

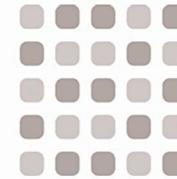
# I2R LABS

IDEAS INTO REALITY



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## I2R Labs Angled Dual-Arm Fiber Optic Probe

Y-Coupled Probe for Targeted Sensing



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.



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### 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

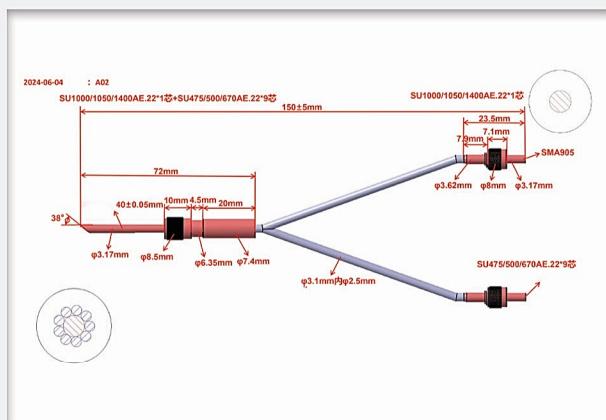
#### Advantages

- 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 φ3.17 mm
- Connector Grip Diameter φ8.5 mm
- Split Arm Diameters φ3.1 mm and φ2.5 mm
- Secondary SMA Ferrule Diameters φ3.17 mm, grip φ8 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

