

# Accessory | SAMPLER

## Data sheet

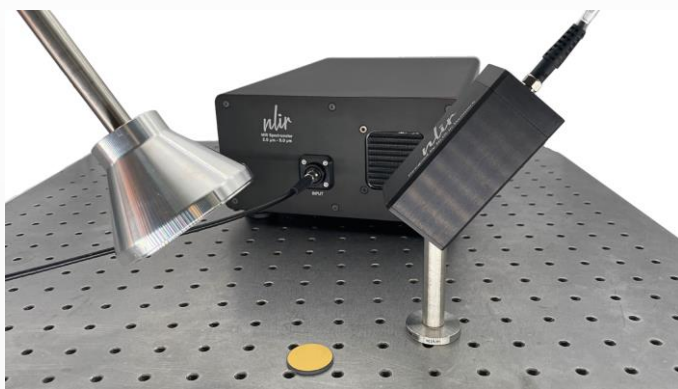
*nlir*

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- Collect light from a distance
- 1-2 mm collection spot size
- Designed for 2-5  $\mu\text{m}$  wavelength
- Working distance of 146 mm
- Easy to mount with M3 and M4 threads
- SMA fiber coupling



The NLIR SAMPLER accessory is an effective tool designed to capture light from a specific point and couple it into a fiber. Constructed with two Calcium fluoride lenses, it is optimized for the 2.0 – 5.0  $\mu\text{m}$  wavelength range. The standard working distance of 146 mm ensures a balance between proximity—to maximize light capture—and sufficient distance to accommodate dynamic samples safely. This working distance can be adjusted upon request. The SAMPLER is ideally suited for samples exhibiting any degree of diffuse reflectance and works exceptionally well with a large free-space light source.

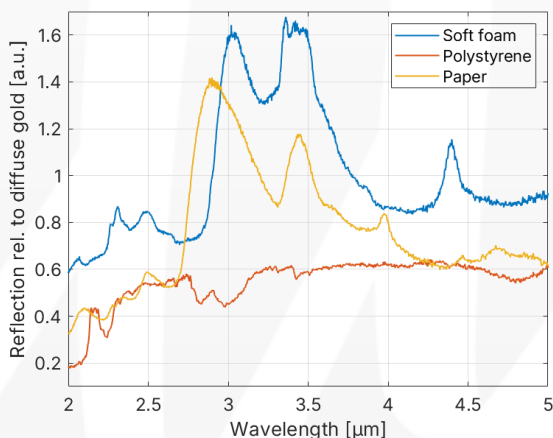


### SAMPLER accessory in a setup

This image illustrates a straightforward arrangement of the SAMPLER collecting light from a diffuse gold sample. The light source on the left illuminates an approximately 10 mm spot from various angles, and the SAMPLER gathers light from this specific area. The light collected from the sample is then coupled into a mid-infrared fiber and transmitted to the NLIR S2050-400 spectrometer in the background.

### Reflection from diffuse surfaces

Using the setup depicted in the image above, several samples with rough surfaces were analyzed. A reference measurement was obtained by reflecting light off the diffuse gold target shown at the bottom. Subsequently, this target was replaced with soft foam, hard polystyrene, and paper. The raw data, relative to the reference, is displayed in the figure to the right. These measurements were conducted exceptionally quickly, with an exposure time of just 50 milliseconds.



More information  
available at:

