip :

- Facilitates focused light delivery and angular collection
- Ideal for oblique reflectance or fluorescence excitation setups

Dual Fiber Bundle Configuration :

- Central bundle (SU1400/1050/1000AE.22) for broadband collection
- Perimeter bundle (SU670/500/475AE.9*22) for multispectral illumination

SMA905 Connectors (Standard) :

- Industry-standard compatibility for light sources and spectrometers
- Polished connectors with precision alignment

Y-Coupled Probe Structure :

- Seamless merging of light paths for simultaneous operation
- Compact breakout with reinforced sheathing and ferrules

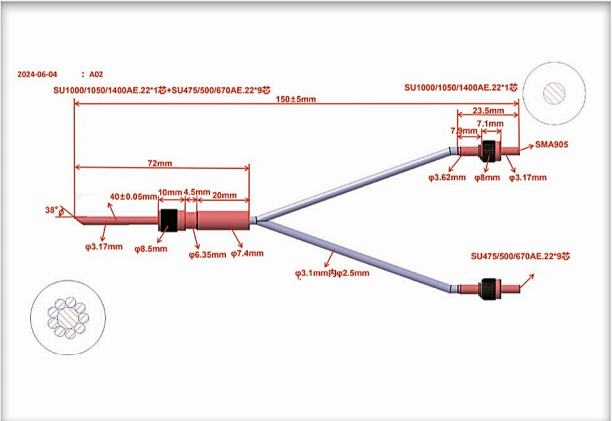
Advantages

- Enhanced spatial separation between excitation and detection paths
- Minimizes cross-talk and specular reflection artifacts
- Combines broadband and narrowband spectral support
- Optimized geometry for compact or curved surface targeting
- Built with high-tolerance precision components

Technical Drawing Summary

Parameter Value

- Main Output Tip Angle 38°
- Main Ferrule Type SU1400/1050/1000AE.22
- Secondary Bundle Type SU670/500/475AE.9 × 22 fibers
- Output SMA905 Arm Length 72 mm
- Split Arm Length 150 mm ± 5 mm
- Main Ferrule Diameter $\phi 3.17$ mm
- Connector Grip Diameter $\phi 8.5$ mm
- Split Arm Diameters $\phi 3.1$ mm and $\phi 2.5$ mm
- Secondary SMA Ferrule Diameters $\phi 3.17$ mm, grip $\phi 8$ mm



Standard Kit Includes

- Dual-arm angled fiber probe as per specifications
- SMA905 connectors pre-terminated and polished
- Optional: Ferrule covers, calibration cap, and mounting sleeve

Direct the Light. Detect with Precision.

Engineered for focused optical interaction and dual-mode spectroscopy.

Applications:

Fluorescence Excitation + Emission Collection :

Excite at an angle with blue/green/red LEDs, collect emission centrally

Reflectance Spectroscopy :

Angled illumination minimizes specular glare, enhances diffuse capture

Biological & Skin Surface Diagnostics :

Suitable for in vivo probing of curved or irregular samples

Pigment & Surface Inspection :

Non-contact evaluation of coatings, stains, and reflective materials

Compact Multi-Wavelength Optical Systems :

Ideal for portable point-of-care or handheld diagnostic devices

