

Transmission & Reflection Probe

FJ2413

Description

FJ2413 Transmission / Reflection Probe is designed for UV–VIS–NIR–MIR spectroscopic applications, supporting both reflection measurements and immersion-type transmission measurements for liquids.

The immersion-type probe can be used for measurement of liquid samples. The probe can be directly immersed in the liquid or fixed in a flow cell or container to continuously monitor absorbance.

Light from the light source is coupled through a standard SMA905 connector into a fiber bundle consisting of six optical fibers (customisable). The fiber bundle guides the light to the probe tip, where it passes through a fixed optical gap and is reflected by a diffuse white reflective material. The reflected light is then collected by the detection fiber and transmitted back through an SMA905 connector into the spectrometer for spectral analysis.

This probe design enables stable, repeatable, and real-time absorbance measurements, making it suitable for process monitoring, laboratory analysis, and industrial online sensing applications.

Reflection Probe Specifications

Parameter	Specification
Wavelength Range	200 nm – 5000 nm (covers UV, VIS, NIR, and MIR reflectance applications)
Fibre Core Size	200 ± 4 µm, 400 ± 8 µm, 600 ± 10 µm (larger core sizes provide higher optical throughput)
Numerical Aperture (NA)	0.22 ± 0.02 (corresponding to a 24.8° acceptance angle, ensuring efficient light collection)
Connector	SMA905 standard optical connector
Cladding & Buffer	Customisable (outer diameter 10–30 µm; polyimide buffer), suitable for signal control and harsh environments

