

# Light Source | FREE

## Data sheet



- 1.0 - 10.0  $\mu\text{m}$  wavelength range
- 1375 °C Silicon Carbide source
- High stability
- 5,000 hours lifetime
- Active heat management
- Protective Calcium fluoride window
- 180 x 180 x 90 mm<sup>3</sup> (H x L x W)



High-temperature mid-infrared light sources are cost-effective and require only basic electronics; they emit high-power light and are stable and robust. The NLIR FREE light source directs light from the Silicon carbide emitter onto an approximately 1 cm diameter spot at a 150 mm working distance. This broad illumination area, combined with light impacting the sample in different angles, ensures that even rough and uneven samples reflect light towards the collection optics.

The light source is plug-and-play, activating in just a few seconds. Additionally, its active heat management system ensures that no components become excessively warm to the touch.



### Use of FREE light source

This schematic illustrates the optimal setup for the FREE light source, positioned to face a table or conveyor belt at the ideal working distance of 150 mm. The unit is designed to be compatible with a standard 100 mm VESA wall mount.

The FREE light source delivers abundant mid-infrared light, making it highly effective even for dark materials such as black plastics or foams.

The diagram also includes the NLIR SAMPLER accessory, representing the collection optics. In practical measurement scenarios, a fiber is connected to the SAMPLER and leads the light to the 2.0 – 5.0  $\mu\text{m}$  spectrometer for data acquisition.

